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Standardisation and Implementation of ICT in Swedish Elderly Care

Master of Science Thesis
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Abstract

The improvement of elderly care is a cross industry challenge. Our elderly need to be treated fairly but the allocated resources also need to be used efficiently. Technology has developed quickly over the last years and many industries has not adapted to the influx of new solutions and elderly care is one of these industries.

Traditionally the elderly lived at home until they could not take care of themselves and then moved into a nursing home. The care delivered at the home where planned by the staff and the residents had little to say about their own care. With the every improving general health many decide to stay at home longer, and the care is implemented more on a case to case basis controlled by the residents themselves. This has led to new challenges within care where the need for a flexible and adaptable industry has formed.

The National Board of Health and Welfare has surveyed the situation of the elderly over the last years and Gothenburg has fallen below average for some years. This led to the municipal board of Gothenburg to start an initiative in 2014 to improve elderly care in the region. Most of the improvements suggested involved standardisation, implementation of ICT and organisational changes which set the basis for this thesis.

By interviewing relevant actors within the care sector and studying reports the author of this thesis has studied the outcomes of these initiatives. By comparing the results with relevant theory, the results have been analysed and a couple of recommendations has been formed. The replies from the interviews has been sorted in a few key areas where the author believe most of the problems can be identified and these aspects have been discussed in the last chapters.

The main goal of the thesis is not to criticise the initiative rather to be a support to understand some factors that need to be addressed to successfully implement new solutions within elderly care.

Keywords:

Standardisation, Standards, ICF, ICT, Organisational change, Collaboration, Partnerships

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My partner Klara for all her support and love throughout this whole process, without you I would crumble.

Abbreviations

ICF - International Classification of Function and Health

ICT - Information and Communication Technology

IBIC - Individens Behov I Centrum (Individual Based Need Assessment)

SOL - Socialtjänstlagen (The Social Services Act)

ISO - International Organization for Standardization

WHO - World Health Organisation

WEF - The World Economic Forum

Relevant translations

Municipal board - Kommunstyrelsen

National Board of Health and Welfare - Socialstyrelsen

Primary care - Primärvård, (e.g. vårdcentral)

Municipal care - Kommunalvård (e.g. hemsjukvård)

Care Managers – Biståndshandläggare

Nursing Homes – Äldreboenden

Short Term Homes – Korttidsboenden

Application – Utredning för äldre

“Progress is our great inheritance, perfection is our ultimate destination.”

-Phyrexian proverb

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1. Introduction

This chapter gives a background to the problem area and an introduction to the case and the relevant actors involved. It also explains the purpose and the aim of the study and sets the delimitations.

1.1 Background

Elderly care is more relevant now than ever. The population is growing older and generally healthier. In Sweden the residents over 80 years of age will increase with 50 percent by the year 2027. This increase, which is faster than any other age group, is due to high birth rates in the 1940's and 1960's (which will create a similar peak in the 2040s) while being consistent with a decrease of mortality. But there are still implications of growing old. For example, dementia amongst elderly, such as Alzheimer's disease, becomes more prevalent as we are growing older. Multiple illnesses are also more present as we age (SCB, 2018), which requires a higher level of care related resources (Västra Götalandsregionen, 2014). According to Ekerstad, Carlsson and Edberg (2008), patients with multiple illnesses costs almost seven times more than the average patient in the same age group.

Ultimately, this translates into the fact that life expectancy rises in correlation with care burden. Therefore, it seems plausible that such a combination will intensify the need for elderly care in the future. Today, the increase in adaptable health care and modern technology has made it possible for people to stay in their own home longer than before (Vinnova, 2006). However, in Sweden there are frequent reports of mistreatment, stressful working conditions for the employees and other problems concerning the lives of our elderly (Josefsson, Sonde & Winblad, 2007).

In 2014, the city council of Gothenburg therefore decided on an initiative to address these problems on a municipal level (Stadsledningskontoret, 2014). The initiative was supposed to change the way elderly care was performed and standardize the processes of evaluating the need for care. It should also lead to an increase in autonomy for the recipients of the care with verdicts that are easier to understand based on how well it fulfils the need of the recipient rather than the cost in resources or assigned hours. The initiative established stretch goals until 2022 with annual evaluations after set performance indicators.

Due to this, the author conducted this case study in order to further investigate how these types of initiatives of standardisations are in fact implemented in modern day geriatric care. Foremost, the idea of this case study came out of a personal interest and experience within the elderly care sector due to the many summers of work as a home care assistant. The authors personal work life experience was nuanced during the project with scientific articles, paper articles, scientific literature, interviews and previous thesis studies.

1.2 The Case

One of the biggest challenges within modern elderly care is the increase in multiple illnesses within the named group. Specifically, out of the population of 77 years or older, more than fifty percent have two or more chronic diseases. Naturally, this starting point of increasingly sick elderly will require faster and better-quality efforts from all actors within the care giving sector in the future. This requires a well-connected collaboration within all delivered assistance, both from home, - and health care. (Dagens Medicin, 2018)

During the process of conducting this case study, it became clear that one of the biggest challenges concerning elderly care is the effective use of ICT systems. There are a lot of systems in use, yet few of them are proven satisfactory. Since the development of new systems or evaluation of different systems is outside of the author's competence, focus have been on how to make the organisation as adaptable as possible to these new systems.

1.3 The Supporting Companies

1.3.1 First To know

First to Know is a small firm located on Chalmers campus with focus on collaboration and interdisciplinary connections. By using a broad network of actors, municipal, academic and private, the company tries to find new solutions to societal problems. Primary focus lies in Bergsjön, which is considered one of the most negatively affected geographic areas in the city regarding poverty, isolation and public health. First to Know has during this project been supportive with knowledge, contacts and case description. The project is a way to gain further knowledge about the struggles and challenges within the care sector and how new ways of collaboration, and an agile way of working, can be beneficial in the future.

1.3.2 Nötkärnan Bergsjön

Through First to Know, the author was able to meet the CEO of Nötkärnan Bergsjön, which is a privately-owned health care centre in the Bergsjön area. A majority of the listed patients are resident in Bergsjön, but the company also provides care for patients from all over the region. This particular meeting developed into a semi structured and in-depth interview that set the focus of this case study. Throughout the study, Nötkärnan Bergsjön has been a key source of knowledge and practical experience regarding health care politics and the current ICT systems in use today. Furthermore, Nötkärnan Bergsjön has also provided the author with real life experience on the challenges of collaboration within municipal-, and primary care regarding ICT systems.

1.4 Purpose

The purpose of this study is to explore what factors influence the process of standardisation and implementation of ICT within Swedish elderly care. By analysing the process from an outside perspective, key insights in how theory and practice differ when it comes to actual standardisation can be achieved. The study is meant to show what factors are critical for a standardisation process and how they in extension can be used to successfully implement ICT.

The purpose in terms of delivery is to present a report to First to Know that can be used to further understand the challenges of implementation of ICT systems within care actors, and thereby chart the areas where further development is needed in order to improve the standardisation processes.

