

# A qualitative study of inherent values tied to the practices of a patient call technology

-a preliminary investigation for the development and design of a patient  
call application through the Value Sensitive Design approach.

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**ABSTRACT**

**Background:** Proceeding a project proposal by CIMT; to develop a patient call application, we sought to investigate the values tied to the practices surrounding the present patient call technology at a urological ward, at a major hospital in the capital region of Denmark. The development and use of ICT devices is rapidly expanding in present-day society and its potentials of benefitting in the healthcare sector is what we seek to investigate in this project.

**Methods:** This investigation builds on multiple qualitative methods. During the spring of 2017, we conducted two semi-structured interviews and one interview-to-the-double with nurses and furthermore, four observation-sessions were conducted at the urological ward. The Value Sensitive Design and Praxiography approach, guided the structure for this investigation.

**Results:** Through the field data, we have identified that the values of Attendance, Safety and Reassurance are inherent in the nurses' work practices regarding the present patient call technology. Further, through a value hierarchy, we have outlined 10 design requirements that should be considered in the design of a patient call application to support these values. Additionally, the nurses work practice at the urological ward, could potentially benefit from a patient call technology with the ability to perform differentiated calls.

**Conclusion:** We conclude, that the values tied to the nurses' practices regarding the present patient call should be accommodated through the design of a patient call application. The relation between patient- nurse- and patient call technology, mediates certain behaviours in the nurses' practices, and this should be considered in implementation of new technology at the urological ward.

**Keywords:** Value Sensitive Design, Mediation of technology, Patient call technology, Healthcare technology, Telemedicine, eHealth, mHealth, Qualitative methods, Human-technology relations, Praxiography.

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## Abstract

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## Chapter 1. Introduction

Globally, information and communication technologies [ICT] has become important tools that assist in our everyday life and interaction with the world around us. In recent years, the global use and development of ICT has grown which is reflected in the increase of mobile subscriptions, internet subscriptions and mobile-broadband. European countries are the biggest developers of ICT, with Iceland, Denmark and Switzerland tops the ranking of the ICT development index with the Republic of Korea claiming the number one spot (International Telecommunication Union 2015, 12). This development in ICT is also seen in the healthcare sector. Health information technology [eHealth] has increased with the expectations of boosting the quality and cost-effectiveness of healthcare, though there is no consistent conclusion that eHealth necessarily brings about better healthcare quality and cost-effectiveness (Jamal, McKenzie, and Clark 2009; Bardhan and Thouin 2013; Wicks et al. 2014; Woodward et al. 2014). The European Commission's 'eHealth Action Plan 2012-2020 – innovative healthcare for the 21st century', define eHealth as a socio-technical health base solution supported by electronic processes and communication;

eHealth is the use of ICT in health products, services and processes combined with organisational change in healthcare systems and new skills, in order to improve health of citizens, efficiency and productivity in healthcare delivery, and the economic and social value of health. eHealth covers the interaction between patients and health-service providers, institution-to-institution transmission of data, or peer-to-peer communication between patients and/or health professionals (EU 2012, 1).

When trying to understand eHealth as a term we are meet with a broad definition that include all socio-technological solutions related to healthcare. *Telecare*, *telehealth* and *telemedicine* are typical categories within the world of eHealth that can be further explored, but this report will only have its focus around a technology situated in the telemedicine category and further mobile health [mHealth] will be introduced within this category. Telemedicine is by WHO's defined as:

The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities (World Health Organization Global Observatory for eHealth 2010, 8).

Healthcare service at a distance is nothing new, and can be tracked all the way back to the invention of the original telephone, where a two-way communication between the doctor and

patient, became possible without face-to-face intervention<sup>1</sup>. Expansion of technological innovation within telemedicine provide new opportunities for healthcare professionals to interact with their patients through technology (Eysenbach and Diepgen 2013) argue that the access to the internet provide patients with almost endless information and answers to questions regarding their health situation in a more or less valid manner. This creates a new relationship and culture between healthcare professionals and patients, where patients now have the opportunity to seek advice elsewhere if dissatisfied with their general practitioner or wish to stay anonymous (Eysenbach and Diepgen 2013, 154). In this regard, the internet creates a comfortable sphere where the patient can feel comfortable asking difficult or embarrassing questions. More so, it is important to consider the overall acceptance and accessibility of telemedicine, because; *“End users, particularly children and the elderly, may not be so keen on accepting technology as a tool for healing”* (Fong, Fong, and Li 2011, 3). This entitles the designers and health professionals a responsibility in designing and educating the patients in the use of telemedicine technologies, in order to successfully improve the health of the patient (Lee, Liu, and Lio 2016, 489). The elderly citizens in particular, could benefit from telemedicine if they are properly informed and educated. Though the designers of technologies are often younger than the users, they might unintentionally disregard that elderly can have anxiety towards new technology and the design should accommodate this anxiety. Thus, the primary objective of the telemedicine, to provide remote medical services, fail to work (Rockmann and Gewald 2015, 506). Therefore, it is important to recognize the necessity to investigate the users’ perception and their behaviour towards technology in order to understand the individual requirements that the technology should aim to meet (Ibid., 506). It is equally important, that telemedicine technologies are introduced properly to healthcare professionals in order for the systems to be interpreted correctly and used as intended (Fong, Fong, and Li 2011, 47). (Aarts and Berg 2004) compared the implementation of the same telemedicine technology in two different Dutch hospitals, showing that one hospital failed in implementing the technology while the other succeeded. They argue, that the existing technology and the hospital management are important factors for a successful implementation of new technology, thus it is important to address the socio-technical issues that can affect the implementation.

