Treating An Unhealthy Patient Flow

A qualitative study about achieving efficient patient flows from the perspectives of working methods and leadership in the United Arab Emirates and Swedish hospitals

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Abstract

The healthcare sector is of high complexity with several inefficiencies identified in various aspects of it. Simultaneously, factors such as an aging population increase future demand for healthcare, pointing towards the importance of achieving high-quality healthcare at a competitive cost. This thesis examines important factors to consider when managing flows in general, and how the management of patient flows are handled in organizations that differ in terms of type and geographical place. To examine this, a qualitative study was conducted, with in-depth interviews at three different hospitals: two in Sweden and one in the United Arab Emirates. The focus was to examine how three different hospitals are working towards achieving an efficient patient flow and how potential inefficiencies in the patient flow can be improved. This study adopts the perspectives of working methods and leadership, by setting them in relation to each other while analyzing patient flows in healthcare; something that has not been done in a usable way previously. The conclusions included the need for preventing potential tensions created between clinical workers and managerial employees and that the understanding of everyday operations among top management is important in aspects such as change management. Further, the implementation of standardized processes, a separation of the acute and elective, i.e., planned flows, and adopting a lean or agile approach are identified factors for efficient processes. Also, the managerial impact on patient flows involves changing procedures to motivate and educate clinical employees, implementing a teamwork culture, and making organizational goals salient in the minds of employees. Lastly, the study shows that a bottom-up approach is generally preferable to a top-down point of view, based on the strength of the medical profession and increased chances of implementation in the complexity of the healthcare environment.

Keywords: Healthcare, process focus, patient flow, efficiency, productivity, management control, leadership, working methods.

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1. Introduction

How do working tasks act in conjunction with overall leadership decisions in the management of patient flows? This report aims to investigate how patient flows are handled by studying one hospital in the United Arab Emirates and two hospitals in Sweden. The perspectives that are empirically investigated in this report consist of working methods by interviewing clinical workers and the perspective of leadership by interviewing management personnel. The theoretical basis of the report is based on suitable research within each perspective. Also, the report considers if implications derived from studying the perspectives of workers and management simultaneously in the service industry can be applied to the healthcare sector. That being said, this study seeks to investigate how the perspectives are interrelated and how potential tensions appearing between clinical workers and management personnel impact efficiency in the patient flow.

Healthcare organizations operate in a high complexity regarding the range of the services delivered and actors involved (Smith et al, 2006). Various reports have emphasized the high likelihood of future challenges in developed countries such as Sweden, related to the increasing burden of healthcare systems. This is due to increased health-related issues derived from an aging population with higher welfare, leading to higher rates of chronic and multi-sick patients (SKL, 2014; SOU, 2009; Stiernstedt, 2016). Improved healthcare has resulted in more patients surviving from diseases, leading to an increased demand for treatments (Hallin and Siverbo, 2003). Therefore, increased demand for healthcare puts pressure on operating healthcare systems in an efficient way (Stiernstedt, 2016).

Inefficiencies have their roots further back in the healthcare system (Haraden and Resar, 2004). Therefore, hospitals internally need to work towards creating more efficient patient flows (Stiernstedt, 2016). Vast research has examined how the perspectives of working methods and leadership separately impact efficiency, however, there is a lack of research considering the perspectives simultaneously and how potential tensions between workers and management can impact operations (Hedin & Larsson, 2014; Watson, 2006). Research claims that managers are having an increasingly important role, but it is of essence to involve workers to understand holistic processes; pointing to the relevance of understanding the relationships and the effect on efficiency outcomes (Eriksson-Zetterquist et al, 2006; Schein, 1985). This has however been considered in other industries, such as the service sector. This creates an opportunity to examine if existing implications derived from the service industry are applicable in the healthcare industry. Further, studying issues that can impact employee-related factors such as work-related satisfaction and

motivation is important, as these are outlined by previous research to be one of the most determining factors for achieving efficiency in a general organization (Hedin and Larsson, 2014; Watson, 2006; Åkerberg and Nilsson, 2016).

Although Sweden has one of the highest numbers of healthcare personnel (e.g. doctors, nurses, physiotherapists) among the OECD countries, patients' waiting time, demanding working conditions for clinical workers, and scarce resources appear to be major problems; implying underlying inefficiencies in the healthcare system in Sweden. OECD stands for Organization for Economic Cooperation and Development, including 37 member countries (OECD, 2021). An indication of these inefficiencies is that Swedish doctors treat less than 900 patients yearly, which is significantly lower than 2400 patients yearly as the average of all OECD countries (OECD, 2013). These problems are not only due to lack of resources in Swedish healthcare but can rather be attributed to low flow productivity (Stiernstedt, 2016). However, studies demonstrate that Sweden is top-listed when it comes to patient-related medical outcomes, which shows the high quality of the healthcare system, e.g., demonstrated by measures of mortality rates within oncology (McKinzie & Company, 2019; Mirsch, 2018).

The healthcare system in the United Arab Emirates (UAE) is rapidly expanding to meet the growing needs of healthcare within the country due to sedentary lifestyles and an aging population of Emirati nationals. This puts pressure on the UAE's healthcare system to meet the population's need for healthcare. The UAE is constantly improving its healthcare sector in the aspiration of providing domestic specialty care, as healthcare requiring expert knowledge has traditionally been obtained outside the UAE (US UAE Business, 2014). In the UAE, efficiency is impaired by an overall insufficient quality based on the low rate of qualified hospital operators and low capabilities to perform some parts of healthcare, such as endocrinology. Further, UAE's healthcare cost per capita is $3800 below the OECD average and the government expenditures are relatively low compared to the OECD average, but the health spending is increasing due to factors such as heightened consumer expectations and technological advances. That being said, there is room for efficiency improvements in the UAE healthcare sector (Awofeso, 2017).

1.1 Research gap

The perspectives of leadership and working methods have been vastly studied individually, however, research needs to address these two factors simultaneously - and set in relation to each other in a usable way - both in a general organization (Watson, 2006) and when analyzing healthcare

and patient flows (Hedin & Larsson, 2014; Milisen et al, 2006). This is important as deficiencies in the understanding of the interaction between them have been shown to affect organizational efficiency in the service industry (e.g. Åkerberg and Nilsson, 2016). Additionally, these factors individually constitute cornerstones for resource prioritization and are highly interdependent (Hedin & Larsson, 2014). Therefore, this study investigates the consequences of the interaction between leadership and working methods in another setting- namely the healthcare industry in Sweden and the UAE. Both publicly and privately operated organizations are included.

This study setting was chosen to capture the high complexity of healthcare, as more research is needed about efficiency in flows depending on private and public healthcare organizations and in different countries (Antti and Köhler, 2017). Moreover, the authors identify some research within the general efficiency of the healthcare system in the UAE (e.g., Margolis et al, 2003; Younies and Al Rumaithi, 2012). However, only a few identified studies cover individual patient flows or hospitals within the country, which is not the case for Sweden where several such studies exist in both general efficiency and specific cases (e.g., Charpentier and Samuelson, 1996; Rognes et al, 2009; Trägårdh and Lindberg, 2004). These studies are used to validate the conclusion of the performed research.

1.2 Purpose and research question

This report has the overall purpose of answering the research question, extending the research area and organizations' understanding of aspects for managing patient flows with tools revolving around both leadership and working methods. This is valuable from a practical perspective, as healthcare, as well as general value-creating organizations in society, can use the conclusions to achieve more efficient patient flows, which provides societal and individual benefits in the forms of reduced costs and increased quality. Moreover, the report uses theory in the fields of leadership and working methods related to subjects with regards to optimizing value-creating flows and adds to theory by reviewing the factors in relation to each other when creating efficiency. The conclusions are thus likely to be specifically valuable in a healthcare context but also general organizational areas. Therefore, the research question is: *How are three different hospitals working towards achieving an efficient patient flow in terms of working methods and leadership, and how can the potential inefficiencies in the patient flow be improved?*

2. Theoretical Framework

This section aims to present previous research and theories relevant to the topic of the thesis.

2.1 Presentation of the theoretical framework

The included research is intended to cover how to create efficiency in value-creating flows in general, and patient flows specifically. The theoretical framework consists of three perspectives. The first two sections include appropriate theories with the perspectives of leadership and working methods, both in a healthcare context, and define and explain central concepts with regards to understanding efficiencies in flows. The third section addresses the research gap further, by presenting research of when the two perspectives were jointly considered in a Swedish service setting. This, to be able to enhance potential aspects appearing when the perspectives are considered simultaneously, differing from today's separated views of the perspectives.

2.2 Working methods

This theoretical perspective regards the tasks of an individual employee, such as how decentralized procedures are structured and operated (Watson, 2006). In this report, this perspective is defined as how parts and resources within working tasks are structured and impact the overall flow.

2.2.1 Patient flow efficiency

A process is defined as a network of activities that aims to create value for end-users (Bergman and Klefsjö 2012). Furthermore, units in flow are the fundamental basis as these can be seen as the route for the process to actually happen, and can regard humans, information, materials, or typically a combination of these (Modig and Åhlström, 2011).

Productivity can be defined as the output volume divided by the input volume. In the context of healthcare, one can define productivity as the total number of treated patients divided by total resources invested (Cederquist and Hjortendahl Hellman, 2005). On a related note, efficiency can be described as a measure of how well a resource is utilized during a certain period, also called resource efficiency, and includes aspects of quality (Modig and Åhlström, 2011). Patient flow is the movement of patients through a healthcare organization or facility. Theories of flows are focused on how units of flow can be optimized to utilize the resources in the most efficient way as possible (Cederquist and Hjortendahl Hellman, 2005). In the context of processes and flows, flow efficiency is a more suitable way to facilitate the increasing focus on organizing flows around individual

patients (Wiger, 2013), and flow efficiency can be described as the sum of value-creating activities in relation to the total patient lead time for a process (Modig and Åhlström, 2011). Figure 1 illustrates the difference between productivity and efficiency. Value-creating activities are activities that create value for the patient. Patient lead time is the time it takes for a patient from input (e.g. hospital arrival) to output (e.g. treatment received). In a long-term viable healthcare organization, both productivity and efficiency are deemed to be high (Wiger, 2018).
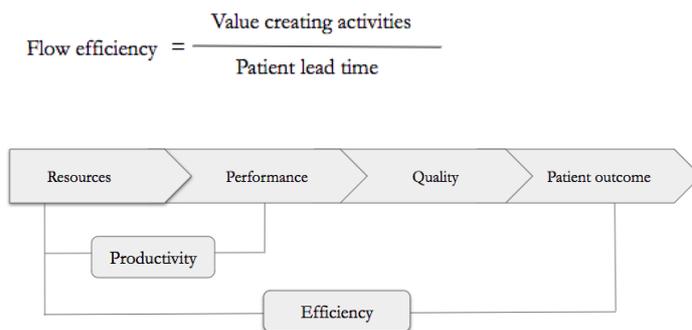
$$\text{Flow efficiency} = \frac{\text{Value creating activities}}{\text{Patient lead time}}$$

Resources → Performance → Quality → Patient outcome

Productivity

Efficiency

Figure 1: Model of Efficiency and Productivity (adapted from Modig and Åhlström, 2011)

Furthermore, a bottleneck is a moment in a process that takes the longest time and thus limits the entire flow (Olhager, 2013). Variation in a process harms flow efficiency (Modig and Åhlström, 2011).

