Quality management in the healthcare sector and the perception of an enabling formalization

Sofia Hellqvist
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Abstract
Organizational performance in the healthcare field is of great interest for many stakeholders. Efficient use of resources and delivery of high quality of care should be relevant to any taxpayer hoping to live healthily and grow old in Sweden. Simultaneously, the working conditions for the employees need to be sustainable if the impending lack of 170 000 workers in the healthcare sector by the year of 2030 is to be mitigated (Statistiska centralbyrån, 2012).

The scope of this study is to examine how the quality management systems applied to ensure and improve the aforementioned objectives are perceived by the individual employees. Specifically, practitioners in the nursing professions are enquired about the design principles of enabling control as described by Adler and Borys (1996). The study has utilized a quantitative methodology and an online survey to collect personal perceptions and experiences from 400 individuals in the nursing professions on this topic.

Major findings are that the majority of the respondents state that they perceive three out of four of the design principles of an enabling system to be present in the quality management system at their workplace. In addition, there is a strong association between the perception of the enabling characteristics flexibility and repair and general job satisfaction. Further studies with larger samples would increase the statistical power of these correlations.

In addition, a large proportion of the respondents perceive that the quality management processes is negatively affected by financial constraints. Only a minority of the respondents perceive the workload constituted by tasks connected to quality management as reasonable.

Keywords
enabling, coercive, formalization, quality management, performance management, healthcare management, nursing professions, management control
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1. Introduction

1.1 Background

With a shifting political landscape, increasing urbanization and an ageing population the healthcare organizations in Sweden face profound challenges. Ideologically rooted interventions change the settings for the operations continuously. As the possibility to retain jobs in the rural parts of the country has decreased, regions fight the scarcity of resources whilst attempting to provide the sufficient communal services required. As a smaller proportion of people work, the income to the regions and municipalities decrease while an increase in the proportion of retired constituents leads to an increase in cost. At the core of the attempts to mitigate these challenges lies the ongoing processes of optimization and quality improvement. This effort has many stakeholders: healthcare professionals, managers, shareholders, politicians and taxpayers, and conflicting interests exist among them.

1.2 Performance measurement

As the need for operational efficiency has grown, the focus on performance measurements and to which extent they are communicated beyond the organizational borders have increased. Even though the healthcare sector is not easily defined in terms of production, where inputs generate outputs by straight forward processes, for a long time various techniques from the corporate sector have been common in the effort to control the realm of healthcare. Common customer satisfaction rankings are not easily applied when patients are severely ill or elderly or reluctant to care in general. Effects of preventive actions are notoriously difficult to measure. An inherent aspect of the personalized treatment of each individual is that it does not easily lend itself the formalization required by common quality- and performance management schemes.

Nevertheless, public measures of performance constitute both an ambition to objectively describe the world as well as tools for influencing the world that it describes. The latter implies a reactivity to the measures among the affected actors (Catasús et al, 2007, Espeland and Sauder, 2007). This reactivity can become disruptive when measures become targets and important processes get impaired in the process (Bevan and Hamblin, 2009, Smith, 1995). When employees experience that their performance is judged on unjust grounds, exemplified by incomplete and crude measures, dysfunctional effects can occur on both individual and organizational levels (Aguinis, 2009, Bornemark, 2018, Pollitt, 2018, Wouters and Wilderom, 2008, Smith, 1995). Smith (1995) characterizes no less than eight unintended consequences
that risks of occurring when a performance management system (PMS) is designed and implemented without sufficient consideration and resources. Performance management systems that are designed to influencing behavior by the linkage of financial rewards or other incentives on an individual, department or organizational level can be detrimental or even catastrophic, such as causing life-threatening situations as described by Bevan and Hamblin (2009) in the case of the National Health Service in the UK, among others.

1.3 Implications for patient-centered professions

Nurses and other patient-centered professions are examples where an increasing focus on performance metrics can disrupt day-to-day operations in severe ways (Bornemark, 2018, Ernst, 2019). For a nurse, experience-based knowledge is a key competence in order to provide care with respect to the uniqueness of the patient and the situation. These practices, grounded in less measurable professional attributes, exist side by side with strictly formalized procedures concerning hygiene and safety (Ehrenberg et al 2014, Svensk sjuksköterskeförening, 2014).

One type of experience-based knowledge is tacit knowledge, often exemplified by the act of riding a bicycle. It is the knowledge that includes a multitude of senses and physical traits and is not easily shared by verbalization. The transfer of knowledge often gets hampered by that the individual in possession of the knowledge is unconscious of its composition (Bornemark, 2018, Ehrenberg et al, 2014). The Swedish translation of tacit knowledge is silent knowledge which further reflects the problematic aspect of the concept, corresponding with a reoccurring and troublesome idea that the knowledge itself and any value assigned to it would suffer not only from formalization but even from verbalization (Bornemark, 2018). Processes and tasks depending on tacit knowledge are for these reasons prime examples of performance that is both hard to formalize and measure, and the attempt to do so risks of causing coercive and disruptive effects. Furthermore, activities aiming at providing data on performance (codifying processes, documentation, reporting), may come to constitute an unproportionate large part of the workload. The unproportionality stems from the nature of the operations, as such data collection seldom is an integrated part of processes depending on tacit knowledge and therefore often is added on top of existing tasks without the corresponding resources assigned. Other approaches causing dysfunctional effects is the use of existing data for quality management purposes, creating an incomplete or distorted view of the operations.
In sum, a tension can be discerned, ultimately residing in a lack of goal congruence between the profession(als) and the organization. This increases the work strain and job satisfaction is likely to decrease as an effect of this situation (Bornemark, 2018, Wondemeneh, 2013).

1.4 The theoretical lens

Utilizing the framework of enabling and coercive control as described by Adler and Borys (1996) this study is an attempt to explore the implications of quality management systems (QMS) in the healthcare setting. The integrated design principles of repair, flexibility, internal transparency, and global transparency make up the enabling characteristics advisable in settings with a large proportion of non-routine processes.

The explicit description provided for enabling formalization is that it is “procedures that provide organizational memory that captures lessons learned from experience” (Adler and Borys, 1996, page 69). On the other end of the continuum, we find the coercive type of control accused of permeating any capitalist society, including the healthcare realm, to the very point where even an act of compassion can be regarded as an act of resistance (de Zulueta, 2013).

To quantify every organizational objective is a project of vast proportions and choosing what to measure therefore becomes an act of eliminating (Aguinis, 2009). The problems arising from this reductionism of performance management systems seem to only in part be mitigated by continuous development of better measures (Pollitt, 2018, Power, 2004). When organizational attention is given to indicators, rankings and results, a conscious discourse needs to be given space to simultaneously address the aspects of work that ultimately is not captured by the performance management system (Smith, 1995). The act of measuring alone is not sufficient for assigning value, however, it can provide a fruitful resource for the reflective practices that constitute important complementary structures.

As Catasús et al (2007 page 516) so vividly declare:

“The numbers act as beacons around which a coherent and current story can be told. Following the metaphor, the cruise on the unknown oceans is less frightening if the route has some clear demarcation points. The production and transmission of indicators influence acting if they support the issues that receive the most esteem inside and outside the organization.”

Smith (1995) suggests no less than ten possible strategies to counteract the unintended consequences that risk occurring with the use of a flawed performance management system.
The most prominent one is the inclusion of all employees on all levels of the organization in the design and implementation processes of the system. Adler and Borys (1996) concur with the importance of employee participation in order for the system to be perceived as useful and empowering. This principle of decentralized power over the system is reoccurring and seemingly unopposed in current research of performance management and has been so for some time (Aguinis, 2009, Gumbus et al, 2003, Pollitt, 2018).

1.5 Problem outline

Academia and current national guidelines emphasize the systematic encouragement and utilization of employee engagement that can be achieved by a well-designed and successfully implemented quality management system (QMS). For the employees, such systems are thought to contribute to a sense of relatedness, empowerment and general job satisfaction (Aguinis, 2009, Pollitt, 2018). However, the healthcare sector exhibits an increasing level of staff turnover and sick leave caused by lacking working conditions, such as stress (Bejerot and Hasselbladh, 2011, Bejerot and Hasselbladh, 2013, Bornemark, 2018, Mörtvik, 2018, Socialstyrelsen, 2019). Besides the general operational disruptions associated with this development, it damages both the possibility to attract and retain staff and the general knowledge management in the healthcare sector (Mörtvik, 2018, Szebehely et al, 2017, Wondemeneh, 2013). It is therefore useful to identify any discrepancies between theory and practice that can be thought to contribute to this detrimental situation. A fundamental question is whether the current perceptions of the QMS among the patient-centered workforce in Sweden is in line with that of an enabling formalization.

Research question: Do nurses perceive the QMS at their workplace to be enabling and are such perceptions positively associated with general job satisfaction?

1.6 Structure of the thesis

The remainder of the thesis is structured as follows. We embark on a literature review with a definition of healthcare quality and continue with the implications of publishing performance data of the public sector. Then we acquaint ourselves with the concepts of control and trust in the organizational setting which leads us to the, for this study, central concepts of enabling and coercive control. This section will outline the concepts derived from the original body of work as well as provide a mapping of the subsequent research that has deepened the understanding of this theoretical framework concerning performance and quality management systems. In the following section regarding research design, the methodology is accounted for. This includes
a brief outlining of the empirical setting of this study. This is followed by the statistical analysis and the results are connected with studies of enabling and coercive control. The discussion maps the specific implications of the results for the nursing professions. Concluding the thesis are the theoretical and practical contributions, limitations and suggestions for further research.

2. Literature review and theoretical approach

2.1 Quality in healthcare

Quality in the healthcare context is inherently threefold, as it consists of 1. the sought-after results of the performance of the practitioners, 2. the effective use of the resources that are assigned and 3. the context it is taking place in (Ehrenberg et al, 2014). The desired outcome, as defined by clinical professions, by patients and by society as a whole is the main foundation of the scope of the healthcare sector. As expressed in the Swedish law regulating the healthcare sector HSL (Hälso- och sjukvårdslagen, 1982:763):

“The goal of the healthcare sector is good health and healthcare on equal terms for the entire population. The care shall be provided with respect for the equal value inherent in all individuals and the dignity of the individual human being. The person having the largest need for care should be granted priority.”