1.5 Aim

The municipal board of Gothenburg decided in 2014 on new guidelines for elderly care within the region. These guidelines are based on the international classification system ICF, which in its extension can be used to improve usage of ICT in elderly care. Besides standardisation, the guidelines set up new possibilities for collaboration between relevant actors. In order to structure the aim, the following question was worded:

What positive and/or negative effects can be identified within the Gothenburg region after the implementation of the City Council's new guidelines from 2014?

To further investigate the aim, the following research questions were phrased:

How does the new initiative enhance the standardisation process to easier implement ICT?

How can collaboration improve to easier implement ICT even further in the future?

1.6 Scope and Delimitations

Elderly care in Sweden is divided in different sections with home care (hemtjänst i ordinärt boende), service homes (servicehus) and nursery homes (äldreboenden) being the biggest organisational dividers. This case study aims to focus on care in the occupants' ordinary homes rather than nursery homes since the general trend is that for every generation, more people wish to stay in their own homes when they grow older. Therefore, only homecare will be discussed in depth when a distinction is necessary. Regarding ICT systems in use no in depth study of the systems was made since that was perceived to far from the focus of the study and the competence of the author. No names are used in the empirical parts to ensure all recipients anonymity, but the author tried to stay as true to the original statements as possible.

2. Methodology

This chapter describes the research process and the different methods the author used to address the case. It also describes the most relevant previous thesis research that laid the foundation for some of the questions the case tries to answer.

2.1 Research Process

At the start of the research process the goal of the project was unspecified. An initial interview with a linked discussion was set up with the contact at First to Know and a preliminary scope was set. The starting point was how different actors within a community can collaborate to improve healthcare and home care for the elderly. A planning report was written presenting the scope, method and some expected results of the study.

First to Knows efforts to help the elderly of Bergsjön laid the foundation of the study. After a lengthy brainstorming session with advisor and inspirer Per Östling, a first draft of research scope developed. The scope of the research started with focus on policy and municipal decisions affecting the workplace for personnel working in elderly care. A pre-study was therefore conducted with focus on policy affecting personnel. However, after two interviews it was clear that municipal decisions only had a small impact on the daily work conditions of the employees and the lack of sufficient ICT systems was a more pressing matter. This change of scope affected the study significantly and the study of secondary data had to be redone with a new focus.

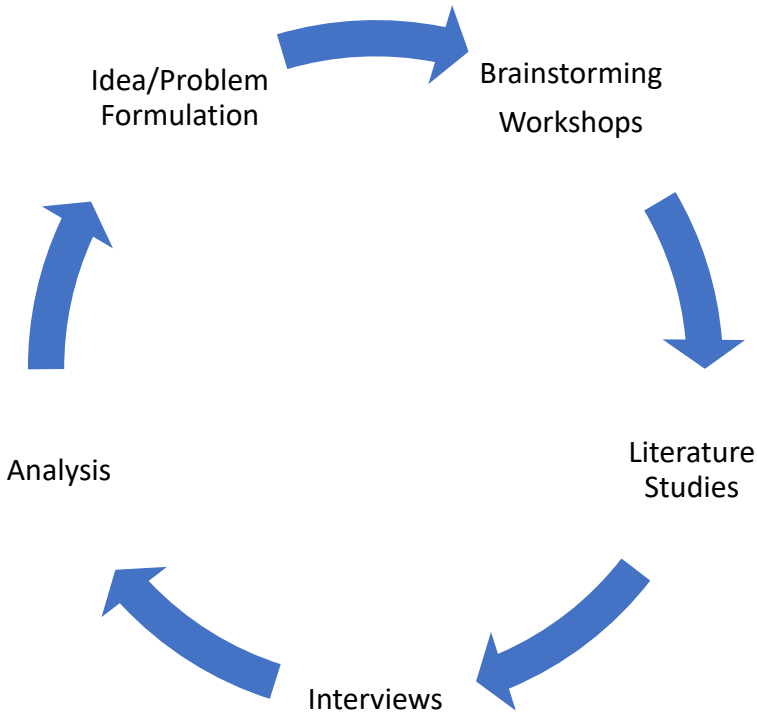

Figure 1. Visualisation of the research process

2.2 Data Collection Methods

2.2.1 Previous Thesis Research

The main thesis studied is the one by Bengtsdotter (2016). The thesis is a field study of a nursing home in Gothenburg with focus on ICT solutions present at the home. In her thesis she proposes examples of a few new eNursing solutions that could be implemented. One of the key insights from the thesis is the difference in focus of solutions for elderly care compared to general healthcare. According to this study, the solutions should focus on improving the everyday life of the residents rather than focus on their health, since quality of life and health status is not necessarily correlated. Another aspect highlighted by Bengtsdotter (2016) is the importance of compatibility, where all ICT solutions need to either interconnect or seamlessly communicate with each other. This is not the norm today, since all ICT systems are acquired individually by different procurement processes.

2.2.2 Cinahl

Collection of the initial data was conducted through a computerized search using Cinahl, an extensive database with its primary focus within the profession of caregiving, unlike other similar databases whereas the focal point usually lies within medicine (Karlsson, 2012). The search-and-retrieval method through Cinahl was based upon key words *standardisation, information and technology communication, ICT, elderly care, care* and *implementation*.

2.2.3 Chalmers Library and Google Scholar

The information retrieval process proceeded within Chalmers library and Google Scholar, a specially designed part of Google which searches for scientific results within academic web sources (Tritonia, 2017). The search-and-retrieval process was based upon key words *standardisation, ICT, elderly care, collaboration*, and *nursing homes*.

2.3 Interviews

Firstly, it seems reasonable that the foremost foundational way to explore people's experiences on a certain matter is to ask them. Research has shown that in order to require the most honest answers when doing so, one has to be able to ask follow-up-, and in-depth questions to each respondee (Wallén, 1993). Due to the aim of this study, whereas objective, measurable results can be difficult to acquire, a qualitative method constituted the basis of the work process. Göran Wallén, author of the book Science theory and research methodology (1993) answers to why qualitative methods are valuable as follows:

"Qualitative studies are necessary for such which is vague, ambiguous, subjective as experiences, feelings which cannot be measured directly (e.g. pain). (Although, they can partly be mediated through speech and actions. One analysis for example covered the notion of security in care.) The imprecise in this type of studies mainly depends on the kind of problem, and only partly on undeveloped methodology." (s.73)

Generally, the standardised questionnaires often used in these types of case studies do not serve their purpose fully due to lack of individuality in the answers, which is the mere point of an interview (Wallén, 1993). Therefore, in order to obtain qualitative data, the interviews conducted by the author have been partly semi structured, although generally in depth.

Interviewees for this case study were recruited through business contacts to the author's company tutor. A total of six semi structured interviews were held, whereas five of them were conducted face-to-face. One interview was composed of e-mail correspondence. Two of the participants later received follow up questions via email. Considering the difficulty of taking notes while pursuing an interview alone, sound recordings of the meetings was used as assistance to the author after retrieving oral consent from each of the interviewees.