To develop an efficient flow, it is suggested to primarily focus on integrated processes, rather than individual events (Rentzhog, 1998). A process focus makes it possible to see the value created by the system as a whole, which is suggested to be the point of strategic departure for an organization's management, design, and control. Every individual process can then be improved separately for the entire organization to become more efficient and effective. Further, efficient and effective processes are characterized by strengthening the activities that add value, whereas the total lead time and activities that do not add value are minimized (Ljungberg and Larsson, 2012). Reaching efficient processes can be facilitated by clearly assigned formal roles, such as leader and owner of a process, having the responsibility of managing, leading, improving, and giving feedback on the entire process (Rentzhog, 1998). Additionally, an efficient process of patient flow should strive towards a smooth flow without bottlenecks and queues within the process (Oskarsson et al, 2006).

2.2.2 Flows in healthcare organizations

Patient flows are influenced not only by internal variation, such as waiting time, transportation, and similar but also by external variation, like the time the patients can leave the hospital or get a

placement at other departments (Stiernstedt, 2016). High variability in patient flow could potentially limit the possibility to perform detailed production planning (De Vries et al, 1999). Further, adjusting resources following changes in demand is crucial to cope with external variations and minimize internal variation (Olsson and Aronsson, 2012).

Furthermore, inefficiencies in healthcare systems can also depend on the insufficient capacity and production planning for elective, i.e., planned care which comprises procedures that can be scheduled in advance since the procedure is not essential at that time (Davis, 2018). Insufficient planning for elective care can potentially also harm the acute patient flow, referred to when a patient receives active, short-term, and urgent medical treatment (Haraden and Resar, 2004; Hirshon et al, 2013). Therefore, hospitals need to conduct detailed planning for production and capacity both for the elective and acute patient flow (Stiernstedt, 2016).

Another approach to cope with variations in patient flows is to separate the flow into lean and agile. The former is about minimizing the variation within the flow, while the latter is about managing the variability within the flow through flexible capacity. A lean strategy is suitable for predictable processes and high volumes, whilst an agile approach is appropriate for unpredictable processes and small volumes (Slack and Lewis, 2017). To accomplish lean and agile processes, actors must focus on flows and processes, rather than individual activities. This would facilitate the optimization of the value of the entire system (Aronsson et al, 2011). For this to function, it would require some departments to have a predictable flow to adopt a lean approach, whereas other departments would need to be more agile to adjust the capacity to the entire patient flow of the hospital. Thereby, the flow efficiency can increase for the hospital as a whole (Olsson, 2014). On a related note, flows can be divided into acute and elective. The elective flows benefit from being managed with a lean approach, and the acute flows should rather be managed with an agile and dynamic approach (Olsson and Aronsson, 2015).

Further, different departments of a hospital are often very different and can thus be seen as completely different organizations (Olsson, 2014). The top management must maintain a high flow of information across the entire organization, which enables both the strategic and operational levels to make consistent actions (Alfalla et al, 2013). Reducing the sub-optimization of flows is therefore another way to work towards flow efficiency and cope with variations in the flow. In organizations as hospitals that are built on hierarchies and autonomous departments, increasing the internal flow between these levels in the organization is a crucial step to achieve a better flow

(Cao et al, 2015). Additionally, owners of processes and Heads of Departments need to get sufficient mandate from the top management to improve processes independently (Nilsson and Mandoff, 2015).

2.2.3 Organizing tasks in teams

Teamwork and collaboration is a central topic in healthcare, defined by several persons with different skills that complement each other (Nilsson and Fjällström, 2013). In the center lies the creation of adaptive teams, which means to perform work tasks in a manner that promotes ownership, accountability, and a learning climate to obtain safe and effective patient outcomes (O´Brien et al, 2018). Further, communication is often the most important foundation for well-functioning teams (Nilsson and Fjällström, 2013), as mistakes that are potentially fatal to patients often result from poor communication within the team (Green et al, 2017). Also, most accidents in hospitals result in small failures that stay unnoticed in the complex system (Edmondson, 2011).

The most challenging part about creating efficient teams in healthcare boils down to a team culture, which preferably should have empathy towards the complexities present in today's healthcare environment (O´Brien et al, 2018). Core aspects in this matter regard creating a strong safety culture, with the need for reliability and awareness of human error. This is also connected to organizing a healthcare team around a learning approach. In more concrete terms, this means to avoid that the tried and true becomes a norm, and instead, create a mindset where communication is a regular occurrence and happens openly across divisions and functions. For this, the division of tasks should preferably leave room for individual earning of mastery via improving skills in something that matters to them (Green et al, 2017). Table 1 demonstrates a comparison of learning versus performance goal orientations. Both orientations are beneficial, and leadership research shows that learning goal orientations generally lead to more improved efficiency results, especially when there is a need to learn from failure (O'Brien et al, 2018).

Table 1: Comparison of goal orientations in a healthcare organization and adaptive teams (adapted from O'Brien et al, 2018)

Learning goal orientation	Performance goal orientation
Thriving with new challenges Failure opens up for learning opportunities Feedback equals learning	Completing tasks Speaking out may be avoided Feedback equals getting something done

Furthermore, the creation of ownership within a team is important because it creates opportunities to identify problem areas as well as foster self-correcting behaviors. O´Brien et al (2018) show that the key aspect to this is the presence of total transparency, facilitating team members to have access to the same information, enhancing the integration of departments and information sharing for the entire organization, which is effective for countering sub-optimization (Meijboom et al, 2011; O´Brien et al, 2018). This is of importance especially in a healthcare organization, where medical outcomes are dependent on the understanding of the holistic process of diagnosing and treating a patient. The sense of ownership in these processes is indeed important because resistance to change in the organization will prevent initiatives to materialize. Therefore, the leader should give up some of the control, by involving the healthcare personnel, or in any other way create closeness and relevance to the operations of the organization when implementing procedures or change (O´Brien et al, 2018).

Many factors affect a person's position within the team, including personality, country of education, medical and surgical specialty, and level of responsibility. Green et al (2017) point at healthcare being traditionally and inherently hierarchical. Steep hierarchical gradients, meaning that an imbalance of control is in place, leads to negative effects on working relationships, reduced engagement, and quality of healthcare (Green et al, 2017; O´Brien et al, 2018). Healthcare organizations are suggested to reduce the hierarchical gradients, e.g., by pointing to how reduced hierarchies between nursing and medical staff improve general efficiency. However, in some healthcare systems nurses are seen as subservient to clinicians, leading to potentially steep hierarchical gradients. Encouraging all members of the organization to speak up with options about operations in the organization, and actively work for taking away retribution are beneficial for reducing hierarchies (Green et al, 2017).

Additionally, when mistakes occur, it is good practice to apportion blame and to avoid assigning who is right and wrong. Studies show the importance of less experienced (e.g., trainees) and other professions (e.g. nurses) challenging the senior members of a team, e.g., when a mistake has been made. However, additional results indicate that flat organizational structures with healthcare personnel at a senior level lacking self-confidence can create the same dangers to the organization since senior roles have a certain level of higher responsibilities such as education. To further achieve efficiency in a healthcare environment, teams must be equipped with a flexible structure. This means that consistency and structure should be in place for tasks such as diagnosing the situation, and thereafter, be able to respond with adaptability. (Green et al, 2017).

2.3 Leadership

The management consists of a group or an individual in charge of a certain set of actions or decisions, and the leadership perspective is an interpretation of an action that can be used to categorize them (Jönsson and Strannegård, 2010). In this report, this perspective is defined as management actions regarding patient flows, applicable for whole or separate parts of the organization.

2.3.1 Control systems and metrics

A fundamental issue for achieving favorable performance in any value-creating organization is to define a common language in the organization, as well as identifying the more relevant metrics and best practices (Ambler, 2000). Smith et al (2006) argue that the relevance of measurement systems in healthcare are twofold; firstly, for the accountability for patients and citizens, and secondly, because improved performance measurement systems lead to higher quality and more cost-effective healthcare (Smith et al, 2006).

Management Control Systems (MCS) are traditionally perceived as instruments for the exploitation of existing resources and concerns implementing strategies in organizations (Gschwanter and Hiebl, 2016). The organization that most efficiently achieves its goals through long-term strategies is the best performer (Anthony et al, 2014). MSC includes both formal and informal types of control. One informal type of control is cultural controls, which are central for change and for creating and retaining focus on the objectives of the organization and can at least partly substitute formal controls. Cultural controls constitute unwritten meanings and norms created in the organization, facilitating communication of values, providing employees to act proactively in the organization (Gschwanter and Hiebl, 2016). Further, cybernetic controls are an example of a formal type of control system, via assigning accountability for performance, measuring activities, and setting targets. Additionally, administrative controls are formal controls and organize the system of the conduct of processes (ibid).

Smith et al (2006) present principles for building viable control systems in a general healthcare organization. One of these regards the alignment with health system objectives. This means that if an objective of the healthcare organization is efficient in terms of control and monitoring costs, the system should facilitate simplified judgment about the current state of efficiency in the organization. Further, another principle concerns the critical integration of management control systems with IT and routine data collection. Greater emphasis should be placed on making use of technological advancements, facilitating any organization to capture a greater volume of data than

ever before. This, together with the development of common electronic health records, offer vast opportunities for organizations to monitor performance. (Smith et al, 2006). However, IT and measurement systems should be implemented in a way so that they do not disrupt workflow or hinder efficiency. In this process, practitioners need to be trained and involved in the process of what measures and type of system to choose and the implementation of them in the organization (Smith et al, 2006). Additionally, the implemented systems should preferably be collecting information that is comparable across institutions and settings. Adding on to that, this also means that a healthcare unit or organization is highly affected by the performance of other actors within the system of patient flow. This is demonstrated by how an acute department should include performance measurements linked to the performance of actors in the inflow (e.g., primary care) and outflow (e.g., long-term care) (ibid).

2.3.2 Central performance measures in healthcare

Performance measures are important for pointing out what to focus on at every level of a healthcare system. Table 2 summarizes some of the most central measurement areas and follows a description of the measure as well as examples of indicators.

Table 2: Central performance measurements and areas in healthcare (adapted from Smith et al, 2006)

Measurement area	Description of measure	Examples of indicators
Productivity	Measures of output/input.	Labour productivity, technical efficiency, cost-effectiveness.
Equity in health	Measures of access to healthcare, responsiveness, and financing.	Disaggregated health outcome measures, rates of access, utilization measures.
Responsiveness of health system	Measures of how patients and employees are treated in health system interactions. Responsiveness regards issues such as confidentiality, patient dignity, autonomy, and prompt attention.	Prem (Patient-reported experience measures); Patient and employee experience and satisfaction measures. Aspects covered include timely care and respect.
Clinical quality and appropriateness of care	Measures of processes to achieve desired health-related outcomes. Used to develop and assess best practices.	Prom (Patient-reported outcome measures); health status, post-surgical mortality, and readmission rates. Process measures; frequency of blood pressure measurement.
Individual health outcomes	Relative to population or specific diagnosis groups.	Generic measures; e.g., health surveys, health register, disease-specific measures.