These elements are reoccurring in multiple contexts, both in national and international settings, in public policies and academic research. The World Health Organization defined quality of healthcare through benchmarks of efficiency, cost-effectiveness and social acceptability (Wilkinson et al, 2004). Allen-Duck et al (2017, page 381) conclude in a recent exhaustive concept study that:

“Healthcare quality is the provision of effective and safe care, reflected in a culture of excellence, resulting in the attainment of optimal or desired outcome“.
These elements are in a state of constant flux and as a result, the concept of quality is a moving target. The continuous effort for improvement can therefore be seen as an inherent aspect of the concept of quality in healthcare (Ehrenberg et al, 2014, Socialstyrelsen, 2019, Svensk sjuksköterskeförening, 2014).

The expectations of the patients should be regarded as an important input for evolving the concept of quality in healthcare (Ehrenberg et al, 2014, Farr and Cressey, 2005, Mörtvik, 2018, Sajid and Baig, 2007). In Sweden, this ambition is exemplified by the inclusion of patient-oriented indicators in Swedish medical quality registers: PROM (Patient-reported outcome measures) and PREM (Patient-reported experience measures) (Bejerot and Hasselbladh, 2013, Ehrenberg et al, 2014).

2.2 Quality management

Quality management systems and performance management schemes have many implications, but this study will focus on the following co-existing aspects:

1. as a formalization of tasks and processes
2. as a facilitating structure for improvement processes
3. as a tool for control
With his seminal work *On the unintended consequences of publishing performance data in the public sector* from 1995 Peter Smith defines eight different types of dysfunctional effects that can occur when a performance management system is flawed in its design and implementation. All eight are ultimately products of the lack of goal alignment between the managing and the managed and are described in the following section.

**Misrepresentation** is the deliberate manipulation of data in order to affect the perception of performance.

**Misinterpretation** is common on many levels within and outside organizations, often stemming from crude measurements presented within an insufficient contextual framework. Problems with misinterpretation are amplified by the reactivity to measures, the use of data as the basis for subsequent decisions.

**Gaming** is the deliberate adaptation to organizational behaviors to gain strategic advantage. This is exemplified in settings where current performance affects future target levels, therefore establishing incentives for continuous underperformance and inefficient use of resources.

**Ossification** takes place when an overly rigid performance management system undermines motivation and possibilities to utilize new opportunities and respond to new challenges.

**Tunnel vision** is the tendency to let measured outcomes overshadow the importance of other aspects of the operations.

**Suboptimization** occurs when metrics only capturing a small part of the operations are treated as an overarching goal, simultaneously allocating resources in a skewed manner, undermining legitimate but more complex objectives.

**Myopia** is characterized by the pursuit of minor short-term targets at the expense of more important long-term goals. This is an inherent risk of any PI-scheme since long term objectives are practically impossible to incorporate to a full extent.

**Measure fixation** exploits the built-in reactivity of the system by making specific measures become targets in themself, diminishing the focus on the underlying goal.

Furthermore, Smith suggests ten possible strategies aiming at limiting the damage of these unwanted effects. These and their possible application can be derived from the matrix on page 17 (Figure 2). It is noteworthy that only two of the strategies is judged to counteract all eight unintended consequences namely “involving staff at all levels in the development and implementation of PI (performance indicator) schemes” and “retaining flexibility in the use of PI’s, not relying on them entirely for control purposes” (Smith, 1995, page 304).
Possible strategies for limiting the damage of unintended consequences:

1. Involve staff at all levels in development and implementation.
2. Retain flexibility in the use of PI's and not relying on them entirely for control purposes.
3. Seek to quantify every objective, however elusive.
4. Keep the system under constant review.
5. Measure client satisfaction, however complex in certain fields.
6. Seek expert interpretation of the PI's.
7. Maintain a careful audit of data.
9. Keep the number of indicators small.
10. Develop benchmarks independent from previous performance levels

Note that the last three strategies have positive effects on specific unwanted situations (myopia, misinterpretation and gaming) and should therefore be considered carefully in specific settings when these aspects are of prime interest as they can exacerbate the other unwanted behaviors described.

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Figure 2 Matrix of unintended consequences and corresponding counteractions and possible detrimental effects (Smith, 1995, page 302-303).
Since performance in public sector organizations often is a result of joint efforts between different organizational entities, the implementation of a performance management system based on simple ratios of outputs to inputs is destined for failure (Ibid). On a similar note, the political quest for equity often becomes an incentive for organizations to strive for convergence, to adjust their performance to limit visible variability even if the overarching objective would gain from allocating resources differently. The intensified focus on economic efficiency and equity tend to mask the simultaneous increase of both political and managerial control of public sector organizations (Smith, 1995).

2.3 Control and trust

To further examine characteristics that contribute to a functional performance management system the concepts of enabling and coercive control constitute useful tools. As an introduction to these aspects, a brief mapping of the concept of control and trust in the organizational setting is required.

Ultimately, an organization is the means to accomplish objectives elusive for the individual human being. For this construction to be erected it requires the surrender of the individual autonomy, at least to some extent (Barker, 1993, Milgram, 1974). In that sense, it is also a limitation of trust, the application of hierarchy. Hierarchy in the organizational setting can be defined as a bureaucracy (Bringselius et al, 2018). A hierarchical mode for control is based on the assumption that regulation and formalized decision making are the most important factors when trying to influence employee performance. Central values of the bureaucracy are predictability, legal certainty and equivalence. Weber, although optimistic about the possibilities for the bureaucracy to deliver reasonable levels of both efficiency and autonomy simultaneously, characterized bureaucracy as an iron cage (Barker, 1993).

Taylorism has come to define such mechanistic bureaucratic organizations, relying on the perception that strict compliance to hierarchy, rules, rational problem solving, and linear thinking can ensure optimal outcomes, for any organization (de Zulueta, 2013).

Post-bureaucracy has re-negotiated the levers of control and is now thought to offer less coercion and more self-fulfilling settings in so-called organic organizations (Maravelias, 2003). Decentralization and participation are key goals in this transformation that intends to flatten hierarchies and boost innovation capabilities (Barker, 1993). It has however been argued that the level of control has increased, now permeating societal and workplace culture and the individual self to an overwhelming extent (Barker, 1993).
Within the field of management, the concept of control has been thoroughly researched. The objective for most organizations of today is ambidexterity, to pursue both efficiency and flexibility simultaneously, rendering both pure mechanistic organizations and their organic counterparts rather useless. The characteristics and applications of managerial control practices are thought to have a substantial impact on organizational success in harnessing both the creativity and motivation of their employees in an ever-shifting operational environment (Leinonen, 2019).

For organizations to flourish beyond the mechanistic era, reciprocal trust is a prerequisite. Trust is the willingness to take risks. Trust can be unidirectional or reciprocal and resides in the relationships between individuals, groups and between individuals and groups (Schoorman et al. 2007). In an organizational setting, it can be exemplified by the assumption and belief that someone else will act to achieve the common organizational goal (Ibid).

The power and information asymmetry in the relationship between employer and employee should be considered carefully when examining the foundations of trust in an organization. Trust offers the antidote that can relieve organizations from downward spiraling when the individual fear of contributing more than “the others” limit the employees’ motivation to cooperate and pursue organizational objectives. It is a variable that is self-enforcing in both positive and negative directions. It is therefore of great interest for organizations to strengthen the foundations for trust between their organizational entities. One can even argue that the shaping of trust is organic organizations corresponding tool to manage risk, just as an incentive-based control system is utilized in a mechanistic organization. The aforementioned measures should not, however, be regarded in a mutually exclusive opposing relationship but can co-exist in organizations. Extensive use of coercive control systems will, however, undermine general trust in an organization (Ibid).

2.4 Enabling and coercive control

Adler and Borys (1996) argue that it is not only the degree of formalization, the extent of which written rules, procedures and instructions control the work, that constitutes the problematic nature of bureaucracy. The type of formalization is important for understanding the combinatorial effects achieved in the setting it is applied to. As an effect, formalization can be categorized on the enabling-coercive continuum where the former “enables employees better to master their tasks or functions” whilst the latter is described as “means by which a management attempts to coerce employee’s effort and compliance” (Ibid, page 61). Surfacing from coercive formalization is the extensive asymmetry of power and the restriction
of autonomy that dehumanizes the employees in the mechanistic bureaucracy. Enabling formalization, on the other hand, offers empowerment to employees in the practice of their profession, reaping benefits for the individuals and the organization simultaneously (Ibid).

With this distinction another layer is added to the simplistic dichotomy of mechanistic and organic organizations, allowing efficiency and flexibility to be co-existing objectives instead of contradicting or even conflicting goals. This evolves the understanding of what aspects that allows organizations to pursue “efficiency without enslavement” which can be understood as a form of organizational ambidexterity (Adler and Borys, 1996, page 85). Examining the western world of today, pure mechanistic or organic organizations are virtually non-existent. Additionally, some organizations will inevitably not be easily categorized even by the addition of the hybrid options of autocracy and enabling bureaucracy and will subsequently fall in the zone of indifference located in the middle area of the matrix depicted on page 17 (Figure 3). Such organizations can either strike a perfect balance between the different aspects or rely exclusively on informal and/or indirect control measures which cannot be regarded as either enabling or coercive within this framework (Adler and Borys, 1996, Leinonen, 2019).

![Type of formalization](image)

Figure 3 Typology of organizations, adapted from the original with the addition of gradients and dotted lines to emphasize the continuous characteristics (Adler and Borys, 1996, page 78).

As the authors of the framework of enabling and coercive formalization declare, they attempt to “develop a useful theory of how employees distinguish good from bad rules” (Ibid, page 66).
They distinguish the design principles central to an enabling performance management system as repair, flexibility, internal transparency, and global transparency which will be described below. All of the four characteristics must be present and integrated for the enabling characteristics to fully permeate the system and for the organization to be able to reap the benefits it generates. These design elements are the foundation for an enabling formalization, but the design/implementation, intent and use of the system will also affect how it is perceived. The authors further outline that a design process where employees participate actively will likely result in a positive attitude towards the system among the workforce and increase the likelihood that the employees will perceive it as enabling.

**Repair** constitutes the system’s ability to encourage participation on all levels of the organization and to treat any deviations as valuable opportunities for improvement. For this function to be utilized successfully, a certain level of system transparency is required. The repair attribute contradicts and undermines any use of the system as a coercive control mechanism aiming at exposing subordinates possible lack of compliance.