2.3.1 Interview Questions

Although the interviews in this case study were mainly in depth and only partly semi structured, the respondents were occasionally asked open-ended questions to enable conversational flow and subject relevance. The questions focused on organizational configuration regarding guidelines, idea recognition and management of developmental projects. Furthermore, the questionnaire endorsed discussions regarding investment management, collaborations with other organizations and finally the implementation of standardisation processes. The questions also aimed to highlight how the initiative from the municipal board have been implemented in clinical practise, both concerning ICT systems and ICF.

2.3.2 Bias

More requests for interviews were sent out but were unfortunately rejected due to lack of time. Since all external contact in Swedish health care is handled by supervisors, it was considered easier to contact those and book interviews through them. This might lead to some biased answers, and all of the relevant voices was probably not heard.

2.4 Ethical Issues

When considering the ethical limitations of performing a case study, the vantage point is ultimately to not bring upon harm to any person participating in the research. The integrity of the participants, as well as their voluntary complicity, is also another fundamental prerequisite when conducting ethically tenable research. No direct quotes from the interviews have been used without the interviewees consent.

Furthermore, the results of a concluded study should be made public in order to maintain the ethical foundation throughout the process (Wallén, 1993). All of the above listed criteria have been ensured when conducting the interviews in this case study. Although, some ethical twilight zones emerged considering the interlinking of population registry, medical records, and other delicate information required to obtain in order to assess the need of standardisation implemented in elderly care. This frailty has been in consideration when weighed against the need for the current research to continue.

2.5 Professional Secrecy

Since all of healthcare lies under the Swedish law of secrecy (SFS 2009:400), the author has not conducted any formal interviews with recipients of home care. All data collection from recipients is thereby based on secondary data from polls made by The National Board of Health and Welfare.

3. Theoretical Framework

This chapter describes the theories and material that the analysis is based upon. It also explains the different models and systems used by personnel within elderly care.

3.1 Standardisation

"Ironically, standards have not been completely standardised" (Hemenway 1975)

According to ISO (2017), a standard is something that *"[…] provides rules, guidelines or characteristics for activities or for their results, aimed at achieving the optimum degree of order in a given context."*

The word *"Standard"* was according to Timmermans and Epstein (2010) used as early as the fifteenth century in a similar way as it is used today. However, the usage of the word "Standardisation" is only about a hundred years old and was mainly used as a term to define standards within experiments to ensure traceability and within manufacturing to guarantee fit between different suppliers' materials. Even though the words derive from the same idea the words "Standard" and "Standardisation" are regarded very differently. The word "Standard" is seen as something good that individuals and organisations strive to achieve while "Standardisation" is seen as controlling and derogatory in that it inhibits autonomy within the organisation. This is a logical dilemma since standardisation in itself is a way to create new standards (Timmermans & Epstein, 2010).

Regardless of public opinion standardisation has been key in success for organisations since the industrial revolution. Fredrick Taylor (1911) formed the idea of a scientific approach on how to perform certain tasks while learning from the most efficient workers. Even though many of Taylors ideas are nowadays seen as ancient and harmful to the employees, the idea of an optimal way of performing tasks has still remained a valuable concept. Even the most innovative organisations strive to reach certain consensus within the organisation to efficiently and securely deliver value to customers and collaborators.

3.1.1 The Standardisation Process

To define the standardisation process there are multiple theories in place, but a common theme is the non-linearity of the implementation. Even though standardisation can be seen as a way to reach a final goal, a new standard, the process is according to Botzem and Dobusch (2012) more of a cyclical process. The process however has two main characteristics, **generation** and **diffusion.**

Generation is the step where relevant stakeholders set the goals for the standard and what processes need to be standardised. **Diffusion** is then the process of implementing the standard. The implementation then need to be evaluated to see if the set goals are met and the standard is working in practice. However, the relationship between generation and diffusion should not be seen as a start and a finish rather as a cyclical process with the concept of **legitimacy** as a way to measure success of diffusion (Botzem & Dobusch, 2012).

Legitimacy can in itself be divided in two categories **input** and **output legitimacy** where the former is regarded as the stakeholder's relevance in the implementation of the standard, for example how well-versed they are in the process they are about to standardise. The latter,

output legitimacy, is how well the individuals affected by the standardisation believe the implementation has achieved the goals, for example the employees using a new framework or method. **Legitimacy** is not seen as two sides of a coin however they are rather intertwined in most processes and affect each other greatly. In a successful implementation process the desire to reach high legitimacy and in extension high grade of diffusion the different sides of legitimacy are seen as feedback loops to reach a consensus (Botzem & Dobusch, 2012).

3.2 Standards and Terminology

This chapter intends to chart and explain the main standards and terminology that laid the foundation of this case study. A brief description of each critical standard and/or term is provided, followed by a swift analysis of their importance and relation to the findings of this research.

3.2.1 ICF – International Classification of Functioning, Disability and Health

ICF is the international standard implemented by WHO in order to measure performance in a patient and furthermore what they need assistance with. The National Board of Health and Welfare (Socialstyrelsen, 2016) based IBIC (The individual's needs in the centre) on the ICF model to improve the dialogue between recipients and helper.

The ICF model is recommended by WHO (2001) since it provides the following advantages;

- A common language to describe health and health related issues

- A Possibility to compare different countries and different assistance areas over time

- A scientifically sound basis to understand and study health and health issues

- A systematic classification scheme for IT-systems

ICF includes all factors of disability within an individual and try to encompass all relevant aspects to gain a broad understanding of needs and wishes. Rather than focus on the different disabilities ICF is used to define the results and impact of the patient's deceases and ailments. This is highly relevant where deceases and ailments can have very different impact on different people and there is a need for a personalised care plan.

3.2.2 IBIC - The Individual's Need in the Centre

IBIC functions as a needs oriented, individualized system for health care workers, which can be applied independently of the recipient's age and degree of disability by the Social Services Act (SFS 2001:453) and the Law regulating Support and Service to Persons with Certain Functional Disabilities (SFS 1993:387). IBIC is based on the ICF framework but is also complemented with aspects that are specific for Swedish practice of law and social services (Socialstyrelsen, 2016).