Population health	Aggregated data on the health of the population.	Life expectancy, avoidable mortality.

One can further separate healthcare measures to process and outcome measures (Agency for Healthcare Research and Quality, 2015). Process measures are beneficial for coping with the ambiguity of clinical quality, as outcomes of healthcare treatments often cannot be realistically implemented in a feasible or timely fashion. Process measures, therefore, become important for assessing future success, as they are based on structures and actions known to be related to specific outcome metrics (Agency for Healthcare Research and Quality, 2015; Smith et al, 2006). This stands in contrast to outcome-related measures, which rather indicates the direct result of the treatment on the status of the patient. Table 3 summarizes the advantages and disadvantages for the outcome and process measures, as well as the performance areas where they are deemed to be most useful.

Table 3: Usefulness of structural outcome and process indicators (adapted from Smith, 2006; Mant, 2001; Agency for Healthcare Research and Quality, 2015)

Type of indicator	Advantages	Disadvantages	Areas best used	Examples of indicators
Outcome indicators	Easy to show to stakeholders Direct attention to the health goals of the patient Encourages long-term health promotion strategies	Risk of ambiguity, leading to difficulty of interpretation High effort to collect the data Requires large sample sizes	Quality measurement of homogenous procedures, diagnoses, and groups	Surgical mortality rates, rate of surgical complications
Process indicators	Easily measured without major error or bias Requires smaller sample sizes to detect significant effects Provides clear pathways to action Captures aspects of care that are valued	Risk of becoming too specific Requires constant renewal as models of care and technology develop May have limited value for patients unless they understand how they relate to outcomes	Quality measurement of care, especially for treatments requiring low technical skills Measurement of quality of care of homogenous conditions in different settings	Percentage of patients with diabetes with tested and controlled blood sugar

	by patients, aside from medical outcomes			

2.4 Tensions between working methods and leadership

If considering the leadership and working methods perspectives separately, there is a risk of missing crucial aspects appearing from the interaction of them, which is important for the performance of an organization (Hedin and Larsson, 2014; Åkerberg and Nilsson, 2016; Watson, 2006). However, since previous research within healthcare has not covered both perspectives simultaneously, this study examines if previous research within the Swedish service industry can be extended to the healthcare sector. The healthcare sector can be seen as a service organization, however, there are important differences such as processes, logistics, and improvement work (Jonsson and Larsson, 2008). Therefore, the following section will consider the perspectives simultaneously in a Swedish service setting.

2.4.1 Deficient relations between management and clinical workers

Results show that employees with high job satisfaction tend to work more efficiently (Grant and Campbell, 2005; Åkerberg and Nilsson, 2016). An example of this regards how holistically formulated standardizations can impact the motivation and efficiency of an individual employee. However, efficiency outcomes are limited by potential tensions appearing between the theoretical perspectives and the groups. The manager has the main responsibility for overall efficiency-related outcomes, but employees also have a responsibility for creating viable relationships, which is heavily affecting work-related efficiency. However, research shows that the responsibility of the joint groups, in relational or shared leadership, was disregarded when employees had low motivation and work satisfaction. In those cases, all responsibility was transferred to the manager, instead of employees having a part of the responsibility (Åkerberg and Nilsson, 2016). Moreover, the difference between leadership and being a manager is prevalent in the service industry. Employees are said to be cautious in observing how the manager behaves in various situations, which is an important part of how the employee perceives their working place. A manager with behavior that goes against the value system of an employee can hinder joint efficiency outcomes derived from constructs such as lower motivation (ibid).

Åkerberg and Nilsson (2016) state that the social interaction between a manager and an employee is the main determinant for work-related satisfaction within the studied service context. While guidelines and a clear structure around working tasks are shown to promote a viable relationship between the management and employees, social response in the form of continuous feedback and

appreciation are relatively more important. Moreover, it emerged that employees are motivated by freedom under the responsibility and with the help of the manager's guidelines and directions, work should be carried out without the manager's constant supervision. Additionally, standardizations regarding various work procedures could result in saved resources in terms of administrative work for staff, improved communication, thus improving cross-functional work (Prætorius, 2016). This is also shown to be more important than raised salaries or other types of motivational tools. The lack of or deficient social interactions between the groups is likely to create a culture that disregards the individual's perspectives to solve the problem but instead tries to find solutions based on the organizational system and how it is structured (Schein, 1985). Additionally, this is likely to impact misunderstandings, with a risk of accumulating to conflicts (Kaufmann and Kaufmann, 1998).

All organizations need to formulate a set of visions and objectives, which both the management and employees in the organization actively need to work towards (Bergman and Klefsjö, 2012). The need for leadership and management is essentially built on deviations between organizational and the individual goals (Lowe, 1971). Considering the complex character of hospitals, participation including all personnel, where potential strategies are examined continuously are needed to drive change. To reach long-term changes for the entire organization and engage clinical workers in terms of development, a deep understanding of the organization across the management team is crucial (Eriksson et al, 2011; Röthlin, 2013).

3. Method

This section presents the chosen research method and the units of analysis. This is followed by how the data has been gathered and analyzed. Thereafter a description follows about essential factors to ensure the reliability of the study.

3.1 Choice of method and units of analysis

To answer the research question, a qualitative study was conducted. This type of study was chosen to understand more deeply how the chosen healthcare organizations are working towards achieving an efficient patient flow with the means of respective perspectives and how potential inefficiencies within each organization can be improved. A qualitative study differs from a quantitative in terms of the orientation towards extending and challenging existing research by exploring a concept in a deep manner, which was the aim of this study (Bryman and Bell, 2017).

Furthermore, to get a deeper understanding of patient flows, the study was performed by using abductive reasoning; described as "using the researcher's already existing knowledge to identify theoretical frameworks, releasing the researcher from being neutral from preconceptions" (Alvesson and Sköldberg, 2008). Further, abductive reasoning tends to begin with an observation of a phenomenon (ibid), which in the case of this study was demonstrated in the form of identified high inefficiencies in healthcare. The choice of abductive reasoning appeared to be most suitable when conducting the study, as previously identified research was complemented with the performed study. In addition, the interviews were semi-structured, which is common for this type of approach, strengthening the choice of using abductive reasoning (Bryman and Bell, 2017).

Besides, to keep the topic of all interviews around the purpose of this study, interview guides were constructed before the interviews (Appendices 8.2, 8.3 and 8.4). Open questions and subsequent follow-up questions enabled the interviews to be flexible and in-depth, emphasizing issues that the respondent had the most insights into and thought were most important. This design ensures that previously identified themes and areas are covered while leaving room for unforeseen facts that could be enhanced by the participant and follow-up questions (Jarratt, 1996). Altogether, these reasons were important for why semi-structured interviews were preferred with the possibility to go in-depth.

To serve the outlined purpose as well as filling the research gap, suitable healthcare units with similarities in terms of size and scope were investigated. However, hospitals with differing characteristics in terms of nationality of operations and operative structure (public versus private)

were investigated, catering to the previously stated research gap. These hospitals were deemed to be appropriate due to their big variety of departments, which was valuable for comparison and capturing the complexity of the healthcare environment. The studied units were the following: Hospital A, a publicly operated big academic hospital covering Stockholm County, Hospital B, a privately operated big hospital covering Stockholm County, and, Hospital C, a privately operated big hospital covering the Ajman Emirate in the UAE. Note that all the researched units include both acute and elective departments and flows.

Moreover, all the included units were transparent in terms of their adopted strategies and principles for achieving a beneficial patient flow, which was a prerequisite for their usability in the study. In addition, the diversity of the variations in competence backgrounds, nationalities, and experience in the study, contributes to the usability of the study for a general value-creating organization, since the study is not too dependent on a specific type of people present at the units of analysis. The choice of several research units entails a lower risk that identified phenomena become too specific to the single unit of analysis, and thus become more valuable for implications in other areas. However, actions have been made both in the interview design and process to steer the interview to elicit more general phenomena, and additionally, in the analysis stage, the authors tried to elicit the general phenomena as well as discuss their individual interpretations jointly to validate the impressions. The focus has been on the perspectives and their simultaneous impact on achieving efficient handling of processes. To be able to perform an analysis of the perspectives, the research was therefore designed with a basis in the perspectives, where the interview guide and the participants in the interview were divided to the subsequent perspectives, working methods, seen from the perspective of clinical personnel, and leadership, seen from the perspective of top and general management.

The study was performed in the complex environment of healthcare. Therefore, the authors had to balance the need for a thorough study and representing the wide range of healthcare organizations existing today, i.e., deep and broad. This is reflected upon the in-depth interviews that were conducted on a reasonably high number of participants (24). This was important to both fill the existing research gap and achieve more generalizable results regarding flows, leading to the limitation of the three hospitals and covering a broad sample of departments. Further, depth was assured by the interviews being reasonably long and when needed, followed by emails between the interviewed person and the authors.

3.2 Research outline

3.2.1 Gathering of previous research

In an initial stage, an overview of the investigated subject was gained from searches of keywords in Scopus to identify the research gap. Thereafter, the authors categorized the research that was found into main themes, which later constituted the section of the theoretical framework. The inclusion of theory was based on two main criteria; the first one being suitability to the subject; a characteristic that is described as typical for the employment of an abductive approach. The next one is in line with how an abductive approach is described by researchers to make use of already existing knowledge (Alvesson and Sköldberg, 2008). Therefore, the authors used knowledge gained from the literature research and by consulting external experts, in this study done with researchers within the field of quality and efficiency management of healthcare from Sahlgrenska University Hospital and the Stockholm School of Economics.

3.2.2 Pre-study

The next step in the research outline was to design and execute the semi-structured questions for the pre-study with participants with expertise within the field of this study (Appendix 8.2). These questions were based on the earlier identified themes around the studied perspectives. This part of the research aimed to increase the authors' knowledge about the topic for the main study, to better formulate the research question and the main study interview guide. The pre-study served to validate the concepts and format of the main study.

The pre-study consisted of three interviews with one participant at each unit of analysis. The interviews began with the authors explaining the setting of the study, followed by asking a couple of introductory questions about the respondent's experience and current working position. The rest of the questions were surrounded by the identified themes. Two of the interviews were performed in a digital setting via Teams and one interview was in a physical form at one of the units of analysis. The pre-study interviews lasted between 35 and 90 minutes. All the interviewed respondents for the pre-study had expertise in patient flows. The first interview was held with the Head of Quality Department at Hospital C; a respondent with strong insights of the entire hospital, considering the responsibility for the performance and quality system consisting of 180 key performance indicators. The second interview respondents in the pre-study had the role of Head of Women's Care Department at Hospital A; a respondent with many years of experience of managing and leading one of the hospital's largest departments including both elective and acute

flows. The third interview was held with a clinical worker at the Orthopedics Department Hospital B who had previous experience of researching patient flows in the acute department and also experiences from managing logistical flows of goods.