**Flexibility** is the attribute that enables the system to be continuously adjusted by the users and simultaneously allows for the users to conclude that adjustment is needed. This utilization of user participation builds on the following design principles as it is dependent on the user’s insight into the system properties.

**Internal transparency** refers to that the system layout and the processes it regulates are accessible for all users. This aspect relates closely to the aspect of flexibility as it concerns the visibility of system characteristics. To prevent information overload, layered access is advisable, but every request should be accommodated to prevent any skewness regarding the level of system knowledge.

**Global transparency**, on the other hand, concerns the system’s ability to offer the users a wide range of contextual information regarding the broader organization, both upstream and downstream. This is done to achieve a high level of insight and interaction and is considered essential to motivate continued participation among the users.

Routine tasks are more likely to withstand a high degree of formalization without being experienced as coercive, as opposed to non-routine tasks which are hard to formalize in an enabling way (Adler and Borys, 1996). Different types and levels of formalization are therefore beneficial for different tasks and usually co-exist in an organization (Adler and Borys, 1996, Ahrens and Chapman, 2004). This is perhaps most evident in organizations that depend on both routine and non-routine tasks to pursue their objectives. Since the attributes of enabling or coercive formalization depends on how the formalization is perceived, the same system can
be enabling and coercive at the same time from different points of view, i.e. co-existing on the same hierarchical level.

The formalization of tasks is facilitated by the fact that the employee experiences an overlap between the individual employees goals and the goals of the organization, and while total goal congruence is practically unachievable a larger overlap implies a larger tolerance for formalization processes (Adler and Borys, 1996). Therefore: a decreasing overlap implies a lower acceptance for formalization by the employees and formalization attempted in this setting is more likely to be perceived as coercive than enabling. Subsequently, the perception of formalization is affected by contextual factors in general but specifically the goal alignment between different entities within the organization (Adler and Borys, 1996, Power, 2004). As an effect, poor selection and insufficient training of employees is likely to contribute to a low level of goal congruence (Adler and Borys, 1996). Formalization efforts that successfully taps into existing values and behaviors of the workforce will subsequently be perceived as enabling to a larger degree than their counterpart. The culture of the workplace should therefore be considered an important base for an enabling formalization to succeed (Leinonen, 2019).

Explicit design principles characterizing coercive formalization are left out by the original authors, but a formalization that consists of little to none of the aforementioned characteristics of an enabling formalization (design principles, design processes/development, implementation processes and intention/use) can by elimination be thought of as coercive. As enabling characteristics depend on the inclusion of employees in decision making, any power asymmetry will amplify the perception of coercive formalization. Also, connecting to the topic of goal alignment, if the objectives of the organization are experienced as peripheral to the employees any formalization perceived as attempting to steer the workforce towards these goals will subsequently potentially be experienced as coercive. This can be done with the conscious intention of coercion, or obliquely with the same coercive result.

In sum, the perception of enabling characteristics among the employees can be undermined by contradicting experiences of any coercive characteristics derived from intent, introductory modes of communication, design, and implementation processes.

2.5 Studies on enabling and coercive control

The framework brought forth by Adler and Borys has been utilized in many studies. Most researchers have been occupied with the possibilities for organizations to reach an enabling formalization and reap the benefits thereof (Ahrens and Chapman, 2004, Englund and Gerdin, 2014, Jordan and Messner, 2012, Wouters and Wilderom 2008). By empirical
studies, it has been evident that coercive and enabling formalization can co-exist in an organization in a multitude of compositions (Ahrens and Chapman, 2004, Ekström, 2018).

Furthermore, the specific co-dependencies among the design principles have been researched as well as their capabilities to fuel or hamper the development of an enabling system (Englund and Gerdin, 2014). The importance of an enabling system to be utilized for employees in sensemaking, restructuring of mental models and knowledge creation have been explored (Jordan and Messner 2012, Englund and Gerdin, 2014). On a similar note, the circumstances under which employees’ perception of a system and its characteristics can change over time and by the influence of contextual factors have been studied (Jordan and Messner 2012, Englund and Gerdin, 2014). The strategic implications of an enabling system and the specific importance of the aspect of global transparency in this regard have been outlined (Micheli and Manzoni (2010).

Recent research in operational settings indicates that coercive control can be experienced as empowering by the individual employee, somewhat redirecting the focus from the detailed design principles brought forth by the original body of work to the contextual factors both inside and outside the organizational borders (Ekström, 2018, Englund and Gerdin, 2014). There have also been recent attempts to scrutinize and develop the theoretical framework exemplified with a requested distinction between viewing enabling and coercive control either as dual roles or expressions of quality or lack thereof (Ekström, 2018, Leinonen, 2019). In addition, an adaptation of the characteristics of an enabling formalization to be seen as continuums as opposed to mutually exclusive traits could add valuable perspectives considering the substantial zones of indifference and their implications for the perception of control measures in an organizational setting (Ekström, 2018).

Since the scope of this study regards the implications of quality improvement and performance management systems as a possibility of enabling formalization two of the foremost studies with similar settings will now be outlined.

2.6 Contradictions and co-existence

Ahrens and Chapman (2004) examine the concepts of enabling and coercive control and specifically the design and use of such control measures through an extensive field study in a restaurant chain. They concur with that the lack of reciprocal trust between different hierarchical levels can constitute problems when attempting to implement an enabling system. This lack of trust, embedded in long-term relationships within the organization, caused previously utilized coercive control measures to withstand the introduction of enabling
measures that was intended to replace them, at least to some extent. The authors conclude that the different modes of control are likely to co-exist in an organization that simultaneously pursue efficiency and flexibility in their control systems, serving different or identical purposes in a parallel manner not necessarily contradicting but sometimes even balancing each other (Ibid). Similarly, control measures designed in an enabling way can be experienced as coercive if the intention and use of them are experienced as such. Conflicts and goal fragmentation can also be thought to arise from the simultaneous application of contradicting control measures regardless of them being enabling or coercive per se (Ahrens and Chapman, 2004, Ekström, 2018).

2.7 Engaging the workforce

With an extensive study in a logistics department, Wilderom (2008) tested the concepts brought forth by the Adler and Borys and specifically the possibility to achieve an enabling performance management system by an inclusive, experience-based approach to the development and implementation processes. Their conclusions are “this developmental approach works through employees’ local measurement experiences, experimentation with refined and new measures, and mobilizes employees’ professionalism” (Wouters and Wilderom, 2008, page 513). Admitting that the scale of such a development project is large and might not be feasible for some organizations, the authors argue that the benefits are likely to be substantial. For such an endeavor to have a chance at succeeding the right resources needs to be assigned, including a sufficient timeline and the support from other departments within the organization. Furthermore, the objectives of the performance management system need to be addressed. To which proportions is it intended to function as:

1. a reporting mechanism to be utilized by senior management
2. a structure to support the lower-level employees in their work (Ibid).

A consciousness of these systems characteristics needs to be present and reflected in the actions of the management: “Senior management also needs to behave in accordance with an enabling PMS: balancing between recognizing the incompleteness of the PMS (so there is a story next to measured outcomes) and demanding certain performance” (Wouters and Wilderom, 2008, page 513, see also Catasús et al, 2007).

The authors further emphasize professionalism as a facilitating employee attribute to elevate the functionality of an enabling system. Professionalism is referred to as the commitment the individual employee has towards the profession and the organization where they work (Wouters and Wilderom, 2008). These commitments can be conflicting, constituting obstacles
for performance if not balanced appropriately by the organization through a continuous discussion about values, goals, and priorities (Bringselius et al, 2018). However, a high level of professionalism of either sort, professional or organizational, amongst the employees cannot be regarded to fully compensate for the lacking of an incomplete and/or coercive system. That would require the total goal congruence that presupposes the aforementioned mechanistic downplay of the humanity of the employees.

Simultaneously, it is argued that it is likely that an enabling system will have positive effects on the professionalism of the workforce (Wouters and Wilderom, 2008). The interplay between professionalism and an enabling system can, therefore, be depicted as two capabilities in a semi-cumulative relation where a certain level of functionality of the enabling system constitutes a prerequisite for any professionalism to be utilized as a catalyst in the system. In other words, the enabling system can be thought of as a fruitful foundation and support for the professionalism exhibited by the employees, and not (simultaneously) the other way around (Ibid).

2.8 Mapping the foundations of enabling control

The employee perception of where a formalization effort resides on the coercive or enabling continuum, and if the organization can expect to reap the benefits of the associated behavioral and attitudinal outcomes is ultimately affected by:

1. Design principles
2. Design processes
3. Implementation processes
4. Intent
5. Use
6. Goal congruence between individual employees and other organizational and hierarchical entities such as supervisors and managers

The perception of the intent and use (4 & 5) are influenced by the level of goal congruence (6) and subsequently affected by an array of aspects residing in different systemic levels: individual, organizational, professional, and societal:

- Communication practices
- The level of reciprocal trust between individuals and organizational entities
- Professionalism, towards the profession and the organization
- The level of employee motivation and the capabilities to internalize external motivation
• Context, culture, social settings, norms, and values
• Length of occupancy and level of commitment/dependency to/on the employer
• Personal traits (ex. a general disliking of authorities)
• Private circumstances (ex. economic stress or bad health)

Adapting to the abovementioned aspects different organizational decisions can be experienced as enabling or coercive (or in somewhere in between) in different organizations.

To conclude, shared ownership and participation of the whole workforce in processes of design and implementation of the performance management system is regarded as a successful method of ensuring retrieval of the relevant information as well as a feasible level of functionality in day-to-day operations. Such an approach utilizes the specific domain knowledge that can only be provided by the workforce and facilitates data collection of the right nature and level of granularity. Positive effects on attitudinal outcomes and level of goal congruence can also be derived from this approach that is associated with the perception of an enabling formalization as described by Adler and Borsys (Adler and Borsys, 1996, Aguinis, 2009, Gumbus et al, 2003, Jordan and Messner, 2012, Pollitt, 2018, Smith, 1995, Wouters and Wilderom, 2008).