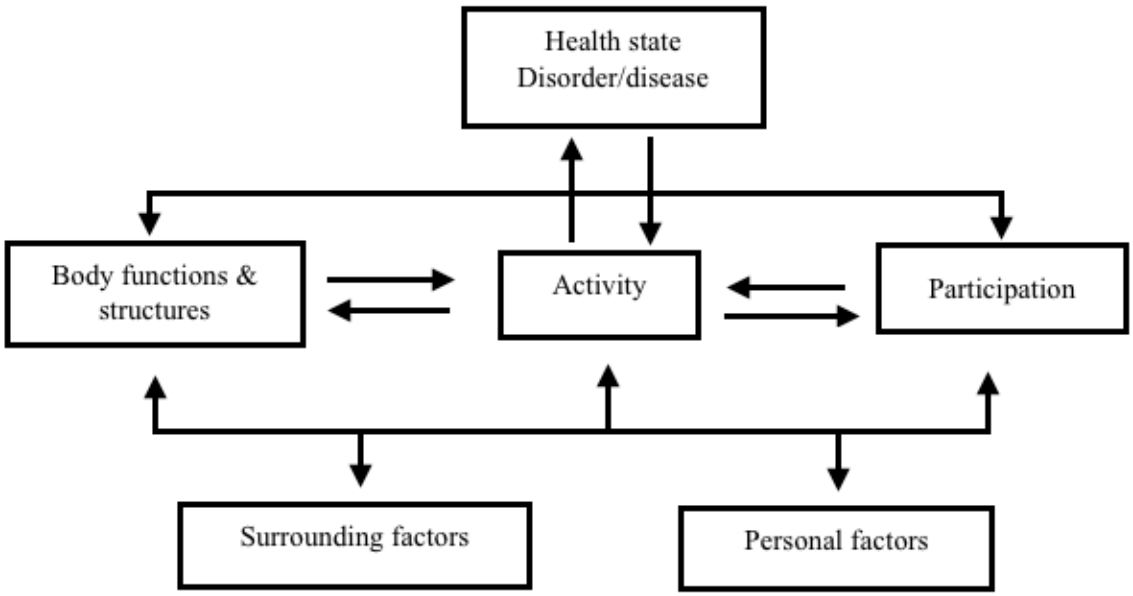

Figure 1. Evaluation process based on ICF

3.3 ICT – Information and Communication Technology

ICT is the infrastructure that lies behind modern computing. Although no universal definition exist it is generally accepted that ICT is all components, systems and applications used to interact between people and the digital world. ICT and IT are similar but not equal since IT is seen as the interaction between person and computer while ICT encompasses other technologies, such as smartphones (Techtarget, 2017).

However, Giles (2018) tries to broaden the concept of ICT to include both the data and the transmittance of it regardless of medium. This somewhat philosophical definition can mainly be applied when a transition from a paper-based reality to a technology-based reality needs new definitions of mediums.

When it comes to ICT within care there are multiple theories of the impact ICT frameworks can have on the care industry. Specifically, Olve and Vimarlund (Vinnova, 2006) see the development of ICT solutions within elderly care as an opportunity to use resources more efficiently within organisations. However, they also address the challenges that new technology will set on current organisational structures. They believe that the investment in reorganisation when implementing new ICT solutions will be 90 % of the full investment. Therefore, ICT implementation can be seen as a threat rather than a relief for organisations that do not want to make the effort to reorganise to accommodate the new technology. The biggest concern is within organisations that are highly integrated with other actors where ICT solutions need to be implemented in the whole chain to become successful (Vinnova, 2006).

3.4 Organisational Challenges Within Elderly Care

Within elderly care there are certain organisational challenges addressed in relevant literature. Some of the challenges are relevant to all organisations where stress levels are high while certain challenges are specific for care organisations. To address the problems within elderly care some concepts and constructs need to be explored.

3.4.1 Sickness Absence and Sickness Presenteeism

To explain some of the challenges within elderly care Elstad (2008) introduces two concepts called **sickness absenteeism** and **sickness presenteeism**. Sickness absenteeism is defined as regular sick leave while sickness presenteeism is defined as working while sick enough that staying at home is recommended. Within elderly care there is a problem of increased sickness presentism whenever stress levels increase within the workforce. Absenteeism is also increasing but not at the same rate as presentism which Elstad (2008) assumes is based on the nature of the work situation within a nursing home or elderly care. Compared to production industries or other scalable industries care-based work environments flexibility in delivery cannot depend as much on availability of staff. Since the daily demand is based on real needs from elderly individuals, absenteeism lead to direct increase in workload for the present colleagues. This is the main reason why presenteeism increases at a much higher rate than absenteeism within elderly care when workload and stress increase (Elstad, 2008). However, sickness presentism over longer periods of time lead to worse cases of absenteeism since nonsufficient rest while not fit for work can lead to more dire consequences when the body finally collapse (Bergström, 2009).

3.4.2 Resistance to Change

When stress levels are high within a workforce, management becomes a challenge according to Whysall, Bowden and Hewitt (2018) where managers need to balance initiatives to lower impact and cause of both sickness presenteeism and absenteeism. Rubenowitz (2004) explains how the Maslowian theories of fulfilment can be applied to workforce where lack of fulfilment in lower levels can make employees less receptive to new initiatives. This can in itself lead to resistance to change if factors seen as much more pressing are not dealt with. The resistance is based on the individual's perception of the impact of the change in an egoistic manner. If the change can threaten the employee's status within the organisation resistance to keep this status is also expected.

For example, if the change is connected to technology or a working method that the employee is unfamiliar with, this can lead to resistance. The solution to this resistance is according to Rubenowitz (2004) in depth dialogue with employees about the implications of the change. For a successful implementation the change has to be seen as an improvement for the employees or be of utmost importance for the organisation to be fully supported. If the organisational changes themselves becomes a catalyst of stress this can lead to a negative cycle of hardship of implementing relevant initiatives within the organisation.

However, Tavakoli (2010) mean that stress can be of good use in mediating change within the organisation as long as it is channelled successfully. He makes the connection between stress and resistance but means that the stress that lead to resistance is connected to distress and uncertainty for the employees' future where stress that comes from overcoming new challenges as a team can be seen as a force for good when it comes to organisational change. For successful

implementation there is therefore up to the leading managers to try to identify and minimise the impact of distress while using the increased levels of stress as a catalyst.