3.2.3 Main study

The main study was built on an identification of a potential gap between two distinctive groups: clinical workers and leadership, and additionally, on considering the perspectives of working methods and leadership simultaneously. To answer the research question, the main study consisted of 21 interviewed respondents, which all had been identified as involved in managing patient flows. See appendix 8.1 for the included participants, where clinical workers correspond to the working methods perspective, and the management corresponds to the leadership perspective. In addition to the respondents at the researched hospitals, one external expert active within operations management of hospitals was interviewed, to get deeper insights into the subject. In the study design, a conscious decision was to mix the clinical workers and leadership respondents continuously, allowing for stepwise and continuous revision and analysis of the two perspectives in relation to each other. The interviews were performed in a digital study setting via Teams and lasted between 40 and 80 minutes. Two of the interviews were performed in physical form, whereof one at the Stockholm School of Economics and one at one of the studied hospitals.

The interviews began with the authors explaining the setting of the study, followed by asking a couple of introductory questions about the respondent's experience and current working position. The rest of the questions were directed into specific areas identified in the pre-study and research overview to impact patient flows, such as measurement systems, resource utilization, processes and challenges related to creating an efficient patient flow (Appendices 8.3 and 8.4).

To reach the prospective participants in the interview-based study, clinical workers were contacted primarily via emails that were sent out by the authors to the Head of the Departments in the selected hospitals that were deemed to be interesting for the study. In these emails, the description, purpose, and research question of the study were included together with the request for the number of contacts that the Head of Department was asked to provide the authors with. The replies came from 10 respondents working as Heads of Department within a range of 2 days to 4 weeks. Thereafter, the authors contacted the individual clinical workers via email and included the same information as previously mentioned in the emails, gathered responses, and decided an appropriate time to perform the interview together with the interviewee. Except for the email contact,

participants were reached via acquaintances to the authors and contacted via LinkedIn, text message, or phone calls.

3.3 Analytical method

The analytical method is in line with grounded theory; a method especially suitable to generate theory relevant in socially complex environments, as demonstrated in this study. This is done by developing theory and insights from the case study. The method is preferably an analytical model which systematically collects and processes qualitative data to generate theory (Brown and Eisenhardt, 1997). The empirics from the main study was analyzed following the grounded theory model explained by Spiggle (1994), including seven procedures; categorization, abstraction, comparison, dimensionalization, integration, iteration, and refutation, which connects data with the end product by simultaneously using analysis and interpretation in a non-sequential way (Spiggle, 1994).

None of the interviews were recorded, however, one of the authors asked questions and the other author took notes, meaning that the content of each interview should have been captured sufficiently. Directly after each interview session, the process to transcribe the interview was performed in a thorough and more structured manner than the procedure during the interview, to get a coherent and well-represented picture of the answers from the participants. Patterns captured in the interviews were classified into general categories such as macro factors affecting efficiency, formulated inductively in line with the collected answers in the interviews. These procedures were performed by the authors separately, and then the authors discussed their categorization jointly. (Spiggle, 1994).

A constant comparative method was applied throughout the stages of the analysis by identifying similarities and differences in the gathered empirical material, to challenge or extend previous theory. Further, the authors adopted back-and-forth procedures while analyzing the individual and aggregated interviews. (Spiggle, 1996)

3.4 Critical reflections

To ensure a transparent working process in this study, it has been of high importance to ensure that participants were anonymous. The reliability of the study was enhanced by this, meaning that one will not be able to assign individual statements to the names of participants.

A concern with qualitative studies regards to what extent the conclusions can be generalized and significant (Eisenhardt, 1989). In a qualitative study, the interviewed respondents cannot represent a population (Bryman, 2002). Further criticism against a qualitative study regards subjectivity, which tends to build too much on the researchers' asymmetric perceptions of what should be considered as important and useful (ibid). Another potential problem related to the used method could be that the interviews were not recorded, due to the lack of approval. However, both authors were present during all interviews and conducted all transcriptions directly after each interview to minimize the risk for misinterpretations and increase reliability. The results, therefore, mirror both authors' interpretations of all interviews.

Furthermore, another potential challenge is how the authors have regarded gathering enough empirics. Typically, the number of interviewed respondents in empirical studies tends to range between 5-25 respondents (Brinkmann and Kvale, 2014). As this study has included 24 interviewed respondents, thus fits the upper quartile of the suggested number of participants, the authors considered that enough empirics had been gathered to answer the research question and realized after this number that the marginal contribution of adding more would be low. Moreover, all respondents except one were Swedish, meaning that the results could potentially be somewhat skewed in terms of Hospital C in UAE. However, respondents in Hospital C have experience working in both countries, thus facilitating the comparison between the two healthcare landscapes.

4. Empirics

This section aims to present the relevant parts of the empirical material that emerged from the qualitative material and continuous analysis of these. The empirical part is the basis for the analysis and discussion that will be presented in the subsequent sections. Table 4 provides an overview of the results.

Table 4: Overview of the results, presented in main categories, subcategories, and codes.

Main category	Subcategory	Codes
Challenges in terms of efficiency and productivity in patient flows	Mixing elective and acute flows	- Flexibility in scheduling - Maximizing capacity
	Lack of resources	- Lack of personnel - Lack of hospital beds
	Bottlenecks in internal flow	- Long internal waiting times - Deficient communication
	Undefined or insufficient conformance to working tasks	- Patient security - Complications
Integration and communication	Unawareness of organizational goals	- Lack of feedback and expectations - Deviations between individual and organizational values - Leadership style
	Lack of teamwork	- Hierarchical structures - Separated departments and units
	Documentation, journal, and IT systems	- Deficient digitalization - Complicated systems - Lack of know-how
Measurement and management control systems	A mismatch between internal indicators and organizational goals	- Inconsequent measurements between units - Non-sufficient measurements

	Paradox reporting systems	- Rapid changes of indicators - Higher production than estimated volumes leads to reduced revenues
How improvement efforts are managed	Continuous or radical	- Lean notes - Assigning roles - Meetings after incidents
Clear goals for the organization	Unclear who is responsible A high separation between leadership and clinical personnel	- Informal procedures - A complex and large organization - Lack of clinical knowledge in leadership
Macro factors surrounding the healthcare system	Deficient primary care Cultural and educational differences	- High pressure on the acute department - Non-emergency cases entering the acute department - Hygiene - Language barriers - Competence differences - Perception about authority

4.1 Working methods

4.1.1 Empirical definitions

The respondents in this research were asked to define central concepts to evaluate whether their view on efficiency, productivity and patient flows in a healthcare context correspond to the authors' view. A majority of the interviews were similar to the authors' views.

> *"Productivity is performance, in our case total number of treated patients, in relation to our total resources, whereas efficiency also covers more about quality and how we use resources such as hospital beds and personnel. At the women's health department, we see patient flows as the total number of patients in contact with our unit."* - Interview person 22, Hospital A

4.1.2 Adopt an integrated process focus

All three hospitals are deemed to be working actively towards an effective patient flow. However, they differ in the applied principles, methods, and goals for what the outcomes a preferable patient flow consists of. The quotations below reflect what each organization considers as the main focus areas in the productivity and efficiency model, in the center of achieving efficient patient flows. As visible, there seems to be no consensus among the hospitals about which viewpoint leads to the most beneficial outcome for achieving an efficient patient flow. All three hospitals possess a high emphasis on efficiency by focusing on quality, but Hospital C puts the strongest focus on productivity, i.e., capital in and outflows, since they operate in a landscape that is more affected by market forces and rely less on tax revenues.

"Optimal patient flows are connected to the delivery of healthcare to make a person free from his/her illness. We aspire towards high-quality healthcare in relation to tax revenues." - Interview person 19, Hospital A

"Quality goes first, but behind the scenes, there is a strong focus on productivity. The business model of the hospital is that quality drives productivity, which on the other hand, means that we value efficiency." - Interview person 21, Hospital B

"We center the management of patient flows in a wide range of measurement metrics [180 KPI:s for the whole hospital], and the goal is to utilize the resources as much as possible and achieve the most beneficial outcome for the patient given the set of resources. Factors such as continuous measurement and improvement, waiting time and patient satisfaction are important for achieving beneficial patient flows- also to the right cost." - Interview person 13, Hospital C

With regards to analyzing if the hospitals optimize the network of integrated activities, the authors identify fairly large differences between the hospitals. Hospital A possesses a high prevalence of bottlenecks and high complexity in the organizational structure, resulting in obstacles to achieve an integrated process focus. Hospital B, however, is a relatively smaller hospital compared to Hospital A, with clearly assigned roles concerning responsibilities in the process throughout the entire organization, such as leader and owner of processes, meaning that the insight into processes is implemented and pushed down throughout the whole organization. An integrated process focus is highlighted to be important as patients typically pass through several departments across the

hospital. The process focus within a department at Hospital C differs a lot between units. A general process focus is implemented in terms of healthcare paths, i.e., organizing operations around patient journeys. However, this is hindered by a deficient integration between departments, sub-optimization of some departments, and in some departments, the integrated process focus is hindered by the fact that the responsibility and insights of processes differ a lot between Heads of Departments and general healthcare personnel. Therefore, integration initiatives should be promoted more extensively, via for example, common payment systems and fostering a culture of every employee having the responsibility to review the efficiency of processes.

"As we operate in a highly complex and big organization, achieving a smooth flow of information and processes is difficult. The challenge is to identify and act on the most crucial aspects for achieving higher process efficiency for the hospital as a whole, rather than optimizing only individual departments." - Interview person 18, Hospital A

"My perception is that the communication between doctors and the management around medical concerns and bottlenecks in the organization makes us view processes in a holistic way throughout the organization." - Interview person 11, Hospital B

"Here, at the diabetes center, all processes are integrated with doctors, nurses, psychologists, and physiotherapists all working in the same building only treating patients with diabetes. I know, however, that processes between units in the hospital as a whole are underdeveloped. My unit is an exception." - Interview person 9, Hospital C

"The integration of my unit with the rest of the hospital and the omission of the separated Hospital Director, made us be able to have a better overview of the processes as a whole. More integration of units would further enhance this process. Also, personnel on the floor are not a part of the decision making here." - Interview person 9, Hospital C

4.1.3 Handling variations in flows

Applicable for all the hospitals is the understanding of the internal and external variation of flows over time. They all struggle with prediction and estimation of the variability of patient inflows, particularly the acute departments due to high variability in demand. Analysis in Hospital A indicates that initiatives such as standardization minimize the internal variation, e.g., examination

waiting time and transportation within the hospital. To further handle the nature of variability in demand, the three hospitals have considered the benefits of dividing the flows depending on the level of variability, e.g., of elective and acute flows. This is said to reduce bottlenecks due to higher chances to plan and utilize resources, demonstrated by increased healthcare quality stemming from that a lower number of planned surgeries have to be disrupted and performed in facilities specifically designed for a certain type of surgery. Hospital A applied the method of assigning some clinical workers (acute versus specialist medical doctors) separate responsibility for the acute and elective flows. However, this has not been proven successful, due to differences in competencies and lack of personnel, to name some examples.