2.9 Competing commitments

The complexity of the contextual settings in which healthcare organizations operate is exemplified by the reoccurring focus on financial constraints. This is a pivotal aspect that needs to be addressed due to the impact it has on organizational culture. The topic has gained attention in the public consciousness through several occasions where whistleblowers have alerted the public through media about inhumane conditions due to the lack of resources (Bevan and Hamblin, 2009, Bringselius et al, 2018). As an effect, political debates about profits and privately-owned organizations in the welfare sector have been taking place with varying intensity for some time within Sweden as well as in other parts of the world.

In a qualitative case study of performance management in public sector organizations in the municipality City of Gothenburg Siverbo et al (2019) found that an increased focus on budget constraints and financial limitations overshadows the organizational commitment to performance management systems. In this setting, the system itself and any dysfunctional effects it possibly generates by a problematic design and implementation, will diminish.

Situations like these constitute prime examples where organizational objectives can differ from, and even contradict, individual and professional objectives in the healthcare sector. Such lack
of goal congruence illuminates the professionalism towards the organization among the employees, i.e. if they are able to internalize externally derived objectives and successfully fuse them with their existing set of values. However, if this internalization process is unsuccessful, goal alignment will likely become even weaker, with detrimental effects for motivation as well as organizational performance (Ryan and Deci, 2000, Espeland and Stevens, 1998). Recent comparisons of Swedish providers of healthcare show no contradiction between financial results and patient outcomes, but values for staff turnover and working conditions are left out of these specific reports (Ehrenberg et al 2014).

As described, resource management is an aspect of the delivery of high-quality care and should therefore allow for a tightly held budget to function effectively as an incentive for idea generation. For such activities to be fruitful, sufficient spaces for collective dialogue need to present and utilized. Reflective spaces are of great importance for the quality of health care as it provides a possibility for practitioners to share their experiences, develop ideas and disseminate them through the organization (Farr and Cressey, 2005, Svensk Sjuksköterskeförening, 2014).

Other findings suggest that the common goal of efficiency, predominantly advertised by the overarching objective of increased performance, often results in cutbacks (Larsson and Plesner, 2019). Instead of what the initial narrative often claims, to develop new workflows to achieve more with the same amount of resources, employees find themselves doing the same with less. This recurring misuse of the concept of investment causes employees in welfare sectors to refrain from participation in systems for improvement as the activities often lead to lay-offs, increased levels of stress and other less desirable outcomes for the individual employees (Ibid).

3. Hypothesis

H1: There is a dependency between job satisfaction and perceived enabling control, in this context concerning the quality management system (QMS) of the workplace.

H2: There is a dependency between job satisfaction and the perception of financial limitations on the quality management system (QMS) of the workplace.
4. Empirical setting and research design

4.1 Point of departure

This study takes place in the healthcare field, at the intersection of nursing professions and the systems used for control and quality management purposes. The reoccurring experience of stress and frustration of the nurses from a patient’s perspective constitutes the empirical starting point for this body of research.

The nurses constitute an intimate part of a patient's situation, and the act of providing care is ultimately an social act. The Swedish government agency Socialstyrelsen with the responsibility to develop laws and regulations for the healthcare sector concurs with the somewhat famous definition of nursing by Henderson (1966, page 15):

“The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible.”

4.2 Epistemological setting

This study is characterized by a positivistic, deductive approach. Ontologically, it is rooted in the dualist tradition acknowledging both materialism and idealism as the combinatory lenses through which a researcher in the field of social science can, and should, study the topic at hand. Theoretical frameworks are utilized as tools when defining the research questions and hypotheses are formulated. For the theory to be functional in this process it needs to be internally consistent as well as consistent with observations of reality. Concepts are derived from theory through abstraction, extracting the joint characteristics for them to be useful and applicable in further analysis. Similarly, these theoretical entities are operationalised into survey questions to function in the frame of the quantitative research method. The aim is to test these constructs, and associations between them, by data analysis and to describe the perception/experience of the defined concepts by the respondents (Bryman, 2018).

4.3 Scientific rigor

To achieve scientific rigor overall research transparency is a prerequisite. This allows for external scrutiny as all methodological choices are explicit and accounted for. Other key
concepts regarding this matter are validity and reliability, both are briefly discussed below in relation to this study (Bryman, 2018).

**Reliability** is a concept referring to the study’s capability to measure consistently. Questions need to be as specifically constructed as possible, limiting the possibility for diverse individual interpretations (Eliasson, 2018). To mitigate problems regarding this aspect a pilot study was carried out a week before the final survey was set in motion, this procedure is recommended by De Veaux et al (2016) among others. The respondents of this pilot study were found through a convenience selection in the personal network of the researcher and the pilot study was conducted with 12 participants among which 10 were employed as nurses or assistant nurses. Adjustments were made to accommodate some of the feedback when deemed feasible, such as including the option to answer “I don’t know” on most of the questions. As the structure and content of the survey remained the same for its entire life span the reliability can be considered high. Reliability is a presumption for the aspects of internal and external validity, although not a guarantee for them.

**External validity** refers to the possibility to generalise any results beyond the specific context and sample of the study. This aspect is largely affected by the choices of sample selection. A large set of respondents constitutes a possibility for the study to gain increased internal validity, while the level of external validity is unaffected (De Veaux et al, 2016). With time and resource constraints in mind, a large sample is assessed to be a superior prerequisite compared to the generalizability that a strict randomized sample selection would allow for. For this study, a snowball selection and a voluntary response sample offer a feasible solution. Voluntary response bias does always constitute a risk with this method since respondents with strong opinions or strong motivation have a larger tendency to choose to participate (de Veaux et al, 2016).

**Internal validity** concerns the ability of the study to capture what it aims to capture. This is achieved by a careful operationalisation of the theoretical constructs and tested further by exposing the participants of the pilot study to these attempts. To establish the variable job satisfaction (2.1) as a functional benchmark for the following analysis a form of triangulation is conducted. It serves to explore the associations with connected variables aiming to capture perceptions of the working environment as well as the attitude and commitment towards to the healthcare sector and current workplace. This procedure is successful in its aim of establishing the variable (2.1) as useful, further enhancing the internal validity of the study. Please see appendix 5 for a full set of charts on this topic.
To detect any respondents engaging in the survey with insufficient consistency, one question was included twice with a minor adjustment. This allows for a comparison of the corresponding answers and serves as a base for excluding such participants from the data set entirely. This procedure is executed to further enhance the internal validity of the study (Eliasson, 2018).

### 4.4 Survey design

To further extend the reach of the study and to reach as many respondents as possible the study utilized the format of a digital survey accessed through a webpage. A flyer (see appendix 1) was designed to attract attention to the project. The flyer described the scope of the survey and offered practical information useful to the respondents such as the estimated time it took to participate, contact information to the researcher and more. A QR-code was included to further lower the threshold for presumptive respondents to access the survey by their smartphone or tablet. Before answering the survey on the assigned webpage, respondents were again informed about the scope of the study, how much time participation would require, that their participation was voluntary and could be withdrawn before handing in the answers and that the data collected will only be used for research, as advocated by Bryman (2018).

To limit the amount of qualitative data to handle in the analysis, the respondents are given no room to submit text within the structure of the survey. However, participants are offered the possibility, and encouraged, to contact the researcher by email with any questions, comments, or other types of input.

The design of the survey structure utilized the study by Wouters and Wilderom (2008) as a starting point. Odd-numbered Likert scales are adjusted and anchored to the specific type of question or statement. To keep the attention of the respondent through the survey, the scales are varying between 3 and 8 points. An odd-numbered scale allows for the respondent to choose a neutral answer but can be argued to make a less engaged respondent to submit more neutral answers than they otherwise would. On the other hand, an even-numbered scale excludes the possibility to answer neutrally and might make a respondent skip the question entirely. A similar trade-off is associated with the inclusion of the option to answer “I don’t know”. In sum, it can be interpreted that the design choice is between what type of lost data that is more acceptable within the frame of this study. When individual survey questions were derived from specific studies, the corresponding structures of answers were left unaltered.

The survey consists of 4-6 questions per 4 areas, presented to the respondents with overarching headings. Please see appendix 2 for the full structure of survey questions and their options for answers.
Table 1 Variables with associated references and constructs.

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Reference</th>
<th>Function/Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Profession</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Years in healthcare sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Years at current workplace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>County</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Job satisfaction</td>
<td></td>
<td>Working conditions</td>
</tr>
<tr>
<td>2.2</td>
<td>Satisfaction w. supervisor assessment</td>
<td>Ahrens and Chapman, 2004</td>
<td>Trust</td>
</tr>
<tr>
<td>2.3</td>
<td>Extent of sufficient staffing</td>
<td>Wondemeneh, 2013</td>
<td>Working conditions</td>
</tr>
<tr>
<td>2.4</td>
<td>Room for professional assessment</td>
<td>Ahrens and Chapman, 2004 Wouters and Wilderom, 2008 Szebehely et al, 2017</td>
<td>Enabling control Trust Working conditions</td>
</tr>
<tr>
<td>2.5</td>
<td>Considered leaving workplace</td>
<td>Szebehely et al, 2017 Mörtvik, 2018</td>
<td>Working conditions</td>
</tr>
<tr>
<td>2.6</td>
<td>Staying in sector 3 years from now</td>
<td>Wondemeneh, 2013</td>
<td>Working conditions</td>
</tr>
<tr>
<td>3.1</td>
<td>Encouraged to contribute to QM</td>
<td>Adler and Borys, 1996 Wondemeneh, 2013</td>
<td>Enabling control Repair</td>
</tr>
<tr>
<td>3.2</td>
<td>Possibility to affect the QMS</td>
<td>Adler and Borys, 1996 Wondemeneh, 2013</td>
<td>Enabling control Flexibility</td>
</tr>
<tr>
<td>3.3</td>
<td>Sufficient knowledge about the QMS</td>
<td>Adler and Borys, 1996</td>
<td>Enabling control Internal transparency</td>
</tr>
<tr>
<td>3.4</td>
<td>Sufficient information about how the QMS affects the surrounding parts of the care chain</td>
<td>Adler and Borys, 1996</td>
<td>Enabling control Global transparency</td>
</tr>
<tr>
<td>4.1</td>
<td>Reasonable workload constituted by QM-task</td>
<td>Adler and Borys, 1996 Wouters and Wilderom, 2008</td>
<td>Usefulness</td>
</tr>
<tr>
<td>4.2</td>
<td>Fair assessment by supervisor</td>
<td>Ahrens and Chapman, 2004</td>
<td>Trust</td>
</tr>
</tbody>
</table>
The background variables offer possibilities to spot skewness in the sample distribution that can affect the analysis. Furthermore, the inclusion of a set of control variables serves as an introduction to the survey for the respondent, allowing participants to experience a low threshold initially and limiting the risk of respondents quitting the survey prematurely if the following questions are perceived as too challenging (Bryman 2018). The background variables can be utilized in further analysis in forthcoming studies aiming at spotting any correlations with other variables included. There are many candidates for this section and results from recent studies on connected topics have guided the selection. The mode of ownership of the employing organization, employee gender and type of employment are examples of variables not included in this survey as a direct effect of this assessment (Szebehely et al, 2017, Wondemeneh, 2013).