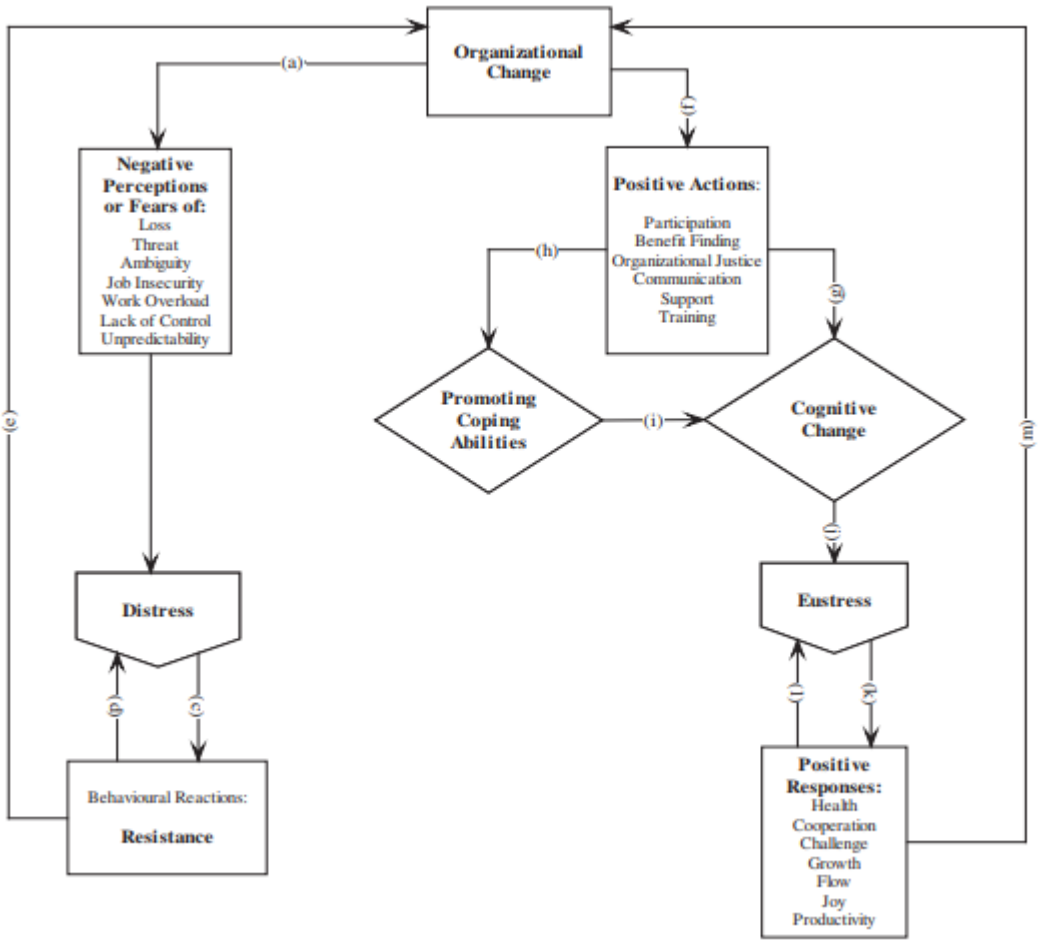

Figure 2. Stress as a catalyst for Change (Tavakoli, 2010)

3.4.3 Groupthink

Groupthink is the idea within a group that conformity and consensus is more important than critical thinking. This led to a negative view of ideas from outside the group. According to Arnold (2010) a factor for developing groupthink is pressure of performance and a stressful environment. This can be seen as a subgroup to resistance to change and is harder to address than stress-based resistance.

3.5 Collaboration Partnerships

The innovative markets are slowly albeit clearly leaving the traditional market structure where actors compete to gain market shares and knock out competitors. According to Christensen (2003) in mature markets there is a need for "market creating innovations" to break the slight increase of incremental innovations. WEF (2015) claims that collaborative efforts between young entrepreneurial companies and incumbent firms will be the future drivers of these market creating innovations. By collaboration, incumbent firms can use the advantages of the younger more flexible organisation while maintaining market presence and tried and evaluated processes for introducing innovations to the market. The younger firm for its part gains access to the incumbent firms' economic strength and market connection while regaining the flexibility and possibility of building a new platform or model to introduce to the market. This relationship can be seen as an evolution of Powell's (1990) network model where a close relationship with providers is maintained but still kept as separate entities to retain focus of core business but keeping transaction costs at a minimum.

WEF (2015) proposes the setup of collaborative partnerships in a three-step model named the "Prepare, Partner and Pioneer Model". These criteria is crucial for a successful collaboration:

Prepare: The first layer is focused on defining the objectives for the collaboration to identify what type of partner is needed and to set the scope for the collaboration. It is also in this stage where the own organisation should be prepared for the external partnership and to identify the boundaries within the own organisation.

Partner: After the initial step is set up within the own organisation and a partnership is formed the next step is to tailor the project specifics of the partnership to make sure that benefits, risks and governance aspects are clearly defined.

Pioneer: In the final layer the focus is to adapt and evolve the partnership to actually reap the benefits of the endeavour. Here it is of utmost importance that it remains a partnership and that mutual benefits are strived towards rather than personal gains.

WEF (2015) recommend the model since different sectors have different challenges but these three steps can always be identified in the collaborations studied by the organisation. The biggest differences between sectors are in the **partner** step where different industries have different key assets that they want to defend. It is usually this step that can make or break a partnership.

4. Empirical Findings

The following chapter describes the findings from the case study. All statements and information in this chapter is from reports regarding the process in Gothenburg or from interviews made by the author. The Chapter is divided in 12 different areas where some are used to gain a better understanding of the context while some areas are considered more relevant for the study and will therefore be the only areas addressed deeper in the recommendation and discussion chapters.

4.1 Organisation

Elderly care in Gothenburg is based on a client and performer organisation where the client is care managers or other actors of authority that decide the need for care for the residents. The performer is either the home care in the relevant district or the nursing home where the resident lives. Within home care there are only public actors divided in five different units throughout the city. However, within nursing homes there are about as many private actors as public actors. the private actors generally run single stand-alone homes but there are also bigger private actors with multiple homes with different focus areas, for example dementia or special needs homes (LSS boenden).

4.2 Application Process

The application process starts when care managers obtains a call for assistance from the elderly which lead to an initial evaluation of needs. If needed an application for an available position at an nursing home is also filed. During the evaluation process a care plan is set up for the individual to ensure that all needs are met. If the resident is accepted to a nursing home this care plan is seldom re-reviewed before moving in to their new home even if the wait is long and the residents state might change gradually while waiting.

The care manager is responsible for the residents' care plan even after they move but the evaluation of care is generally handed over to the staff at the nursing home. There exists no standard process for evaluation of care plans and they are most often updated on a case to case basis based on the staff's knowledge of the resident. However, care managers are obliged by law to evaluate the care plans but are only involved if there exist suspicion of mistreatment at the home.

"When it comes to individual family care there is already a system in place […] which lead to really in-depth applications since the frame of need might be very complex. If you have an application about cleaning an old person's apartment the application should only be about that specific need. The resident should not need to tell their life story just to get help with cleaning. I believe that this is a crucial part and this process is discussed and communicated to ensure that it is the same all over the city."

4.3 Rules and Standards

Elderly care in Gothenburg adhere to a set of rules called "Guidelines for the elderly care in Gothenburg" which is the county council's practice for living standards and how the law should be interpreted for Gothenburg. These guidelines differ slightly throughout Sweden, according to interviewees, based on the economic state of the counties. They are also based on political decisions that strive to standardise the treatment of elderly throughout the county.

The guidelines are partly based on ICF classification but are mainly set by judges and political appointees based on praxis and knowledge of law. According to some interviewees this makes them a bit vague in their wording and in many cases local practices are used when the guidelines seem lacking.

4.4 ICF and IBIC

The city council has decided about a more attractive home care which includes IT in different ways, plans for more attractive careers, better working environment and also a better way for care managers to use their authority. Here there has also been decided to implement ICF after a method created by The National Board of Health and Welfare. This includes the framework that is being implemented for applications to standardise the process. In October of 2015 the framework was introduced and it has come so far that the applications have been changed to a standardised form which in the long run should lead to easier statistical review and similar use. According to one interviewee the initiative to standardise lead to the IBIC framework around April of 2016:

"In many counties implementation has been all at once while here in Gothenburg it has been an incremental process. The biggest difference from before is with IBIC you look at the needs of the recipient rather than the resources available. We were very good at seeing what we had rather than what was needed for the recipient which changed the process slightly."

In IBIC the focus lies in how to help the individual based on their needs and what the goal of the action is whether it is **supportive**, **compensative** or **replacement** of something the recipient cannot at all do themselves. This creates a common language that can be used throughout the organisation and in contact with general care to improve the collaboration.