"The inflow of patients varies over time here at the acute department. To cope with this, we have implemented a lot of standardized processes. For example, all patients fill in common forms about their health themselves, which reduces the risk of missing important factors and also makes room for nurses to do other working tasks." - Interview person 19, Hospital A

"Efficiency will be limited when elective and acute healthcare are mixed. Surgeries are not disrupted, and the use of elective rooms will then be predictable and the queue times for emergency operations will be more manageable." - Interview person 7, Hospital A

"We operate in high complexity, where the acute flow is a major bottleneck. Despite the division between acute and specialist doctors, we did not manage to get a smooth or consistent change. This is partly due to that there must be enough experienced doctors present when the medical decisions are made. Now, the working tasks are too varied, and doctor's workday, night, and weekends. This makes them unable to sink into their specialty and learn to be effective in their work. We have a hard time finding available personnel in general." - Interview person 6, Hospital A

The vast majority of the units in all hospitals cover departments with non-separated flows, i.e., consisting of both elective and acute flows. This is partly a consequence of the difficulty separating the two. To handle this, some of the units address agile or lean thinking depending on their volume and predictability of flows. To cope with unpredictability, Hospital A implements time-saving and standardized ways to prepare for unplanned, i.e., acute, surgeries. Further, Hospital B implements a lean approach by continuously reviewing the healthcare path, cutting out unnecessary visits, to minimize waste and non-value activities. This is further demonstrated by allowing personnel to

identify inefficiencies and report these via giving so-called "lean notes" about inefficiency areas to management.

"At the surgery department, we have fairly complex and time-consuming surgeries with an unpredictable flow of patients. To cope with this, we rely heavily on standardization for processes such as pain relief, anesthesia, informing patients and administrative tasks." - Interview person 7, Hospital A

"At my hospital, we work team-based, and all employees are leaders. We can all provide continuous feedback, facilitated by sending lean notes to responsible owners of processes and management of the organization." - Interview person 11, Hospital B

4.1.4 Build adaptive teams

As stated, the units of analysis all put high emphasis on obtaining safe and efficient patient outcomes. Further, the study shows that Hospital A and Hospital B have a stronger focus on teamwork compared to Hospital C. Both Hospital A and Hospital B possess strong teamwork built on a team culture where accountability is put cross-functional to one team rather than individual employees and professions. Also, well-functioning communication is facilitated by the organization opening up for professions to jointly discuss incidents where a failure occurred, and decision making is made. Additionally, Hospital A emphasizes that this is further enhanced by the learning approach stemming from having trainees and students present, providing opportunities for the organization to question and reflect upon its procedures. However, this is stated by informants in Hospital A to affect primarily quality in a positive way, and if not being organized in the right way, poses severe obstacles to productivity.

"The management team wants to push as much power as possible down in the organization where collaboration and freedom under responsibility are guiding words for how the work is performed."- Interview person 6, Hospital A

"We have a responsibility to teach medical students the practical side of the profession, which makes us reflect. However, this is creating more inefficiencies than you might think. The solution is to allow a few doctors with lower experience to teach medical students while liberating the rest from this part of our organization." - Interview person 22, Hospital A

"Here at the Orthopedics Department, we have a strong team culture by dialogues between colleagues continuously." - Interview person 3, Hospital B

Moreover, respondents in Hospital C claim that the lack of responsibility and handling of failures prevents the organization from working in teams. There is a lack of responsibility among some healthcare professions extended from medical doctors and procedures of attribution of failure towards specific individuals, creating a negative impact on the approach to teamwork. Further, when quality failures occur, this will most often be handled by separated functions higher up in the hierarchy compared to when the failure occurred. This stands in contrast to Hospital A where the organizational structure facilitates adjustments of the system and reviewing of organizational failures in the team as well as higher up in the hierarchy. Also, with regards to Hospital C, a diverse range of cultures and countries of education, and a traditional view of hierarchical top-down leadership reduces the hospital's implementation of team-organized work. The hierarchical nature of Hospital C is visible by nurses being subservient to medical doctors; shown by the big gap in responsibilities and competencies. This is explained by the organization to affect efficiency and quality, due to the non-reliable outcomes if not medical doctors are involved in care processes that should be handled by the nurses.

"The individual responsibility is clear at the hospital, meanwhile, the doctor's words are the law. There is far less team-based work in this hospital than in Sweden where I worked before, and nurses are not really present in the processes." - Interview person 17, Hospital C

"In my role as a medical doctor, I have to double-check many of the ordinary responsibilities of nurses, such as weighing the child [patient]. This is hindering efficiency because it eats up time. The employees should, to a greater extent, be aware of the reasons why procedures and standardized methods should be followed accurately. It is tiring to explain over and over again, but in the end, it is for the safety of the child." - Interview person 10, Hospital C

"Reduced quality will lead to fines. Further, by searching for system or organizational failures when problems occur, we improve our efficiency." - Interview person 6, Hospital A

The authors identify occasional quality issues as being one of the major obstacles to achieve improved efficiency in patient flows in Hospital C. Therefore, results show that the hospital would

benefit from reducing the hierarchical gradients and implement increased team-based work, to improve factors such as communication which is important for avoiding small mistakes being overlooked and risking severe safety issues. This could be achieved by actively working towards taking away retribution and encouraging all workers of the organization to speak up and take responsibility within the care processes. Here, one could benefit from implementing an improved learning approach through internal education for all professions within the organization; fostering team spirit, ownership, and engagement, as practiced in Hospital A. This is also valuable for making the quality more streamlined and coping with multicultural educational backgrounds among clinical workers. The authors identify the enhancement of a learning approach in all the subsequent hospitals to lead to more viable results in terms of adaptation skills, e.g., stemming from increasingly using feedback as learning opportunities, as opposed to assigning blame for failures.

"The biggest challenge in reaching efficiency and productivity regards the healthcare quality, which is partly caused by the blame and shame culture that is present in the hospital. It takes time to find the responsible individuals, drawing attention from the fact that the problem is often more complex and involves larger structures. Additionally, decisions are sometimes made so quickly that quality is suffering. However, the continuous education and feedback with a person higher up in the hierarchy about personal development and knowledge happens several times each year, these are things that are included in the contract of the job as a medical doctor." - Interview person 8, Hospital C

"In my experience, one of the most important ways to increase healthcare quality is to improve the environment and motivation for healthcare workers, especially for personnel who do not get direct appreciation from the patient, such as assistant nurses. We offer evenings with education which makes all professions be able to jointly reflect upon their experiences and new knowledge in healthcare. This makes them [the employees] understand that we value them." - Interview person 22, Hospital A

4.1.5 Digital working methods

Hospital A and Hospital B both operate in a landscape with developed electronic health records, which benefit the possibility to develop the technological advancement in data collection further. Based on the interviews, this seems to improve their ability to have an overview of healthcare paths. However, Hospital C operates in an environment where no patient records are shared in a collective healthcare system, causing inefficiencies and misunderstandings in the flow. This lack of documentation can lead to inconsistency in information from the patient of what examinations and treatments they previously conducted. Hospital C copes with the insufficient information flow via

putting high emphasis on building up IT systems where information is documented extensively. However, bottlenecks appear when personnel in Hospital C do not know how to document or understand the benefits. Moreover, the relevance of the actual implementation of digital solutions in organizations seems to differ depending on the department. It is suggested by respondents in primarily Hospital A to implement digital solutions in the acute department to provide efficiency to the interconnected processes as well as reduce the workload for personnel. For example, this can be done by providing digital forms to patients at the arrival to the acute department, which would facilitate standardized patient flows and a simplified information flow to other departments within the hospital, e.g., if a patient is likely to need an X-ray or other examinations. It is however worth noting that relying too much on digital working methods is not always preferable, such as in cases where quality is dependent on a physical meeting.

"The hospitals here do not have integrated systems, which makes it difficult to get an overview of a patient's whole path of care. I'm convinced that more integrated systems would allow for higher efficiency for the entire organization. Also, more accurately performed documentation by the personnel would help us avoid misunderstandings." - Interview person 15, Hospital C

"A suggestion is to let the patient fill in digital forms themselves when arriving at the acute department. This would be a remedy especially in case of lack of personnel, which is a recurring problem. Further, it would minimize waiting times and misunderstandings when planning the next stages of their treatment at the hospital." - Interview person 19, Hospital A

"To implement digital initiatives in orthopedics is not a big opportunity for achieving efficiency, since it is all about the physical meeting." - Interview person 21, Hospital B

4.2 Leadership

4.2.1 The role of leadership

To understand the influence of managerial actions on patient flows, this section will start by clarifying what the leadership structure of the hospitals consists of, and thereafter, sections describing their impact on patient flows will follow. The management of Hospital A works as a central administration for supporting functions such as HR, economy, communication, quality, development, change management, and IT; all having an indirect and direct effect on the patient flows. However, the Heads of Department work as intermediates for transferring information upstream and downstream between clinical workers and the management. The study shows that

the clinical personnel are involved in quality procedures, but the vast majority of responsibility regarding change management and organizational development is put at the top. Therefore, the organizational structure of Hospital A is considered to contain both bottom-up and top-down characteristics.

"A hospital should primarily be organized in a bottom-up manner. We have the CFO, CEO and the Chief Physician in the top deciding about structural matters, such as resource allocation, but the emphasis in terms of leadership is on the clinical workers and the respective Head of Clinical Area." - Interview person 18, Hospital A

"I [middle manager] tend to protect the organization from some decisions in management made outside of the medical professionals." - Interview person 14, Hospital A

Hospital B represents a bottom-up-based organization where the management has relatively less influence of change, structural and behavioral management, in comparison to Hospital A. This is demonstrated by the fact that units in Hospital B set up a big part of their quality indicators and that structures of informal discussions between colleagues are more prominent as a determinant of concepts affecting change management and patient flows. However, the top management is in charge of formulating organizational values, goals, and more quantitative parts of the efficiency concept such as resource utilization. The interviews in Hospital B indicate that clinical workers are relatively less influenced by decisions in the top management, compared to Hospital A. This could be due to Hospital B being less complex and relatively small, enhancing possibilities of autonomous control systems in the various departments.

"We believe in what we call close leadership, where the leader should be as closely attached to the operations as possible. Therefore, we have controllers at every unit. An example is the quality controllers." - Interview person 12, Hospital B

Furthermore, Hospital C adopts a clear top-down approach. The hospital has a control structure with a starting point in formal control via clearly assigned roles surrounding aspects from change management to quality issues. Behavior is managed in the organization via strong reporting structures consisting of formal control systems, for example, administrative control systems such as standardized procedures for handling medical procedures and compulsory reporting systems.

"The organization is managed top-down and we have a broad system of key performance indicators, such as reporting evidence from assuring a safe care environment. The KPIs are followed up continuously. We base our work on standardized processes to ensure patient safety and unify personnel from fifty different cultures." - Interview person 1, Hospital C

4.2.2 Align measurement systems with health system objectives

The study shows that measurement and management systems sometimes promote objectives that are not necessarily a part of the main objectives of the hospitals. This creates incoherence in the organizations in the form of behavior of the employees and development of the organization.