Note that variable 2.6 (Plan to stay in the healthcare sector in 3 years from now) is a hypothetical question which is a type of formulation that is generally advised against (Ejlertsson, 2005). Including this variable allows for further analysis of the data beyond the scope of this specific study as it is utilized by Wondemeneh (2013) as an indicator of the working conditions in the field.

### 4.5 Data collection strategy

The survey was active for 26 days, starting on February 26th and closing March 23rd, during the year 2020. Due to the digital format of the survey accessed through an URL or by scanning a QR-code and utilized by a connection to the internet, social media was used as one of the strategies to disseminate the survey. This was mainly accomplished through the personal channels of the researcher on the platforms of LinkedIn, Instagram, and Facebook. Several specific Facebook groups were also utilized and especially the group Sjuksköterskan with over 30000 members accounts for the generation of a large proportion of respondents. The visibility of the post was further emphasized since it was made by an administrator of the group. The personal network of the researcher was also utilized: friends and family, as well as former contacts in various healthcare settings, were contacted.
Another strategy to diffuse the survey was to contact healthcare facilities across the country: hospitals, primary care units and facilities for elderly care. To establish a personal connection where there was none from before, most contacts were initialised by phone calls. A presentation of the project and a request to post the flyer on any physical pinboards often led to the invitation to either send physical copies or to email the pdf-file to the staff to print and distribute at the location. When several attempts to make contact by telephone failed an email was sent if such contact information was available.

This approach, to contact the healthcare sector directly, was chosen to limit the number of respondents only posing as nurses or assistant nurses to participate, which would be beneficial for the scientific rigour of the project. On the other hand, this choice can constitute an obstacle for accessing honest replies if the researcher is seen as too closely affiliated with the employer.

As an attempt to diversify the sample selection, many gyms run by the non-profit organization Friskis & Svettis were contacted, predominantly by telephone, with the request for them to post the flyer at a pinboard for their members. With the same ambition, the national unions of healthcare employees, Kommunal and Vårdförbundet, a professional association, Yrkesföreningen Sveriges Undersköterskor och Specialistundersköterskor (SUSF) and several student unions specifically organizing students in healthcare studies were contacted, also by email.

Another strategy aiming to constitute a counterweight to care facilities and the connected risk for sample skewness, was to contact universities were nursing programs and other relevant education take place. This was made with the assumption that a substantial proportion of the students enrolled in these programs are working in the healthcare sector parallel to their studies. Furthermore, in an academic setting, participation in a scientific study should not be considered to be a gruesome anomaly but possibly as a welcome opportunity to contribute to research.

In sum, 40 contacts were established by telephone, 953 physical copies of flyers were sent out and 25 e-mails achieved the desired result. Please see appendix 3 for a full table of the distribution of modes of contact and their associated results.

Halfway through the lifespan of the survey, the spread of respondents’ answers on background questions 1.1-1.5 was assessed. The aim was to be able to compensate for any skewness with corresponding measures. At this point, only variable 1.5 (county) exhibited a disturbing distribution with 12 of the 21 counties vastly underrepresented, even when considering any variation in population density. Attempts were made to encourage established contacts in
these counties to work actively to communicate the information of the survey in their respective channels, but this coincided with a heightened severity of the spread of the virus covid-19. Subsequently, it became substantially harder to attract respondents and to communicate with individuals and institutions as this development unfolded.

4.6 Data preparation

Cleaning and transformation of the raw data is a prerequisite to utilize statistical tools. Data visualization and filtering are achieved with the software Tableau and Chi-square calculations are done in Microsoft Excel. Any complete blank rows were excluded from the data set, these 7 instances were most likely generated from someone browsing through the survey without the simultaneous intention of responding. This action resulted in a total of 400 respondents. Blanks for specific variables were detected, a total of 14 instances stemming from 9 variables. Please see appendix 3 for a table of the distribution of missing data points. This affects any analysis of the individual variables and associations between variables as these responses were excluded from the analysis accordingly.

To control for unreliable respondents the variables 2.2 Satisfaction with supervisor assessment and 4.2 Fair assessment by supervisor were compared. A total of 134 respondents had answered these questions differently. The two questions were posed slightly differently: whether or not one was satisfied with supervisor assessment or if one experienced supervisor assessment as fair. A small difference, a one-step shift, between the answers was therefore considered acceptable. This consideration was applied to any transition to/from “Sometimes” or “I don’t know” as well since these are considered to be less opinionated answers. This action excluded 7 records, leaving the data set with a total of 393 participants.

A procedure to aggregate the data into a more general set of answers was conducted to facilitate the Chi-square test of independence. The data points were collected from surrounding bins to new ones according to the table below. The alternatives “I don’t know”, “Neither good or bad” and “Sometimes” were left unaltered. This in part mitigates the problems stemming from the low counts of each combination of answers of two questions.

Table 2 Aggregation of response values to new bins.

<table>
<thead>
<tr>
<th>Original bin</th>
<th>Aggregated bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very well; Fairly well; Well</td>
<td>Well</td>
</tr>
<tr>
<td>Very bad; Pretty bad; Bad</td>
<td>Bad</td>
</tr>
<tr>
<td>Yes, always; Yes, most of the time</td>
<td>Yes</td>
</tr>
<tr>
<td>No, never; No, seldom</td>
<td>No</td>
</tr>
</tbody>
</table>
5. Results

5.1 Initial findings
A selection of pairs of variables and associated visualizations will be presented with specific counts with segmented bar charts and contingency tables on the following pages.

Several background variables exhibit skewness in their respective distribution. The proportion of younger respondents is large, and the care assistants are underrepresented among the professions. The latter can be an effect of the small number of facilities for elderly care that agreed to participate in the spread of the survey. Geographically, the survey has had an uneven spread where the counties Kronoberg and Skåne stand out as large proportions and a few counties have little to no respondents.

5.2 Testing the hypothesis
Below we explore the design principles of an enabling system: the associations between 2.1 Job satisfaction and the variables 3.1, 3.2, 3.3 and 3.4. The variables 4.1 Personal usefulness of QMS and 4.3 Reasonable workloads for QM-tasks concerns if the system is perceived as enabling and will also be analyzed in relation to 2.1 Job satisfaction in order to test the first hypothesis, H1.

H1: There is a dependency between job satisfaction and perceived enabling control, in this context concerning the quality management system (QMS) of the workplace.

H10 (null): There is no dependency between job satisfaction and perceived enabling control, in this context concerning the quality management system (QMS) of the workplace.

A Chi-square test of independence is performed on each of the pairs of variables with the significance level set to 0.05. For the contingency tables used in the Chi-square calculations, see appendix 6.
Job satisfaction - Repair

Repair, or perceived encouragement to contribute to the QM (figure 5), exhibits a variance with the largest proportions found in the bins “Sometimes” and “Yes, most of the time. In addition, the response “Yes, always” counts for the third largest bin with no less than 70 respondents. The level of job satisfaction within the aggregated bin of “Yes” is high compared to the other bins. The option “I don’t know” is utilized to a low degree compared to many of the other variables with only 15 datapoints. The Chi-square test of independence yields a low value of 6.85996E-06, determining a very low probability that the variables are independent, thereby rejecting the null hypothesis.

Job satisfaction – Flexibility

The spread of flexibility or perceived possibility to affect the QM (figure 4) follows a similar pattern as repair but show a smaller proportion for the alternatives “Yes, always” and “No, never”. Similarly, the count for “I don’t know” is higher, 31 compared to 15. Low and no counts of respondents stating that they are not satisfied with their jobs are found in the bins of “Yes, most of the time” and “Yes, always”. The value derived from the Chi-square test is 6.75513E-08.

Figure 4 Bar chart of association between variables 2.1 and 3.2.

Figure 5 Bar chart of association between variables 2.1 and 3.1.
Job satisfaction - Sufficient knowledge about the QMS, Internal transparency

The majority of the respondents perceive their knowledge about the QMS to be sufficient. As the visualization (figure 6) depicts, a similar disposition of responses for job satisfaction can be found in either of the three bins for internal transparency. This variance is further indicated by the high Chi-square value of 0.75, meaning that we can't reject the null hypothesis that these variables are independent.

Job satisfaction - Sufficient information about how the QMS affects the care chain, Global transparency

Compared to the other three design principles the concept of global transparency (figure 7) stands out with a large majority stating that they perceive the information they receive on this aspect to be insufficient. The proportion of respondents answering this question with “Yes” are a clear minority with 141 out of a total of 393, or 35.8%.

Regarding the association with job satisfaction there is a larger tendency among the respondents in the bin for “No” to simultaneously state that they are discontent with or lack opinion of their job situation. The corresponding Chi-square value for this dependency is 0.008.
Job satisfaction – Reasonable workload for QM-tasks

The variable 4.1 Reasonable workload for QM-tasks (figure 8) exhibits a large variance and the proportion of positive answers is a slight minority with 46%. The perception of “No” is in this case associated to a larger tendency to state a lower level of job satisfaction. On the other hand, the respondents in the bin for “I don’t know” have a smaller tendency to state lower levels of job satisfaction, further indicating that they refrain from controversial opinions. The Chi-square value for this association is 1.30181E-35.

Job satisfaction - Personal usefulness of the QMS

The variable 4.3 Personal usefulness of QM (figure 9) offers a positive perspective with only 8.9% of the respondents answering either “No, seldom” or “No, never”.