IBIC lead to standardised applications for care managers which makes them easier to compare and to quickly look through to find specific information. Before the implementation of IBIC the applications where written based on personal practice and preference from the care managers themselves. This lead according to interviewees to varying quality and readability specifically when it came to amount of information in the applications. This also led to risk for bias in the applications since there were no rules for objectivity. However according to one interviewee this led to challenges for elderly personnel who where more set in their ways and found it hard to adapt.

"I read a lot of applications and I believe that the structure has helped me immensely since now the structure makes the applications much easier to read. One of the problems we had before was that there was an abundance of information in the applications and much of the information was dated and irrelevant for the applicant at this time. They were rather life stories than descriptions of needs which made the situation for the performer troublesome since they could not easily plan their actions. I believe that if we become even better the needs will be

much more obvious to everyone and it will become easier for the care staff and better for the elderly."

4.5 Support Networks and Support Systems

To support the implementation of new standards the managers within the elderly care organisation have different networks. The networks consist of every connected actors' manager with goals to improve collaboration and define the frameworks the units should follow. Through these networks there are also representatives from the municipality and the county who will get status updates in the implementation process. The networks are only on a supervisor level and no lower level staff is represented in person. Most interviewees however believe that their representatives are capable of representing the opinions of the other staff and most problems or concerns are addressed.

However, some concerns are put forward when it comes to the collaborative aspects of the networks with actors outside of elderly care. According to interviewees all actors want to collaborate but the lead times for collaboration efforts are very long since all communication is held through managers which might distort the details. According to one interviewee it is much easier to discuss general organisational issues rather than specific problems in the collaboration since managers are not involved as closely with the day to day struggles for the employees. To address these issues the employees have meetings and conferences with the managers. Although few of the conferences include different actors, which lead to difficulties to improve collaboration on the lower staff levels.

To ensure that the competence in how to use the different systems within care in Gothenburg is maintained, super users are trained in all units. These super users are selected by the project managers from the city council and are responsible to be the inhouse experts of all systems. One interviewee however lifts the concern that these super users are usually overworked and if they quit a lot of competencies are lost.

"There is also multitude of cheat sheets that can help the staff when they get stuck and the super users knows a lot of tips and tricks which makes them very valuable for the organisation."

The city council office has multiple databases with support where staff can learn how to write applications and journals. In the databases there is also easy access to guidelines and process information, so the staff can learn how the new methods should be used in practice.

4.6 ICT Systems

There is a multitude of ICT systems in use within elderly care in Gothenburg. According to one interviewee they are however in general ineffective and lacking crucial applications.

"All IT-systems in health care are on the brink of disaster that makes you wonder 'why can you not do like this?'"

The interviewees would like to see that future systems are more intertwined since there, at the moment of study, exist multiple crucial systems that do not interact at all with each other. This makes usage and support tedious since, even if the staff learn how to use the systems, it takes time to switch to a new system to continue working. When a function of the actor is based on

a sub par system, there are risks for residents and patients to be missed if other actors are not vigilant and inform relevant actors about the residents status.

"Now that multiple illness patients are dismissed from the hospital much sooner there needs to be qualified systems that can handle evaluation and such. This leads to a lot to process at the same time for our employees."

"What we will do is that whenever someone that is listed here is dismissed from the hospital we get a message. Unfortunately, it happens in a terrible IT-system, which sometimes makes us miss some cases."

At the same time most interviewees are positive to the initiatives taken to improve the systems. A standardised language based on ICF and IBIC has made writing applications and journals quicker, since many phrases used are standardised and can be reused. When asked if this in some way depersonalises the residents, they explain that it insures that all actors within the organisation understand the information, and furthermore that the care quality can be ensured. It is however clear that the laws and regulations are lagging when it comes to secrecy of personal information. Fax machines are regulated and are approved to use, but there exists no other technical systems to interact with residents or patients in written form. The residents are not able to overview their own care and has no way to see medical data such as test results or prescribed medication in an interactive system.

"I think we explain most things clearly but after about 20 different tests it might be hard for patients to grasp it all at the same time and some follow up questions might come up later that could be sorted quickly"

Email is not seen as a secure way to interact with residents, even if the residents themselves would prefer it, which is seen as a barrier when multiple actors are involved in a case to efficiently support the residents. Instead of clear criteria in what information can be shared through emails, the actors are informed to use regular mail or fax which increase lead times for residents. Some private actors have tried to create their own systems to address these issues, but it is hard to break free from the systems that are in use since they are so heavily implemented in the organisation. According to one interviewee, it is impossible in current systems to gain an overview of the needs of residents which makes it hard to set goals for improvement. To see problem trends the actors themselves need to identify risks and make efforts to address them.

"It is not the future, it is healthcare that needs to come up to the present."

Interviewees however lift the risks with improved systems that rather than support, try to steer the organisation with rules. If the systems are not connected to the real world by being flexible and adaptable, they will become a hindrance rather than support for the staff. Interviewed doctors believe that, for example, if the systems are used to track cross reactions from medicine it would be impossible to prescribe medication to the elderly since they usually have multiple diseases.

"There I think it is necessary for a common system where one doctor is responsible for one person with multiple diseases. There also need to be a national list of all the medication that all patients in the country has been given so that you can follow up over time. At the moment we can only access a handful of patients if they have moved here and we have gotten full access but some we cannot, and they usually don't know everything they have been put on especially if they have had a long ride within healthcare. That is a clash between law and technology to solve all these issues with secrecy across regions."

All interviewees agree that the systems should work as support for the employees and be adaptable based on the different actors needs. However, there are varying replies when it comes to adaptability and interconnect-ability within the current systems. Most interviewees point at the fact that all information handled in the systems are protected by secrecy. Naturally, it is crucial that they are secure, however in the current state they are cumbersome to use efficiently.

"For example, every autumn I want to send a personal letter about vaccinations to all risk groups and this is impossible in the current system."

4.7 Objectivity

Multiple interviewees are concerned with the municipality's goal to do an objective analysis of the elderly's needs. Mental state or other life factors can affect the resident's judgement, which is the main cause of concern for the interviewees who believe that there are risks of implementing fully standardised processes.

"If they just moved out from their own home or lost a partner or the chemistry with the staff does not work, this might influence their opinion rather than the actual care they receive."

The interviewees also believe that the pressure of objectivity and standardisation from the initiators within the municipality is hard to satisfy. The municipality want to ensure that the resources allocated to elderly care are sufficient, although the interviewees are concerned that the complexity of the organisation and the people involved makes objective figures hard to come by.

4.8 Resistance to Change

When it comes to resistance to change, there are generally two factors addressed by the interviewees; the risk of putting more responsibilities on an already stressed staff and more intrusive methods of surveillance of the elderly. The security cameras installed in some resident's homes has been successful in some cases, but other residents will not agree to install further surveillance methods at all.

"There are always people who are resistant to changes or they who do not see the benefits of the change. They usually only see it as economic gains and not as something that can improve the individual situation. No obvious group is more resistant than others though."

There appears to be problems with critique that all initiatives are for economic gains rather than improving work environment and care for the elderly. This is addressed by multiple interviewees and is believed to be the result of poorly worded descriptions from the decision makers. The choice of words is also highly relevant when trying to install new systems in the residents' homes. Multiple interviewees lift the benefits of not needing to visit residents' homes in the middle of the night when instead a camera can be used to check up on them.