With regards to Hospital A, the authors have identified several areas of improvement where increased or more aligned measurements should be implemented. One of these regards the lack of measurement of Prem (Patient Reported Experience Measures) related metrics, thus, more of these measures would encourage an improved healthcare quality in the form of patient satisfaction, which has been shown in the interviews to be one of the central health system objectives of the hospital. Additionally, the demand for increased quality measurement is followed by the discussion about process and outcome measures. It is indicated by the interviews that the focus on measures on the responsiveness of the system, e.g., door-to-door rates, sometimes can have an opposite effect on achieving quality. Hospital A is thus suggested to review the alignment between measurement systems and healthcare objectives, by implementing measurement systems that cover the scope of both productivity and quality, i.e. efficiency, with higher emphasis on quality than the current measurement systems. This is especially relevant for the acute department.

Further, the alignment is however hindered by macro factors. As Hospital A is publicly owned, aspects such as governmental regulations and guidelines are impacting the resources and production levels for the hospital. For example, if the production level exceeds 104%, the hospital receives less funding compared to when operating at less than 104% production. Therefore, the hospital does not benefit from striving towards a higher production rate than 104% as it will not be financed by the government.

"We are good at measuring outcomes of treatments, but not related to how we receive patients and their experiences, especially when compared to another hospital in Stockholm [Hospital B]. We only do

sporadic efforts by measuring the patients´ experience of being discharged from the hospital in surveys." -
Interview person 5, Hospital A

"Everything is governed by the law [The Swedish Health and Medical Services Act], which makes processes more complex and lengthier. The measurements in the organization include outcomes, resource utilization, productivity, and process measures. We are good at measuring process-based items, but these do not always capture quality in the organization. For instance, a short door-to-door rate at the acute department does not equal quality and a treated patient. In the long run, this affects the effectiveness." -
Interview person 14, Hospital A

"The production level needs to be between 98-104% to meet the budget. If that is not the case, we make losses rather than revenues." - Interview person 2, Hospital A

With regards to Hospital B, the organization is successful in aligning the central healthcare objective of productivity with the measurement system, demonstrated by the lean approach where non-value adding and unnecessary parts of the healthcare processes are measured and excluded to the benefit of the cost of the organization and patient, e.g., in the form of reduced patient lead time. Further, interviews in Hospital B highlight indirect healthcare objectives and challenges to achieve efficient flows regarding high employee turnover and standardizations. However, the focus does not seem to be on measuring aspects preventing employees to leave, such as job satisfaction and feedback on an individual level. Therefore, expectations and awareness around the objectives could be clarified in Hospital B, where current control systems are informal, and feedback of production and efficiency-related concepts mainly happens continuously through dialogues between colleagues.

"We get feedback in numerical terms per unit, but never per doctor. I think that this information could be valuable for all clinical workers to see how efficient I am actually working." -
Interview person 21, Hospital B

With regards to Hospital C, objectives are surrounded by productivity and achieving healthcare of high quality. This is based on the organization being profit-driven, and additionally, the immature healthcare system present in both the country and the hospital calls for quality improvements. For instance, the lack of developed common patient documents in the country and deficient journal notes affect the healthcare quality of Hospital C. Furthermore, the competitive landscape demands

the system to focus on marketing and promote purchases of hospital visits. Also, the payment system is time-consuming, creating obstacles in achieving higher quality. Additionally, although Hospital C is privately owned, the governing authority impacts the organization as they set measurement systems in the healthcare infrastructure, and also provide tax revenues to compensate for the small part of the population who are citizens in the country.

"As a hospital, we operate in a landscape with high competition and market forces, where marketing towards the patient has developed to become one of the most frequent focus areas of the organization. It is positive however that the quality measures are connected to the budget, resources, and compensation we are provided with." - Interview person 23, Hospital C

"The authorities have overarching responsibility for healthcare systems in the country. Abu Dhabi is the most developed emirate, where they have built a healthcare and insurance systems provided by different external providers." - Interview person 15, Hospital C

Furthermore, interviews in Hospital B highlight the importance of aligning measurement systems with departments that are either external from the hospital or the unit of focus. Performances can be divided into patient inflow, patients at the hospital, and outflow of patients - all three interdependent. The acute department reflects how the performances of the three flows impact each other. Non-functioning primary care makes non-emergency patients visit the acute department, resulting in a high inflow of patients. This leads to bottlenecks, an overcrowded unit, occupied hospital beds, increased waiting times, which ultimately hinder an efficient flow. All the hospitals should therefore consider multiple units while designing the measurement system, as well as collaborating closely with the most relevant external units both in sharing data and optimizing operations.

"Challenges regarding achieving efficiency at the acute department surrounds inflow of patients, actions at the acute department, and the outflow of patients. These three factors are interdependent. "For example, the inflow of non-emergency cases occupies hospital beds, leads to an overcrowded acute department, which in turn results in a dysfunctional information flow." - Interview person 11, Hospital B

4.2.3 Implement clear and visible goals

The awareness among clinical workers of the organization's goals is generally low. This is especially true for Hospital B, where the authors find results in the interviews indicating that the management

should work increasingly with making the personnel aware of what the goals are and means to achieve them, e.g., by implementing a more extensive type of management control system in terms of communication regarding an organization's value and purposes. The interviews indicate that this would be beneficial for providing more consciousness about concepts such as change and quality management, which is put at the center of the medical profession.

"I am not informed about the organization's goals and what all clinical workers are working towards, in terms of objectives. The organization would probably benefit from informing the clinical workers about the visions and goals of the organization. I would say that this is a responsibility of the management." - Interview person 3, Hospital B

Although the management has formulated clear goals and communicated these to the entire organization, it can be complex to lead the organization in the right direction due to the strong individual requirements among medical doctors. Also, it can be challenging to reach the objectives in the case of a high employee turnover. This is reflected in Hospital C, with many employees coming from outside of the UAE, leaving their positions to go back to their home countries. This makes it difficult to proceed with the work needed for achieving the organization's objectives in a long-term perspective.

"The group of clinical medical doctors is difficult to reach due to their high level of education and strong individuals that are difficult to direct." - Interview person 11, Hospital B

"The high employee turnover makes it difficult for us to complete projects that we have started and to achieve a certain goal for the department." - Interview person 20, Hospital C

To cope with this inherent challenge, results indicate that it can be valuable to recruit employees with aligned value propositions to the organizations. However, the interviews differ in their opinions of whether to involve clinical personnel without leadership or responsibilities of the flow in the process. Some opinions are that clinical workers should be separated from leadership responsibilities such as budgeting, reviewing, and involvement in efficiency outcomes and administrative tasks. However, the same respondents think that change management should be pushed down in the organization.

"The biggest challenge for us is to find personnel with aligned values to us, as well as raising their insight into the holistic healthcare process of a patient." - Interview person 1, Hospital C

"All employees should not need to actively consider improvement work and resource utilization. For example, I suggest not talking about economic aspects with medical doctors, as they should focus on their expertise so the organization as a whole can deliver high-quality treatments and value for the patients." - Interview person 11, Hospital B

Further, the benefits of being aware of efficiency indicators, such as the price of surgeries are emphasized by the participants in the interviews. These respondents see value in that clinical workers have other responsibilities combined with the clinical work. This, to implement bottom-up thinking and make the alignment between needs of changes in the organization connected to the leadership.

"The private operators earn money on squeezing in one last surgery, which increases their productivity and resource utilization. In Sweden, and especially among the public alternatives, clinical workers have no insight into resource utilization. To switch to the next operation takes 1.5 hours in my hospital, and 10 minutes in a privately owned. It is important to change the mindset of clinical workers and allow them to give suggestions for being faster." - Interview person 7, Hospital A

4.3 Tensions between working methods and leadership

4.3.1 Integrated departments and management

Results from all hospitals show that a vital factor creating bottlenecks in patient flows is when the management and clinical personnel are disconnected, which appears when decisions from the top management are made with a deficient understanding of the task or problem at hand. These tensions are however reduced when the clinical personnel are relatively more important in decision making and organizational change, e.g., a bottom-up approach, such as in Hospital B. However, a top-down approach, as in the case of Hospital C, appears to enhance these structures. For Hospital A, these patterns become apparent, due to their top-down approach in terms of large structural matters and resource allocation being decided primarily by top management. Further, when the top management has a low level of trust towards the clinical workers, this appears to separate the two groups more, which ultimately impairs efficiency outcomes.

"The most detrimental decisions are made when the management above my unit makes decisions that are disconnected from the actual daily work of our department. Unfortunately, this happens a lot, and I believe it occurs mainly due to the many steps and middle managers between top management and our unit." - Interview person 19, Hospital A

"I feel that the management and my unit are divided, I don't know the connection between our methods to what they refer to as lean." - Interview person 3, Hospital B

"It is clear from my perspective that we have a top-down type of leadership. There is a hierarchical leadership with limited trust in the ones below them. They do not communicate what they do or what they measure. I think that they have an intention to make positive change. However, there are clear problems within the leadership if they do not let go of some control." - Interview person 8, Hospital C

When the management and clinical personnel are disconnected, this heavily affects the efficiency outcomes, either by not solving existing bottlenecks or creating new ones. The top management of Hospital A works actively with breaking down the incentives and goals to the different units, which seems to increase the likelihood of meeting goals in case they are well-connected to the daily operations of the department. Further, interviews in Hospital C indicate that the implemented journal system, which is decided on a top management level, is detail-oriented to an extent where efficiency is hindered. This is partly due to high requirements of details by the insurance companies and patients which Hospital C is dependent on. This is something that is not met by the top management in their daily work but appears to heavily affect the work efficiency of the clinical personnel. Therefore, possible tensions seem to be reduced by top management acting promptly on the issues highlighted by clinical workers, including challenging demands from patients.

"We need to be transparent in all numbers and the journals need to be reviewed in detail due to requirements from the patients and insurance companies. This is very time consuming but does not add any value to the organization." - Interview person 13, Hospital C

"The objective of the acute hospitals is that they should be productive, however, this does not correspond with reality. This is partly due to the lack of incentives for improving and that we cannot select between non-profitable versus profitable patients. However, we can make the production goal at least be

implemented in the organization via breaking down revenues and targets for each unit. This makes them

more likely to keep their targeted production volumes." - Interview person 18, Hospital A

The study shows that efficiency is promoted by clearly defined measures and a feedback culture regarding not only the efficiency outcomes and feedback of individual tasks as previously mentioned, but also regarding scope, i.e., division of work hours, and expectations regarding how work should be performed. In Hospital C, clinical workers receive feedback on an individual level on their performance in relation to production goals, and in Hospital A, results indicate that at least parts of the hospital, e.g., women's care department, have yearly feedback sessions explaining the number of surgeries and patient visits conducted by an individual employee. The informants believed that these are important parts for raising an understanding and thinking behind actions suggested by the management. Further, informants in Hospital A emphasized how the job satisfaction, quality, and productivity measures simultaneously increased by standardization of schedules such as times for patient visits and breaks. This was seen as a surprising finding by the organization, indicating that work satisfaction can be increased through productivity incentives.