When aggregated bins are utilized, the bin for “Yes” is the largest specific proportion (194 or 49.8%) while the aggregated bin for “No” holds 30 or 7.7% and the more elusive “Sometimes” 116 or 29.7% and lastly “I don’t know” 50 or 12.8%. Low and no counts of respondents stating that they are not satisfied with their jobs are found in the bins of “Yes, most of the time” and “Yes, always”. The Chi-square test for this independency is 1.46048E-10.
Lastly, variable 4.4 addresses the perception that QM is downplayed in favor of financial constraints (figure 10). This variable is the basis of the second hypothesis:

H2: There is a dependency between job satisfaction and the perception of financial limitations on the quality management system (QMS) of the workplace.

H20 (null): There is no dependency between job satisfaction and the perception of financial limitations on the quality management system (QMS) of the workplace.

**Job satisfaction - Perception of QM being downplayed in relation to financial constraints**

The variable 4.4 exposes the tension between resource constraints and the QM where only 16.2% state that they perceive that the QM is not downplayed for financial reasons. A large proportion of the respondents resort to the option “I don’t know” when answering this question. Utilizing the aggregated bins, the “Yes” proportion of the respondents have a larger tendency to state a low level of job satisfaction. The Chi-square value for this association is 3.8704E-17.

![Figure 10 Bar chart of associations between variables 2.1 and 4.4.](image-url)
5.3 Concluding analysis

The results of this study conclude that most of respondents perceive each of the design principles of an enabling formalization to be present in the QMS utilized in their respective workplace to some degree (see figures 4-10). One exception is the design principle of global transparency; if the information about how the QM affects the surrounding parts of the care chain, is perceived to be sufficient. For this variable, the positive answers are a minority with 35.3%. Comparing the composition of Repair and Flexibility, the respondents of the latter are to a larger degree concentrated to the two options in the middle and the bin for “I don’t know”. The interpretation of this variance is that the perception of repair yields stronger, more diverse opinions among the respondents than the perception of flexibility. One possible explanation could be that the respondents have tried to utilize the latter to a lower degree, i.e. affect the system, and perceptions of the possibility to do so might therefore be less opinionated.

Furthermore, perceptions of repair, flexibility and global transparency have stronger associations with job satisfaction than internal transparency. As mentioned, only the former two (repair and flexibility) are perceived to be present by a large proportion of the respondents. As a reminder, repair can be seen as the systems encouragement for communication to take the form of a dialogue between hierarchical layers and other organizational entities. Flexibility represents the ability for the system to adapt to suggestions addressed in the aforementioned processes, allowing for ongoing tailoring of both the QMS itself and other tasks, ultimately contributing to improved performance and quality of operations. Even with the adjustment of aggregated bins the expected values derived from the contingency tables are lower than advisable. The results from the performed Chi-square test of independence should be therefore be interpreted with caution and the null hypothesis can not be confidently rejected based on this procedure.

How should one make sense of the weak perception of global transparency in this study? As research has shown, this aspect allows for system users to understand their individual impact on the broader organization, which in turn has proven to have positive effects on overall organizational performance (Ahrens and Chapman, 2004, Micheli and Manzoni, 2010). Global transparency emphasizes overall communication and alignment within an organization which in turn facilitates strategic decision making on all levels. Such inter-organizational communication is further facilitated by the use of a balanced set of indicators, resisting the managerial urge to solely focus on financial aspects, especially if the organization fails to deliver on these points (Micheli and Manzoni, 2010).

Other researchers point out that the aspects of transparency are closely connected with each other and low levels of perceived transparency of either sort can fuel the development of an
enabling QMS through the aspects of repair and flexibility (Englund and Gerdin, 2014). When high levels of transparency are achieved, the overall intensity of engagement declines as a direct result of this development (Ibid). As the aforementioned results of this study indicate, the associations between general job satisfaction and the perceptions of flexibility and repair in the QMS is stronger than the corresponding associations with the aspect of internal transparency. The dependency between job satisfaction and global transparency is on the other hand indicated, but the level of perception of this attribute is low within the sample. In sum, the larger significance of both perception of repair and flexibility and their corresponding association to job satisfaction indicates a QMS in an early stage of development, not yet mature enough to yield transparent qualities (Englund and Gerdin, 2014).

The question about if the respondents perceive QM to be suppressed in relation to budget constraints reveals a minority that have chosen any of the answers “No, never” or “No, seldom”. As a reminder, this takes place in a setting that legally requires the workplace to have a systematic approach to QM and by this utilize the participation and knowledge of the employees.

A large proportion of respondents state either that they do not perceive the workload for QM-related tasks to be reasonable or that they do not know. This possibly reflects a situation where the efforts invested in the QMS are suffering from an under contextualization, further indicated by the low levels of perceived global transparency within the sample. Connected to this, one can assume the amount of value that individual employees assign to these tasks are generally lower than the system would benefit from. Whether this is a direct reflection of the managements communicative intention and ability to emphasize these aspects of the operations or if the situation stems from cultural settings and personal opinions is hard to distinguish between. However, the perception that the QM-related task constitutes an unproportionate amount of the total workload highlights a lack of goal congruence which in turn risks of undermining an enabling formalization (Adler and Borys, 1996).

If the large proportion of respondents that chose to answer “I don’t know” are sincere, it could be argued that these employees reside in the “zone of indifference” as described by Adler and Borys (1996). In such instances, the QMS has failed to be perceived as enabling, but it is not perceived as coercive either. This may be caused by low visibility of the QMS, that it exists without being addressed internally as an important function, letting other narratives and measures prevail. Such competing commitments can be exemplified by the focus on financial metrics as suggested by Siverbo et al (2019). Budget constraints can cause the employer to assign minimal resources for these procedures, making them low priority amongst others, evidently more pressing matters of the operations. The reluctant utilization of the QMS in such
settings contradicts the enabling characteristics and undermines the system as a whole, even if the initial intention, design processes and other aspects were in line with that of an enabling formalization (Adler and Borys, 1996, Ahrens and Chapman, 2004). What remains is then a mere shell of a system, only visible because of the legal obligations attached to it. As argued by Wouters and Wilderom (2008), the right amount and nature of resources are paramount when pursuing the design and implementation of an enabling system. This includes the attention and communication devoted to the system and the connected practices in the organization.

It is even argued that pursuing such different objectives simultaneously can cause even more detrimental effects than if fully committing to just one objective, even if this is constituted by an incomplete or coercive system. This notion derives from the importance assigned to the goal alignment between different organizational entities, not just between employer and employee, when opting for operational performance (Ahrens and Chapman, 2004). Conflicts that tend to arise in settings with multiple opposing goals can hamper the much-needed cultivation of trust between hierarchical layers, ultimately causing a downward spiral to be set in motion causing the overlap of objectives to diminish even further (Ibid).

Multiple other reasons can cause the respondents within the frame of this study to refrain from strong (or any) opinions about the QMS. Regarding the prevailing counteraction (to include staff on all levels) suggested by Smith (1995) as well as the design principle of flexibility outlined by Adler and Borys (1996), it seems somewhat unlikely for the employees to disregard a system they have contributed to substantially. Large staff turnover does, however, complicate this situation since the commitment and ownership among the workforce is likely to decline in such a scenario.

6. Discussion

In 2014 a press release was issued from the Swedish department of finance stating the need to reinstate a sufficient level of freedom for the employees in the public sector. New modes of control were to be developed, utilizing professional knowledge in the systematic improvement of quality (Finansdepartementet, 2014). Tillitsdelegationen, the delegation of trust, was founded 2016 by the Swedish government with the mission to utilize scientific research to revise the current modes of control and balance them against a need for trust in the employee’s knowledge and experience about the specific practices (Bringselius et al, 2018).

However, a setting characterized by low perceived levels of global transparency constitutes obstacles for individual employees to improve operations as the insight in the care-chain
effects are limited or even non-existent. Suggestions generated from such a shallow understanding of both upstream and downstream operations are likely to be lacking and overarching organizational goals will suffer from this situation.

Referring to the conceptual definition of quality of healthcare, financial limitations are an inherent aspect thereof and could subsequently be treated as a driver for idea generation, as suggested by Farr and Cressey (2005) among others, instead of an argument for undermining the QMS. With this in mind, one can ponder the organizational narrative constituting the framework for the QMS in this regard. How are financial limitations addressed and accounted for in this setting? Again, as it is the perceptions of the respondents that are reflected in the data, the actual causal relationships remain shrouded. A possible explanation could be that budget concerns are commonly used as a token deflector when suggestions regarding the QM are addressed when the actual reasons for not pursuing these quests of improvement could be very different and varying to their nature.

Similarly, as the enabling nature ultimately resides in the perception of the employees, an eventual source of coercive measure can be displaced, altering the perceptions of the enabling characteristics in a certain setting by the use of communication. This can be exemplified in the following scenario: an implementation of a new routine can be associated (consciously or otherwise) with an entity outside the organizational border and subsequently defusing the conflict between the different hierarchical levels of the workplace, possibly contributing to internal goal alignment and the enabling nature of the formalization at hand. Such deflective processes might be responsible for the fate of the disregarded financial concerns that seem to contradict other objectives in the healthcare realm.

Wouters and Wilderom (2008) emphasize how the actions of the supervisors and managers need to be congruent with the nature of the enabling formalization for it to function accordingly. The perception or suspicion that the system is utilized as a tool by other hierarchical layers to detect less compliant employees is enough for the system to be perceived as coercive, despite all eventual efforts of the contrary. Perceptions about modes of assessment have in this study yielded predominantly positive responses, allowing for the conclusion that supervisors to a large extent succeed in behaving according to the enabling characteristics as described by Adler and Borys (1996).

A majority of the respondents state that they perceive the workload that QM-tasks constitute as unreasonable, or that they do not know. Facilitating the codification of best practice routines, the QMS serves important contributions to the organizational memory and knowledge management, aspects that become increasingly important in the event of a high level of employee turnover. The growing workload constituted by documentation and reporting can by
itself exacerbate the coercive aspects of such processes if done without sufficient consideration and the right resources (Adler and Borys, 1996, Wouters and Wilderom, 2008). To conclude, this relationship constitutes a risk of amplification of coercive control measures, feeding on high employee turnover on one hand and the mere scale of the formalization applied to mitigate the aforementioned problems on the other.