"They are only on for 30 seconds and the residents choose exactly when it will be on and it is never used outside of those set times. The resident has to know for sure so that they will not feel controlled or observed constantly."

"For example some spouses where one is much sicker... the healthy spouse don't need to get up in the middle of the night just to check the other. They can sleep… and know that the other is lying in their bed securely."

"I think it is based on the individual. We have persons older than 100 that have cameras who think it is really cool and younger residents that refuse to even install them."

There are also initiatives to use video systems to communicate with residents or other actors within elderly care. To shorten lead times for application processes, the care managers can use video conferences to interact with multiple homes or residents from the care managers office. This has also been tried for patient interaction when residents are in need of health care and feel too sick or frail to visit the hospital or health care centre. Although, the interviewees lift concerns with replacing human interaction with cameras or technology, even if it can support a stressed staff. With the rise of actors using technology as the only interaction with residents or patients there are risks involved in the actual care delivered.

"I don't believe that you should be able to prescribe medication for infections to a patient without meeting them in person. You could of course give advice and talk to them but for medications I think a face to face meeting is necessary"

Some interviewees also address the risks of pro innovation bias within the non-medical decision makers. The interviewees lift the risks of over reliance on medication when not meeting residents or patients face to face. They fear that municipal representatives only will see the beneficial aspects of introducing new systems.

"The technology as such is good since it opens up possibilities but among our politicians there is an overreliance on new technology to solve all problems. They see availability and think that "this will solve everything" but I think it will just water down an already strained system."

4.9 Risk Factors

When asked about risks within standardisation, and if it can depersonalise the recipients of care, no interviewees believe that the initiatives will have such a kind of effect. Rather, the increased efficiency in writing applications and journals leads to a secure process where fewer aspects are missed. A certain way to evaluate care needs are also seen as a good way to decrease bias, since personal opinions has no room in the applications.

"Of course, there is always risk of bias or people treating residents differently but at least now the application process become fairer"

"All is still too new to say, but in the future there shall be an evaluation made after three months, from when the recipient started receiving care. And if the care is seen as severely lacking a new application review should be made to understand why the recipient feels this way."

"We try to be as transparent and clear as possible how applications are handled but you can never be completely unbiased."

All interviewees believe that the process to evaluate the care from the recipients needs to be improved. There is a lack of interaction between residents, care managers, and other actors within the organisation that do not meet the residents daily. This leads to a shortfall of overview in the care quality delivered over time, and makes it more difficult to change processes if the concerns are not lifted by the care staff closest to the residents.

4.10 Collaboration and Competition

To complement care given to residents in ordinary housing or nursing homes, the organisation offering care to the elderly consist of hospitals and health care centres throughout the city. Since 2010, all counties have introduced a system to select care (Socialstyrelsen, 2010) based on personal preference. This has led to an easier way for patients to choose when and where to apply for care. However, when a patient is dismissed from a hospital visit, they are asked if they need further assistance. If they decline, the hospital is not obliged to inform relevant health care centres of their status in accordance with the Swedish law of secrecy (SFS 2009:400). One interviewee stated that this leads to confusion in where the responsibility lies:

"Many patients that are dismissed from the hospital are in really bad shape... Unfortunately, the system is not airtight so that if someone declines further help after they are dismissed from the hospital then they will not be entered in the system and we will miss them."

To address this issue, the health care centres collaborates with home care to ensure that residents in need of medical assistance know where to apply. However, according to interviewees there are no clear guidelines or regulations to ensure that this collaboration works. The system is more based on personal contact rather than a set of rules. There are limits to this collaboration since all actors need to follow their regulations and responsibilities. According to one interviewee, the organisation's budgets become a problem when there are no set responsibilities. If no clear agreements are signed, no actor gets paid for their time spent.

"People want to sort it out but the systems and structures are in the way."

4.11 Results from Implementation

Few of the interviewees sees any concrete results of the standardisations regarding the delivered care to the residents. What works within care for the elderly are according to one interviewee more about chemistry and less about the actual care delivered.

"It is probably easier to look at rehab centres for drug addicts where the goal is to become clean while for old people it might be just to walk a little better on their own. "I want to feel decent" which is very subjective and hard to evaluate over time for a multitude of residents."

However most interviewed actors believe that the initiative to standardise the process of delivering care is for the better, and all of them believe that the initiative eventually will lead to a better care and furthermore workplace for involved actors.

4.12 Secrecy and Availability

Secrecy is involved in all handling of personal data in Sweden, it is even in the constitutional law (SFS 2009:400). The laws state that whenever personal data is collected, it must be for a specific and clearly stated purpose. This means that even within the same organisation, personal data cannot be handed over further without clear consent from the involved care taker. This sometimes leads to confusion, since an individual might be certain that they have given their doctor consent to access their journal. However, future doctor appointments might be performed by another doctor that has not been given the same consent.

5. Analysis

In this chapter the data collected through the empirical research will be analysed with the theoretical framework, and clear problem areas will be defined. The empirical data will also be analysed to try to answer the purpose and aim of the study. To simplify the analysis, the main question of the study has been divided in positive and negative effects within the different areas; Application process, ICT usage, Support networks and systems, Resistance to change, and Collaboration.

5.1 Application Process

It is clear that the application process has become easier for care managers, but the idea of using ICF or IBIC as a common language for all actors within elderly care is far from implemented. The tools to follow up the applications and how to use the new methods has not been implemented fully within the staff working closest to the residents. This led to hardship in delegation of evaluation of the delivered care. To be able to evaluate how well the needs of the residents is addressed, the ICF framework needs to be implemented fully and understood by all parts of the organisation.

5.2 ICT Usage

The ICT systems in use are according to the interviewees lacking in performance, and furthermore certain critical functions are missing. This leads to problems when new frameworks are introduced when the systems are unable to implement them. To successfully implement a common framework, the systems need to interact seamlessly in accordance with the findings of Bengtsdotter (2016). Since there seems to be no common direction for the ICT systems in use, and new systems are rather implemented to address specific problems, there is a risk for too many systems in the future. This will amplify the need of support for each system, which might lead to even more strained “super users”. When the risk of losing competence already is a factor, it might create even more problems if new systems are introduced instead of upgrading old systems or rethinking the existing system framework.

Unreliable ICT systems will also lead to risks of missed care for residents, which can have grave consequences. It does not exist an efficient system for residents to overview their own care, nor to interact with care givers or doctors between visits. In cases where cameras are being used, there needs to be efficient ICT solutions that can compensate the lack of human interaction or ensure that the quality of care is maintained. This demands new ways of documentation that needs to include the residents in an efficient way to ensure that the goals of autonomy for residents are sustained.

5.3 Support Networks and Support Systems

The support systems that exists seem to focus on how managers can overview the implementation of the new frameworks and its effect on an organisational level. This might lead to staff feeling ignored if specific problems within the implementation are not heard. If the changes are seen as important for the organisation, but the staff feels threatened, it might lead to resistance to change according to Rubenowitz (2004).