"We have yearly meetings with each medical doctor where we discuss the number of surgeries and patient

visits. This increases their understanding of the management." - Interview person 2, Hospital A

"Here, everything can be measured. Clinical workers receive feedback on production levels so that their

performance exceeds the cost of their salary." - Interview person 1, Hospital C

"It is all planning and creating closeness between the top management and clinical workers. The

management did a test explaining a workday clearly for the doctors, which was followed. This made the

doctors more satisfied since the daily operations became less dependent on unexplicit expectations. Also,

this made communication with the boss more valuable." - Interview person 22, Hospital A

5. Analysis

This section of the report aims to present the relevant parts of the empirical material and analyze this by comparing the views of clinical workers and leadership employees on the two studied perspectives; working methods and leadership, and additionally, examine the perspectives in relation to the outcomes derived from the service industry. The analysis works as a basis for the conclusions that will be presented in the subsequent section.

5.1 Efficiency and productivity in patient flow

Overall, clinical personnel seem to view a beneficial patient flow primarily in the form of patient safety and quality. This is also valued by the management positions, however, the interviewed respondents with a leadership position seem to put a relatively higher emphasis on productivity and resource utilization. This gap is interestingly more prevalent in organizations where the focus is on efficiency and quality, rather than productivity (i.e., monetary-based focus), meaning that this study indicates that clinical personnel in these organizations are driven by the consensus that quality is the main determinant for efficiency in patient flows. This implies that productivity and efficiency are both important in viable healthcare organizations. Additionally, when considering the working methods and leadership perspectives simultaneously in this study, one can claim that these are highly dependent on each other as leadership with a higher efficiency focus seems to create a higher healthcare quality in the organization.

To handle the variability in patient flows, clinical workers at departments with both acute and elective flows, address the benefits of separating these for achieving a more efficient patient flow. This is however not highlighted to the same extent among personnel in the leadership positions, indicating that it is not of the same priority. As the clinical workers seem to get hindered by the created obstacles in their daily work, many departments work internally with optimizing their unit rather than the entire organization. The suboptimization seems to be mainly created via unintentional actions. In turn, this seems to affect some individual departments positively, but might not necessarily be the best outcome for the organization as a whole. In line with Cao et al (2015), this could be due to that the total organization handles variation less effectively. The departments that do not get sufficient mandate from the top management seem to be more negatively affected, which confirms previous research by Nilsson and Mandoff (2015). Therefore, this report expands on the notion that the leadership should adopt integrated process focuses and include the organization with extended units affecting them as a whole.

5.2 Teamwork

In line with the research by O´Brien et al (2018), the extent of teamwork adopted in the organization seems to be aligned with the presence of a team culture, where this study indicates that stronger hierarchies and blame and shame cultures reduce the extent to which teamwork is performed in the organization. This study has therefore expanded on the theory that culture is the most challenging factor for viable team-based working methods, by pointing towards the handling of hierarchical structures and failure in the organizations serving as key parts for building up a culture that supports teamwork. Further, there seems to be a coherent opinion among the leadership and clinical perspective in all studied units about the benefits of discussing healthcare failures in teams, as well as reviewing organizational and structural matters instead of individuals. This is interesting, as especially one of the studied organizations, does not organize the handling of failures in a teamwork-based way, but rather points to individual failure.

This study develops the presented research about that the key aspect in the creation of ownership is the presence of total transparency facilitating team members to have access to the same information (O´Brien et al, 2018), as leadership positions in primarily one of the studied organizations seem to want to separate insight into efficiency matters to the managerial workers. However, it confirms that integration of medical areas and simplified information are perceived as beneficial for conducting efficiency outcomes. Additionally, the insights presented in this study provide new perspectives about macro factors such as the level of maturity of the healthcare system. e.g., regarding digital health systems, affects an individual organization's ability to have integrated and transparent information.

5.3 Leadership style

The authors identify different opinions between the clinical workers and personnel in leadership positions with regards to how to lead an organization in the best way; bottom-up or top-down. The material gathered points to that a bottom-up approach is the most efficient way to manage the studied healthcare organizations. This could be due to the clinical workers being in the primary position of encountering inefficiencies in their daily work, as opposed to the top management who gets information about the patient flow in terms of numbers and from secondary sources. However, this differs in respective organizations, with responsibility differing between departments and more responsibility assigned to middle-level managers, e.g., flow owners. Also, considering medical doctors' strong individual professions, it can be hard for management to direct medical

doctors. This means that cultural and informal types of control seem to have a substantial influence on behaviors in a healthcare organization. Further, this study indicates a strong sensitivity to decisions done outside of the medical profession and/or with deficient insight into the implications on the working methods and daily practice. This generally implies that a healthcare organization should be managed to some extent with a bottom-up style, or, with a strong basis in the daily issues faced by departments and employees. This is highlighted mainly regarding aspects of quality and change management. On the contrary, the study indicates that a top-down approach in terms of monetary and productivity controls seems to be relevant especially if the organization operates in a highly competitive landscape. The focus in those cases is on staying viable among other healthcare operators, which sometimes demands optimizing productivity, although this is not always prioritized by the clinical workers. Further, from the studied units one cannot conclude that leadership, economic, administrative, and managerial responsibilities to a higher extent are separated in privately operated organizations than in publicly operated organizations. However, the study indicates that a higher level of separation and top-down approaches seem to be determined by factors such as a large size of the organization. Further, the respondents provide insights regarding that trust and management with a willingness to let go of some control are important factors for total efficiency and job satisfaction among clinical personnel. However, the study points to that the management often lacks insight into the notions about hierarchies and informal types of control. This can potentially lead to the possession of too much control among these, affecting the efficiency of the organization.

5.4 The role of organizational goals

The study indicates that the awareness of the organization's goals is generally low among clinical workers, however, this stands in large contrast to the management personnel as they set the objectives. Interestingly, organizational structures that include roles where clinical workers have additional traditional leadership responsibilities, did not seem to affect the general awareness about organizational goals. Consequently, this reflects difficulties for the clinical side to actively work towards achieving the goals if they are unaware of them, which could have an impact on inefficiencies in the organization such as lack of integration between departments. Further, the performed study confirms that cultural controls, e.g., norms about hygiene, are important implications for how the operations are executed in the organization. However, the insights from the studied hospitals imply that these types of informal controls cannot fully substitute formal types of control. In a healthcare setting, the authors identify administrative controls to be one of the most important formal types of control systems, as this creates possibilities to have an integrated

process focus, overview of the healthcare path of a patient, and clarify work tasks. This is demonstrated in the interviews highlighting the importance of simplified and efficient journal systems. This is in line with the research by Gschwanter and Hiebl (2016) that was conducted in a general management setting. Hence, this study broadens that research by indicating that this is also applicable in a healthcare setting.

5.5 Tensions between working methods and leadership

Previous research performed in a service industry considering both working methods and leadership perspectives (Åkerberg and Nilsson, 2016) can be applied relatively well to the healthcare industry. In both industries, efficiency outcomes seem to benefit from increasing the integration between clinical workers and management. On the contrary, the study provides insights that the healthcare sector seems to focus less on the interaction between the employee and the manager as the main determinant for motivation, compared to a service setting. This also regards the benefits stemming from workers in the service industry viewing the manager leading by example, however, in the healthcare industry factors such as low levels of trust from the management with regards the employees, seem to impair efficiency. Further, considering the strength of the medical profession among clinical workers, motivation is created mainly by patient contact and when achieving high quality, rather than motivational incentives from the management. Clear goals and working tasks important for efficiency outcomes are, on the other hand, indicated to be important in both industries. However, in the service industry, organizations seem to demand more impact from the individual employee, as the lack of the individual's influence seems to create conflicts and barriers towards efficiency outcomes. This stands in contrast to the studied units in the healthcare industry, where efficiency is rather promoted by reviewing the collective, e.g., reviewing a team or an organization after healthcare failure. Lastly, this does not seem to regard efficiency-related concepts such as resource utilization, where the healthcare industry seems to benefit from employees being aware of these notions.

6. Discussion

This section discusses how three different hospitals are working towards achieving an efficient patient flow in terms of working methods and leadership. Thereafter, relevant implications for academia and practices for the industry are presented. Recommendations for future studies are finally presented.

6.1 General discussion

The study indicates that both groups, i.e., clinical workers and managers, and perspectives are needed for an efficient patient flow as their contribution to the management of patient flows are highly interrelated. However, the efficiency focus and challenges differ between the studied units. Hospital A is working towards an efficient patient flow by employing standardized processes and implementing some efforts to separate the acute and elective flows. Interview material further indicates that standardizations are beneficial for efficiency, primarily via increasing the general healthcare quality. High quality demonstrated by putting the patient in the center of all operations throughout the hospital is the main focus area according to the interview respondents. This is managed with a bottom-up approach, e.g., via an extensive system of quality teams discussing quality improvements. Furthermore, change management and resource allocation are managed top-down, meaning that the management of the hospital constitutes relatively high importance in the efficiency of work by the central functions laying the structure for management control and change work. Insights further show that the decisions by top management are not always accepted and appreciated by the departments. Altogether, this creates a clear tension between the clinical workers and the management.

Hospital B is working extensively towards achieving an effective patient flow. This is demonstrated primarily via organizational initiatives such as the implementation of a bottom-up and a lean approach, where waste is reduced in the matrix organization and clinical personnel are assigned responsibility for efficiency concepts such as quality management and coordination of patient flows. However, meanwhile, the medical staff are involved in efficiency processes, they possess a low awareness of organizational goals formulated by the top management, which is an example of a deviation between management and clinical workers that risks causing obstacles to achieve an efficient patient flow. The clinical personnel have the most important influence on the achievement of an effective patient flow, demonstrated by a team-based approach facilitated by the culture that all employees are leaders. This is shown to reduce tensions between the perspectives studied in this

report. The small size of the hospital and the strong culture are determinants for the creation of efficiency in patient flows.

Hospital C is working towards an efficient patient flow by optimizing every department separately and building up functions in a stepwise manner. Standardization and patterns of top-down are keywords in the change initiatives, decision making, and for how working tasks are operated in the organization, shown to facilitate efficient patient flows. However, value-creating activities are sometimes disrupted by an organization with diverse reference points in terms of for instance hygiene and medical procedures. Together, different norms stemming from different cultural and educational backgrounds create tensions in the organization, however, not necessarily only between management and clinical workers, but also between different professional groups such as doctors and nurses. Therefore, the organization adopts high levels of formal and standardized control, e.g., regarding medical procedures. This seems to create efficient outcomes, except for occasionally deficient healthcare quality. Further, control systems, organizational and individual goals have relatively more importance on efficiency in flows compared to teamwork, digitalization, and methods for flow efficiency.