Formalizing spaces for collective dialogue and encouraging different parts of the organization to engage in communication with each other becomes an important incentive to develop a common terminology that can be utilized in the QMS (Allen-Duck et al, 2017, Bejerot and Hasselbladh, 2011, Ehrenberg et al, 2014, Gumbus et al, 2003). Even if by any reason not given sufficient importance and resources by the organization, these reflective practices can exist less formally if the culture of the workforce encourages it. However, such a structure, ultimately depending on the professionalism of the employees and contextual factors of the workplace, cannot be regarded as a satisfactory substitution for the formerly described arrangement (Farr and Cressey, 2005).

7. Conclusion

The four design principles of an enabling system are experienced to a large degree within this sample. Only global transparency that yields a majority of negative answers. Based on this data set the association between job satisfaction and the design principles of an enabling system are not statistically significant although indicated for repair and flexibility and global transparency. A high level of perceived impact of financial constraints on the QMS is exposed in this study. The data further reveals a large fraction of respondents that perceive the proportion of the total workload constituted by QM-tasks to be unreasonable. Whilst the carefully designed survey attempted to capture the current perceptions among the respondents, a large proportion of participants chose the option “I don’t know” throughout the questionnaire. If this is a reliable indicator of an honest indifference, the QMS has failed to be enabling.

7.1 Theoretical contributions

The results from this study exhibits a specific disposition regarding the four design principles of an enabling formalization. The outlier in this setting is the concept of global transparency which is experienced to a lower degree than the other attributes. In addition, the perception of the principles of repair, flexibility and global transparency are more closely connected with a feeling of general job satisfaction than the characteristic of internal transparency. This
knowledge opens up for further analysis of the co-dependency of the specific characteristics of the enabling system in relation to the patient-centered professions and other contexts with a similar set of attributes.

7.2 Practical contributions
This study depicts a looming threat of cutbacks causing entrenched positions regarding the QMS. Managers and supervisors need to acknowledge the pressure exerted by financial concerns, not only on organizational levels but on day-to-day operations and employees. This includes the accommodation and encouragement of employee participation, not resorting to using lack of funds as the generic tool to dismantle suggestions for improvement. Similarly, according to this study, the proportion of the workload constituted by QM-related tasks is perceived to be unproportionate. Revised modes of communication and/or resource assignment could offer possibilities for managers to redeem this situation, enhancing the enabling qualities of the quality management system.

7.3 Concluding remarks
The journey from coercive and corporate techniques to empowerment has been initialized in Swedish healthcare. As described, this objective relies on a complex interplay of a bundle of social structures and managerial practices aiming at shaping organizational values, norms, and culture. Simultaneously, a setting where the overall scarcity of resources is experienced as a disruptive or even as a hostile force, cannot be deemed to constitute the most fertile soil for such a project. With this body of work, the aim is to contribute to the knowledge in the field, mapping the current level and nature of congruence between intents and results. The original body of work by Adler and Borys (1996) and several following studies illuminate the intertwined and embedded co-dependency among a large number of variables that can be controlled for only to a small extent by an employing organization. To use the available tools adjusted for the existing situation seem to be the only reasonable way forward for any organization aiming to establish and sustain an enabling trajectory for their quality management systems.

7.4 Limitations
As the sample exhibited a low occurrence of respondents for some of the options regarding job satisfaction, the expected counts derived from the contingency table were lower than what
is typically recommended for a Chi-squared test of independence. To strengthen the statistical power of the associations between perceptions of enabling characteristics exhibited by the QMS and levels of job satisfaction and sustainable working conditions, further studies with more participants are needed. In such instances, a targeted randomized sample selection could generate a larger proportion of respondents that find their job situation lacking, allowing the results to be generalizable to the larger population.

The coinciding development of a pandemic can possibly distort the reliability of the acquired data set. However, the vast majority of the answers were obtained before the healthcare sector reached critical levels of patients in need of intensive care.

7.5 Suggestions for future research

- In which way, to what extent and nature, is the level of goal congruence between the individual employee, the professions and the organization in the healthcare field affected by the level of knowledgeability among the managers? Does this level correlate with the occurrence and strength of reciprocal trust between hierarchical layers and other organizational entities?
- Besides, the effects of organization ownership (private, public, non-profit) on the aforementioned goal congruence is also a direction to ponder.
- Since spaces for reflection and communication are reoccurring aspects emphasised for a functional field of healthcare as well as for QMS specifically, how are unions and organizations for professionals (apart from the employing organization) harnessed in this respect? Are they functioning and utilized sufficiently or is there untapped potential?
- Another potentially fruitful direction to pursue is the concept of *zones of indifference* both on organizational and other levels. What can cause entities residing in these zones to migrate and how easy is this to accomplish? In what ways are indifferent actors affecting their environment, are they ultimately and entirely neutral or do they pose a risk of inflicting damage on desirable attitudes and outcomes?
- Does coercive control structures stemming from outside the organization, such as Lex Sarah, affect inter-organizational trust and other aspects of an enabling formalization?
References


Ehrenberg et al. (2014). Omvårdnadens grunder. Andra upplagan. Studentlitteratur AB.


Hälso- och sjukvårdslagen (HSL) SFS 1982:763


Appendix 1 Survey flyer

Studie om kvalitetsarbete inom omvårdnadsyrken


Har du frågor eller kommentarer om studien eller enkäten är du varmt välkommen att skicka ett mail till mig på sofia.hellqvist@gmail.com.

Handledare är professor Thomas Hartman teh@sbs.su.se tel nr 08-164664 Forskningens huvudman är Stockholms universitet

Tack för din medverkan!
Sofia Hellqvist, Masterstudent, Stockholms universitet

- Enkätstudie om kvalitetsarbete i omvårdnadsyrken
- 19 flervalstarfag, tidsåtgång ca 5 min
- Delta senast måndagen den 23 mars
- Dela gärna enkäten med andra som kan vara intresserade av att delta!
- Länk till enkäten: https://tinyurl.com/v6lk9pu
Appendix 2 Survey

1. Background questions

1.1 Age

- 18-25
- 26-35
- 36-45
- 46-55
- 56-65
- 65+

1.2 Profession

- Care assistant
- Assistant nurse
- Nurse
- Specialist nurse

1.3 How many years have you been working in the healthcare sector?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- More than 15 years
- I don’t know

1.4 How many years have you been working at your current workplace?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- More than 15 years
1.5 In which county do you work?

- Blekinge
- Dalarna
- Gotland
- Gävleborg
- Halland
- Jämtland
- Jönköping
- Kalmar
- Kronoberg
- Norrbotten
- Skåne
- Stockholm
- Södermanland
- Uppsala
- Värmland
- Västerbotten
- Västernorrland
- Västmanland
- Västra Götaland
- Örebro
- Östergötland
- Vet ej

2. Current workplace

2.1 How do you like it in general at your workplace?

- Very well
- Well
- Fairly well
- Neither good or bad
- Pretty bad
- Bad
- Very bad
- I don’t know

2.1 Are you satisfied with how your supervisor assesses your work performance?

- Yes, always
- Yes, most of the time
- Sometimes
• No, seldom
• No, never
• I don’t know

2.2 To what extent do you perceive that the staffing at your workplace is sufficient?

• Every day, largely
• About a day per week
• More seldom
• Never
• I don’t know

2.3 To what extent do you perceive that you have sufficient room to make professional judgement in day-to-day work situations?

• Yes, always
• Yes, most of the time
• Sometimes
• No, seldom
• No, never
• I don’t know

2.5 During the last year, have you seriously considered leaving your employment at your current workplace due to lacking working conditions?

• Yes
• No
• I don’t know

2.6 Based on your current perception, do you want to work in the healthcare sector within three years from now?

• Yes
• No
• I don’t know
3. The design of the quality management system

3.1 Are you encouraged to make suggestions to the quality management system?

- Yes, always
- Yes, most of the time
- Sometimes
- No, seldom
- No, never
- I don’t know

3.2 Is it possible for you to get your concerns heard and affect the quality management system?

- Yes, always
- Yes, most of the time
- Sometimes
- No, seldom
- No, never
- I don’t know

3.3 Do you have sufficient knowledge about the quality management system and its scope?

- Yes
- No
- I don’t know
3.4 Do you get sufficient information about how the quality management system affects the surrounding parts of the care chain?

- Yes
- No
- I don't know

4. Perceptions of the quality management system

4.1 Does the total workload generated by the quality management system (documentation, reporting and so on) constitute a feasible proportion of the total workload?

- Yes
- No
- I don't know

4.2 Do you experience that your supervisor fairly assesses your work?

- Yes, always
- Yes, most of the time
- Sometimes
- No, seldom
- No, never
- I don’t know

4.3 Do you perceive that the quality management system is useful for the exercise of your profession?

- Yes, always
- Yes, most of the time
- Sometimes
- No, seldom
- No, never
- I don’t know
4.4 Do you experience that the quality management activities get lowered priority in favour of financial demands?

- Yes, always
- Yes, most of the time
- Sometimes
- No, seldom
- No, never
- I don’t know
## Appendix 3 Tables

### Table 3 Distribution of modes of contact and their associated results.

<table>
<thead>
<tr>
<th>Contact per telephone</th>
<th>Physical copies</th>
<th>Emails: successful</th>
<th>Emails: declines</th>
<th>Emails: no answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare facilities</td>
<td>21</td>
<td>951</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Friskis &amp; Svettis</td>
<td>11</td>
<td>2</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Universities</td>
<td>6</td>
<td>-</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Facebook groups</td>
<td>n/a</td>
<td>n/a</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

### Table 4 Distribution of missing data points.

<table>
<thead>
<tr>
<th>Missing</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 missing</td>
<td>1.4</td>
<td>Years at current workplace</td>
</tr>
<tr>
<td></td>
<td>2.1</td>
<td>Job satisfaction</td>
</tr>
<tr>
<td></td>
<td>2.3</td>
<td>Sufficient staffing</td>
</tr>
<tr>
<td></td>
<td>3.4</td>
<td>Sufficient information about how the QMS affects the surrounding parts of the care chain</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
<td>Reasonable workload for QM-tasks</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>Fair assessment by supervisor</td>
</tr>
<tr>
<td>2 missing</td>
<td>1.3</td>
<td>Years in the healthcare field</td>
</tr>
<tr>
<td></td>
<td>1.5</td>
<td>County (1 lost due to a technical malfunction)</td>
</tr>
<tr>
<td>4 missing</td>
<td>3.3</td>
<td>Sufficient knowledge about the QMS, Internal transparency</td>
</tr>
</tbody>
</table>
1.1 **Age** exhibits a skewness towards the younger side. This could be an effect of the digital format and the dissemination of the survey in social media. Compared to the most recent official records on nurses employed in the healthcare sector in Sweden the skewness is apparent, although not represented by the same bins.