5.4 Resistance to Change

When it comes to resistance to change on a broader scale, there are a few concerns lifted by the interviewees that needs to be addressed. The changes are mainly seen, by the lower levels of staff, as a way to spend less resources to gain the same amount of care. This might be the results of a decision taken too far from the staff, with insufficient communication why the implementation is necessary. It becomes clear that involved parties are mainly positive as long as they have understood the implications and the reasoning behind the decision. This is where Tavakoli's (2010) model of using stress as a catalyst comes in as a leading factor. The implementation has somewhat been seen as a way to control the staff, rather than a new way to simplify their day to day processes. This can somewhat be connected to the lacking ICT systems that are not constructed with the new framework in mind, which leads to a decrease in time spent with the care taker and furthermore added rules to follow for the lower level employees.

To address the issues of the lacking knowledge among the staff, it exists super users intended to support the day to day activities of the staff. However, there are no set guidelines or rules for these super users and there exists no strategy to keep them within the organisation. If the super users quit or get new objectives, the system will lose core competencies. Frustration over the new systems will increase if no support system exist.

5.5 Collaboration

Most interviewees remark that collaboration is an important part of the organisation. However, there exists few guidelines or regulations on the collaborative efforts to support this. When secrecy is involved, it creates an even higher barrier to overcome in order to collaborate more efficiently. At the moment, it does not exist any clear guidelines for what kind of information the actors can share about the residents. This makes it even harder to evaluate where collaborative efforts are lacking, and how well the system works. None of the interviewees believe that the different actors actively try to decrease collaboration, but they all agree that the systems in place set boundaries for how to collaborate. When analysing the collaborative efforts through the Prepare, Partner and Pioneer model presented by WEF (2015), it seems clear that the partners have not successfully gone through the Pioneer stage where each collaborator need to adapt to address common problems to make the partnership work.

6. Recommendations and Discussion

In the following chapter some recommendations for addressing the problem areas are presented, and furthermore the methods used are discussed. The recommendations are based on the analysis and the problems identified. Throughout the process the author has discussed different solutions to the problems both with interviewees and the companies involved in the study. These discussions have led to the following recommendations to further improve the organisation of elderly care in Gothenburg.

6.1 Documentation and Interaction with Residents

To lessen the burden for the staff within elderly care, there needs to be a change in how documentation of care and interaction with the residents evolve over time. To ensure that the elderly are sufficiently evaluated and that care plans are updated, there needs to be a clear process for how the residents can be involved. The current method of letting each unit evaluate the care plans as they see fit can lessen the burden of the organisation, although makes standardisation very difficult to implement fully. By using the same guidelines for all recipients of care, the disparity in information between different actors is limited and collaborative efforts can be improved.

6.2 Define Collaboration Efforts

According to the interviewees, most actors within elderly care want to collaborate but the guidelines are vague and budgets become hinderance. To improve this, the boundaries of the collaborations must be defined and the discussion forums needs to become broader. The different actors within elderly care should be included in the new directives, and their opinion heard.

6.3 Support the Super Users

As of now, the super users within the system are seen as a well of knowledge and are very valuable for the organisation as a whole. If the super users only become support functions rather than ambassadors to improve the systems they handle, they might become frustrated and quit. This would be such a big loss for the organisation, and therefore needs to be avoided at almost any cost. To strengthen the commitment of the super users, it is recommended that these employees are involved in all upgrades and procurement processes for new systems, to ensure that the evolution of efficient ICT is positive.

6.4 Evaluate ICT Systems Regularly

According to interviewees, the ICT systems are many and of varying quality. There does not seem to exist a clear plan of where the implementation of systems is heading, and there exists no clear goals of interaction between systems. This will become a problem if the goal is to rely even more on new solutions to lessen the burden of the staff. To address this it is recommended of the municipality to create a new project group to set new guidelines for ICT systems within elderly care. This is to ensure that all new systems are implemented with the same goal and the same logic so that they can work together seamlessly.

6.5 Involvement of All Levels of Staff

It is from this study clear that many of the decisions to standardise and implement new ways of working are pushed on the organisation rather than pulled from within the organisation. Without clear incentives for the staff to adapt to these new efforts, and furthermore sufficient channels for staff to lift their concerns, they are in risk of growing resistant to change. With already pressured unit managers, it stands clear that many of the concerns of the staff never will reach the decision makers - which makes the long term goals of the implementation hard to reach. To encourage staff to be involved, there needs to be resources allocated in work time or budget to ensure that it does not become a hinderance for the staff. With the right incentives to improve the processes, the implementation will become easier.

6.6 Possible Future Research

The purpose of this study was to gain an understanding of what factors are relevant in efforts to standardise processes within elderly care. This study, however, has set the groundwork for future research within the area of improvements within elderly care. The framework presented can also be used to evaluate other organisations in their effort to find relevant standards to follow. Future research could also try to go even further in the interaction between residents and ICT to find even more areas where there is room for improvement. A few other questions that the author found interesting that could be worth investigating are as follows:

How can collaboration be improved even further without risking resident's secrecy?

What other actors are relevant to improve elderly care, and how can they collaborate?

How should evaluation processes for quality of care be improved?

How can lower staff be even more involved in the standardisation process?

7. Conclusions

This research has provided the involved organisations with an overview of the problem areas involved in standardisation regarding elderly care. While the research provides few concrete solutions to the problems, it shines a light on the complexity of standardisation in such a multifaceted organisation as care.

From the start it was very clear that this kind of research is difficult to pin down and many limitations needed to be made in order to not drift too far away from the scope. Throughout the process the author has learned about how the same words and systems can mean very different things to different people, and that certain areas within care are still sensitive to talk about.

While many of the recommendations presented seem unrefined, it is very difficult to recommend initiatives within care without discussing the economic implications - and such a scope falls outside of this study. During the process, it has been clear how difficult it is to initiate improvement efforts on a big scale within care since the amount of actors with different agendas makes it hard to find a common ground. Hopefully, some of the ideas presented in this study can be of use and in the long run prevent similar efforts to make similar mistakes.

Elderly care is in an interesting phase where new digital solutions are introduced at a rapid speed. If there is a perfect match for new solutions and new problems is uncertain. However, the author believes that as long as collaboration efforts strive to make the day to day as good as possible for the elderly, at least the motives will be right.

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Appendix I – Interview Questionnaire

How is your organization built?

Does your organization follow any specific standards other than swedish rules and laws?

How do they affect the organization?

How do they affect the caretakers?

What do you consider to be the organizations biggest challenges?

How are these challenges being discussed and managed?

How are new ideas being recognized?

How are developmental projects being processed?

How much time and money are being put into developing the organization?

How complicit are the employees in these projects?

Who is in charge of what investments are to be made within the organization?

What ICT-systems are you using?

Who is responsible for these and for keeping them updated?

How are you discussing questions regarding ICT and its development?

Do you cooperate with other organizations?

How does that cooperation work?

What are the primary goals with that cooperation?

How have the new initiative from the community board been treated within clinical practice?

Have they been fully implemented?

What have that process looked like?

Are there factors that have worked better than others?

What is your view of ICF?

Was ICF used before the new directives?