6.2 Practical implications

The potential inefficiencies in patient flows can be improved by employing several approaches. To begin with, increasing the cooperation and information flow between the units of an organization is valuable for an integrated and efficient flow. The most significant finding from studying the researched units is separating acute and elective flows as much as possible to balance variability and predictability, to increase resource availability, and enhance flexibility. Moreover, insights show benefits from pushing down responsibility into efficiency matters among clinical workers in the organization, as ownership and acceptance are likely to be increased, ultimately fostering a more flexible, unified, and communicative organization. Therefore, it is beneficial to clearly define work tasks, as well as assign roles concerning responsibilities, e.g., surrounding detecting bottlenecks in the patient flow, such as leader and owner of processes. However, assigning these roles does not seem to be enough for making organizational goals salient in the minds of employees. This is a paradox, implying that the top management has a responsibility to clarify the purpose connected to goals salient in the minds of the employees.

Furthermore, increasing the level of standardized processes in appropriate parts of healthcare processes is shown to result in efficient flows, for example by using digital forms. This is particularly valuable for facilitating a more accurate and unified information flow, and for planning, as relevant departments will be notified in a more efficient and timely manner; affecting their ability to adapt capacity and related issues.

On a general level, the study indicates that planning and reviewing current processes, as well as integrating all types of healthcare personnel are important aspects for achieving efficient patient flows. This is shown to promote patient safety and motivation among all employees in the studied organizations through an increase in the likelihood of acceptance in the organization. In addition, the study suggests assigning more responsibility to smaller divisions and thus enhance the bottom-up thinking.

Moreover, the study shows the benefits of using informal and formal types of managerial and measurement systems. For example, formal control as standardized procedures is shown to reduce the complexity of healthcare processes and increase quality, meanwhile, informal controls, such as a beneficial culture, are important factors for change management and for achieving an autonomous, flexible and responsible workforce. Further, factors worth considering in measurement systems include consistency, sufficiency, and avoiding rapid changes of indicators The study suggests further consideration of employee-related data that is measured in the organizations. This regards for instance the employee turnover metrics, which are likely to impact overall efficiency. Thereby, improvement work and organizational culture can be enhanced.

6.3 Limitations

This study is limited in terms of resources and time. One limitation is connected to the included interview respondents. The selection of the respondents was managed through Heads of Departments, who respectively advised the authors of the report of candidates who could be interested in participating in the study. This could lead to a limitation of that only particularly interested candidates were included in the study and therefore the whole picture of the studied units might not be fully captured. Additionally, some interviewed respondents had roles with dual responsibilities, leading to difficulties in separating the studied perspectives.

Further, one additional limitation is connected to the comparability of the researched hospitals and departments. As stated, the researched units are operated in highly differing landscapes, with different maturities of healthcare systems and different cultures. These factors are likely to impact the organizational structure and management of flows. However, it is important to state that the essence of the report is not to compare the flows but rather investigate the research question in different flows and settings.

Lastly, the research was conducted during the COVID-19 pandemic, which may have impacted the results. Focus in neither of the general healthcare industry in Sweden and the United Arab Emirates has been on improvement work or elective flows, but rather on handling the acute COVID-19 related flows. This was however taken into account during the study as the authors specifically asked for general take-aways.

6.4 Theoretical contributions and implications for future research

This study contributes to the existing literature by comparing the two perspectives of leadership and working methods simultaneously and examines how these are dependent on each other when analyzing healthcare and patient flows. In addition, the research is conducted in a new setting, consisting of comparing two hospitals in Sweden and one in UAE, which fills a practical gap as this particular setting has not been explored previously. In addition to the stated contributions, this study confirms previous research on a range of aspects; for example, about the separation of elective and acute flows, building learning capabilities as well as avoiding sub-optimization in organizations.

Furthermore, the study extends previous research from the Swedish service industry where the perspectives of working methods and leadership were considered simultaneously. It confirms prior research primarily when it comes to seeing that the perspectives and the groups need to be considered simultaneously when reviewing efficiency in value-creating organizations. Also, it confirms the importance of employee-related motivation and satisfaction, which is described to benefit from clarifying goals and scope regarding working tasks. However, the application of the service industry to the healthcare industry shows differences in what motivation is mainly based on, which was indicated to be based on the actual profession and reaching quality outcomes in healthcare, rather than the interaction and feedback from the management to the employees in the service industry. However, more research into this is needed, primarily in the aspects of how tensions between management and workers are affected by the level of trust; an implication from

considering the perspectives simultaneously in a healthcare setting that was not considered in a service setting.

Future research should build on the direction that this study has preceded. The authors suggest investigating more factors within the perspectives that could contribute to managing efficient flows. More research is needed in terms of studying roles in-between the typical top management and clinical workers, e.g., middle managers, flow owners, and similar. This would enhance the understanding of how the perspectives affect efficiency outcomes and how to divide control. The research that already exists within this subject is conducted in many different settings, but new settings are needed, primarily considering different levels of maturity of healthcare systems and the potential differences between private and publicly owned healthcare organizations. Finally, due to the high complexity of the healthcare landscape, researching this subject is interesting from other industries and settings as well. Therefore, comparisons from the service setting, and additional industries, could be developed further.

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8. Appendices

8.1 Overview of conducted interviews

Name	Gender	Hospital	Position	Interview Time	Date	Place	Transcription	Perspective
Pre-study								
Interview person 1	M	C	Head of Quality Department	39 minutes	2021-02-08	Digital	2.0 pages	Leadership
Interview person 2	F	A	Head of Women's Care Department	35 minutes	2021-02-10	Digital	3.0 pages	Leadership
Interview person 3	M	B	Orthopedic surgeon	1 h 30 minutes	2021-02-12	Physical	4.0 pages	Working methods
Main study								
Interview person 4	M	C	Head of Pediatrics and Neonatology	43 minutes	2021-02-15	Digital	2.5 pages	Leadership
Interview person 5	M	A	Head of Radiology	57 minutes	2021-02-16	Digital	2.75 pages	Leadership
Interview person 6	F	A	Clinical worker at Acute Department	32 minutes	2021-02-16	Digital	2.25 pages	Working methods
Interview person 7	M	A	Surgeon	45 minutes	2021-02-17	Digital	3.0 pages	Working methods
Interview person 8	F	C	Anesthesiologist	56 minutes	2021-02-19	Digital	4.25 pages	Working methods
Interview person 9	F	C	Endocrinologist	1 h 20 minutes	2021-02-22	Digital	4.5 pages	Working methods
Interview person 10	F	C	Pediatrics Cardiologist	39 minutes	2021-02-22	Digital	3.75 pages	Working methods
Interview person 11	M	B	General Practitioner at Acute Departement	1 h	2021-02-23	Physical	4.0 pages	Working methods
Interview person 12	F	B	Chief Financial Officer	1 h	2021-02-25	Digital	4.0 pages	Leadership
Interview person 13	M	C	Surgeon	57 minutes	2021-02-26	Digital	3.25 pages	Working methods
Interview person 14	M	A	Head of Pediatrics	1 h 5 minutes	2021-02-26	Digital	3.5 pages	Leadership
Interview person 15	M	C	Quality Director	1 h 20 minutes	2021-03-01	Digital	4.5 pages	Leadership
Interview person 16	M	B	General Practitioner at Acute Department	30 minutes	2021-03-01	Digital	3.0 pages	Working methods
Interview person 17	M	C	General Practitioner at Acute Department	1 h	2021-03-03	Digital	4.5 pages	Working methods
Interview person 18	M	A	Chief Financial Officer	39 minutes	2021-03-04	Digital	3.75 pages	Leadership
Interview person 19	F	A	General Practitioner at Acute Department	44 minutes	2021-03-04	Digital	3.5 pages	Working methods
Interview person 20	M	C	Head of Women's Care Department	1 h	2021-03-08	Digital	4.5 pages	Leadership

Interview person 21	F	B	Director of Studies at Orthopedics Department	41 minutes	2021-03-09	Digital	3.25 pages	Leadership
Interview person 22	F	A	Gynecologist	54 minutes	2021-03-17	Digital	3.25 pages	Working methods
Interview person 23	F	C	Chief Financial Officer	47 minutes	2021-03-21	Digital	3.5 pages	Leadership
Interview person 24	F	External	Director of operations	56 minutes	2021-02-23	Digital	2.5 pages	Leadership

8.2 Pre-study interview guide

The interview will take around 30-60 minutes. X will hold the interview, whilst Y is taking notes and adding follow-up questions if needed. This is completely anonymous.

- Could you shortly describe your current work position and previous working experiences?
- How are your working hours distributed?
- How do you define productivity?
- How do you define efficiency?
- How do you define patient flows?
- Describe the processes before and after a patient visit.
- How are patient flows planned, measured and followed up?
- How are results and quality measured? Do you focus on measurements such as the number of patient visits or healthcare results?
- How is the leadership at your department? How is your department affected by the management in terms of motivational factors and goal accomplishment?
- What are the main challenges to treat more patients? What can be improved in terms of efficiency and productivity?

8.3 Main study interview guide clinical workers

The interview will take around 30-60 minutes. X will hold the interview, whilst Y is taking notes and adding follow-up questions if needed. This is completely anonymous.

Segmentation

- Could you shortly describe your current work position and previous working experiences?
- How is your working time distributed (e.g., meetings, administrations, patients, education, research)?
- Could you describe the processes before and after a patient appointment?

Management control

- Describe how the department is operated
- How is the integration and communication between decisions and actions in the management versus the daily work for medical doctors?
- Are there clear goals for the organization? What are the goals and how are these followed up?
- To what extent do you have standardized processes for example of how to handle certain treatments? Other types of standardizations or guidelines?
- How is the motivation for individual medical doctors?

Measurement

- How do you define productivity?
- How do you define efficiency?
- How do you define patient flows?
- How are care processes measured and what is success for the organization in terms of efficiency and productivity? How are these followed up?
- What determines the resources? How is the resource utilization followed up?
- How are healthcare results and quality measured?
- How are patient flows planned, measured and followed up? Is the organization striving towards minimizing the patient lead time?

Challenges and improvements

- What are the biggest challenges in terms of efficiency and productivity?
- How are improvement efforts managed? Continuous or radical?

8.4 Main study interview guide management

The interview will take around 30-60 minutes. X will hold the interview, whilst Y is taking notes and adding follow-up questions if needed. This is completely anonymous.

Segmentation

- Could you shortly describe your current work position and previous working experiences?

Management control

- Describe how the department/hospital is operated
- How is the integration and communication between decisions and actions in the management versus the daily work for medical doctors?
- To what extent do you have standardized processes?
- Are there clear goals for the organization? What are the goals and how are these followed up?
- What are the most important factors of being a manager? How do you motivate through leadership?

Measurement

- How do you define productivity?
- How do you define efficiency?
- How do you define patient flows?
- What determines the resources? How is the resource utilization followed up?
- How is patient lead time, value-creating activities and care quality measured and followed up?
- How are clinical workers' health, motivation and job satisfaction measured?

Challenges and improvements

- What are the biggest challenges in terms of efficiency and productivity?
- How are improvement efforts managed? Continuous or radical?
- What can be done to increase productivity in medical doctors' work and efficiency within the organization?