![Figure 11 Bar chart of 1.1 Age, distribution.](image)

![Figure 12 Bar chart of 1.1 Age, filtered by 1.2 Profession: Nurses.](image)

![Figure 13 Bar chart of year 2017, age, Swedish nurses, distribution, (Socialstyrelsen, 2019).](image)
1.2 Profession: the method of data collection did not sufficiently reach the large number of care assistants employed in elderly care, which can be seen in the skewness of the sample.
1.3 Years employed in the healthcare sector is skewed towards the lower and upper end.

The lower spike can be an effect of the large proportion of younger respondents.

The highest bar is likely generated from the large bin size.

Figure 14 Bar chart of 1.3 Years employed in the healthcare sector, distribution.
1.4 Years employed at the current workplace: here the skewness is likely generated by the young proportion of respondents, respondents new to the profession cannot have been employed at his/hers current workplace for more than 5 years.

Figure 15 Bar chart of 1.4 Years employed at current workplace, distribution.
1.5 County exhibits an extensive skewness towards Kronoberg and Skåne. On the other hand, Kalmar has no representation whatsoever, and some other counties show a disturbingly low number of respondents.

2.2 Satisfaction with supervisor assessment and 4.2 Fair assessment by supervisor are presented together below. Both show a large proportion of respondents that are happy with how their supervisor assess their performance for a large part of the time.
2.1 **Job satisfaction** shows a majority of respondents that are satisfied with their jobs, from a general perspective.

![Bar chart of 2.1 Job satisfaction, distribution.](image)

3.1 **Encouraged to contribute to QM, Repair** exhibits a variance with the largest proportions found in the bins “Sometimes” and “Yes, most of the time”. In addition, the response “Yes, always” counts for the third largest bin with no less than 70 respondents.

![Bar chart of 3.1 Encouraged to contribute to QM, distribution.](image)
3.2 Possibility to affect the QMS, Flexibility
follows a similar pattern as 3.1 but show a smaller proportion for the alternatives “Yes, always” and “No, never”.

Figure 21 Bar chart of 3.2 Possibility to affect the QMS, distribution
3.3 Sufficient knowledge about the QMS, Internal transparency shows a large majority of respondents in the “Yes” bin.

3.4 Sufficient information about how the QMS affects the surrounding parts of the care chain, Global transparency shows a very different spread of answers compared to the other design principles with a large majority stating that they perceive the information they receive on this topic to be insufficient.

The proportion of respondents answering this question with “Yes” are a clear minority with 141 out of a total of 393, or 35.8%.
4.1 Reasonable workload constituted by QM-tasks show a majority of the respondents in the “Yes”-bin, these are however a minority if compared to both of the other groups. Positive answers count for 46.1%, “No” for 139 or 35.6% and “I don’t know” summed up to 18.3%.

4.3 Personal usefulness of QM show spikes for the alternatives “Yes, most of the time” and “Sometimes”. Here the large tendency to choose to answer a question about perception with “I don’t know” is clear, even with five other options for answers are present. As an enabling QMS should empower the employees and not be experienced as a crude tool for control, one would opt for this question to yield a larger proportion of positive answers.
4.4 QM is subordinate to financial concerns

show a relatively small number of respondents, 16.2%, that answers this question with either “No, never” or “No, seldom”.

The proportion of respondents that choose to answer this question with “I don’t know” is relatively large, especially when taking into account the nature of the question.

Figure 26: Bar chart of 4.4 QM is subordinate to financial concerns, distribution.
2.3 Sufficient staffing:

A proportion of 46.5% of the respondents experience the staffing at their workplace to be sufficient every day, more or less. The second-largest group are the respondents that have answered “About a day per week”.

![Bar chart of 2.3 Sufficient staffing, distribution.](image)

2.4 Room for professional assessment:

A majority of the respondents answers this question positively.

![Bar chart of 2.4 Room for professional assessment, distribution.](image)
2.5 Seriously considered leaving the workplace due to lacking working conditions exhibits a majority that has answered this question negatively. There is, however, quite a large number of individuals, 164, that do not make the same statement, possibly exposing a troublesome situation in the field.

According to a recent study, 54% of employees in the field of elderly care have seriously considered leaving their current workplace during the last year due to lacking working conditions (Mörtvik, 2018). In comparison, the responses of this question for this study show a lower value of 37.3% for this option. This might be a result of the underrepresentation of care assistants in this data set, since this profession is more common in the aforementioned setting. It can be argued that the count is still higher than what should be considered sustainable for a sector struggling to attract and retain staff.

Another Swedish study concludes that there has been an unproportionate increase of staff seriously considering leaving the field of elderly care between the years 2005 to 2015 (Szebehely et al, 2017). The influential factors brought forth by the respondents are high work strain, lack of autonomy and low perception of trust from the superiors (Ibid). This detrimental description largely resembles that of a mechanistic organization with extensive use of coercive control measures (Adler and Borys, 1996).
2.6 Staying in the healthcare sector 3 years from now: the long-term commitment seems to be prevailing for most respondents. This question can receive negative answers due to the age of the respondent, i.e. if he or she plans to retire within 3 years. By such instances, the answer should not necessarily be regarded as an indicator of that the respondent finds the current working conditions lacking. Controlling for the individuals that are close to retirement we can see that these do not constitute at large part of the “No”-bar, only 4 out of a total of 47 (and only 4 out of the 35 respondents in the age group 56-65).

![Figure 30 Bar chart of 1.1 Age and 2.6 Staying in the healthcare sector 3 years from now, distribution.](image)

![Figure 31 Bar chart of 2.6 Staying in the healthcare sector 3 years from now, distribution.](image)
The association between 2.1 (Job satisfaction) and variables 2.3 (Sufficient staffing), 2.4 (Room for professional assessment), 2.5 (Seriously considered leaving workplace due to lacking working conditions), 2.6 (Intent of staying in the healthcare sector 3 years from now) ensures the validity of the variable 2.1.

Appendix 5 Charts part 2

![Bar chart of associations between variables 2.1 Job satisfaction and 2.3 Sufficient staffing.](image1)

![Bar chart of associations between variables 2.1 Job satisfaction and 2.4 Sufficient room for professional assessments.](image2)
Figure 35 Bar chart of associations between variables 2.1 Job satisfaction and 2.5 Considered leaving workplace due to lacking working conditions.

Figure 34 Bar chart of associations between variables 2.1 Job satisfaction and 2.6 Staying in the healthcare sector 3 years from.
Appendix 6 Contingency tables

Table 5 Contingency table of variables 2.1 and 3.1 with Chi-square value.

<table>
<thead>
<tr>
<th>Observed</th>
<th>Bad</th>
<th>Neither good or bad</th>
<th>Well</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>13</td>
<td>74</td>
<td>96</td>
</tr>
<tr>
<td>Sometimes</td>
<td>7</td>
<td>6</td>
<td>85</td>
<td>98</td>
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<tr>
<td>Yes</td>
<td>2</td>
<td>1</td>
<td>180</td>
<td>183</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>19</td>
<td>21</td>
<td>352</td>
<td>392</td>
</tr>
</tbody>
</table>

Chi-square: 6.85996E-06

Table 6 Contingency table of variables 2.1 and 3.2 with Chi-square value.

<table>
<thead>
<tr>
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<th>Well</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
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<td>1</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>13</td>
<td>56</td>
<td>79</td>
</tr>
<tr>
<td>Sometimes</td>
<td>6</td>
<td>6</td>
<td>107</td>
<td>119</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>1</td>
<td>159</td>
<td>163</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>19</td>
<td>21</td>
<td>352</td>
<td>392</td>
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</tbody>
</table>

Chi-square: 6.75513E-08

Table 7 Contingency table of variables 2.1 and 3.3 with Chi-square value.

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<th>Well</th>
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</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
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<td>2</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>6</td>
<td>79</td>
<td>89</td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>13</td>
<td>198</td>
<td>223</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
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<td>21</td>
<td>348</td>
<td>388</td>
</tr>
</tbody>
</table>

Chi-Square: 0.75948975

Table 8 Contingency table of variables 2.1 and 3.4 with Chi-square value.

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<th>Well</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
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<td>2</td>
<td>76</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
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<td>168</td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>2</td>
<td>133</td>
<td>141</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td>19</td>
<td>21</td>
<td>351</td>
<td>391</td>
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</tbody>
</table>

Chi-square: 0.00877926
Table 9 Contingency table of variables 2.1 and 4.1 with Chi-square value.

<table>
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<th>Observed</th>
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<th>Neither good or bad</th>
<th>Well</th>
<th>Grand Total</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
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<td>65</td>
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<tr>
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<td>9</td>
<td>117</td>
<td>138</td>
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</tr>
<tr>
<td>Yes</td>
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<td>169</td>
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</tr>
<tr>
<td>Grand Total</td>
<td>19</td>
<td>21</td>
<td>351</td>
<td>391</td>
<td></td>
</tr>
</tbody>
</table>

Table 10 Contingency table of variables 2.1 and 4.3 with Chi-square value.

<table>
<thead>
<tr>
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<th>Neither good or bad</th>
<th>Well</th>
<th>Grand Total</th>
<th>Chi-square</th>
</tr>
</thead>
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<td>44</td>
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<td>1.46048E-10</td>
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<tr>
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<td>7</td>
<td>16</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>9</td>
<td>9</td>
<td>98</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>192</td>
<td>194</td>
<td></td>
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</tr>
<tr>
<td>Grand Total</td>
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<td>21</td>
<td>350</td>
<td>390</td>
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</tr>
</tbody>
</table>

Table 11 Contingency table of variables 2.1 and 4.4 with Chi-square value.

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<th>Neither good or bad</th>
<th>Well</th>
<th>Grand Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
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<td>57</td>
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<td>Yes</td>
<td>12</td>
<td>14</td>
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</tbody>
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