Even though being a relatively small country, Denmark is one of the leading countries within the digitalization of the healthcare sector (Nøhr et al. 2015, 1). Regarding the telemedicine strategy

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<sup>1</sup> <http://www.telemedmag.com/article/alexander-graham-bell-and-the-birth-of-telemedicine/>



in Denmark, a report from 2011 further defined the term of telemedicine and how it should be understood in a Danish context; *“Time, place and space-dependent digital-supported healthcare, delivered over distance, with the potential to create measurable health gains or value”* (Sundheds-IT 2011, 14). More so, through the report it is proposed that telemedicine in the Danish healthcare sector have the potential to enhance the work practice and the collaboration; *“between hospitals, across sectors and in the relationship between health care and the individual patient, citizen and relatives”* (Ibid., 14). Additionally, a report from suggests that telemedicine technology can enhance the treatment at Danish hospitals. It is proposed that telemedicine have the potential for economic benefits, more coherent patient course and more self-reliant patients, where the area of cross-sectoral collaboration between regions and municipalities have the highest potential for a treatment and socioeconomic benefit (Fonden for Velfærdsteknologi 2012, 3).

With this knowledge, a political decision between the government, KL (the municipalities union) and Danish regions the aim for the use of telemedicine in Denmark was defined as; (1) secure that telemedicine is used more than it has been until now, (2) that the use of telemedicine is being evaluated with the purpose of nationwide implementation (Ibid, 3). 80 million Danish kroner was set aside with the expectations of telemedicine to reduce expenses in treatment, as well as being more effective in the use of accessible resources without compromising the quality of treatment. The increased number of people diagnosed with chronic diseases is becoming a socio-economic threat, where telemedicine is expected to accommodate this treat (Fonden for Velfærdsteknologi 2012). Currently, 421 ongoing telemedicine initiatives are being tested nationwide<sup>2</sup>, ranging from video conferences to mobile applications. Most prominent are the hospitals which account for 55% of all telemedicine initiatives. 31% are located in the municipalities, 30% in the citizens home, 6% of the projects take place in the outpatient clinic and the last 4% is situated at the general practitioners office (Nøhr et al. 2015). Relevant initiatives in relation to this investigation, is the “Aidcube”; an application for tablets that acts as a training device and motivator for people that suffers from chronic obstructive pulmonary disease<sup>3</sup>. Another is the “Young at the Hospital”, where young people with a chronic disease can log in and communicate with the health professionals. The application is also meant to facilitate

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<sup>2</sup> <https://telemedicinsk-landkort.dk/>

<sup>3</sup> <https://telemedicinsk-landkort.dk/projects/344>

empowerment and increased selfcare of the young person and both applications are developed for use on smartphones and tablets.<sup>4</sup>

From telemedicine, we transition into the term mHealth, which is a branch of telemedicine related to the use of tablets, smartphones and wearable devices (Liebert 2010). WHO defines mHealth as: *“Medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices”* (World Health Organization 2011, 3:6). Most people either own or knows how to operate a mobile device. From the first Blackberry phone launched in 1999 to Apples revolutionary iPhone, launched in 2007, the computer-integrated telephony has become the most rapidly expanded technology due to amongst other things, access to the internet and the possibility of adding more open source features to it. The ability to access the internet via mobile phone, has made it possible to move desktop applications to the mobile device and hereby transforming our mobile phone into our personal assistant, helping us to locate stores, buy clothes and even monitor our health (Islam and Want 2014). The more powerful the smartphones become the more it encourages designers to develop new applications, whether it be gaming-, location- or healthcare applications. There are several different applications related to maintaining a healthy lifestyle or managing medicine<sup>5</sup>, all which are aimed at making our life easier or motivate us to change our behaviour and lifestyle (Sousa, Sabugueiro, Felizardo, Couto, Pires, Garcia 2015). These features are in the western world used in every age group, though the age group of 16-64 is more frequently online and feel more safe in using a computer, smartphone or tablet (Tassy 2016). Though we are yet to discover the full potential of these devices, ideas have already emerged where terms as personal computing, internet of things, wearable computing and context awareness is major trends of how further development of technology could affect the design and use of ICT-devices (Islam and Want 2014, 91). It is estimated that more than 10.000 different health related applications are available for devices with an application surface, all distributed among the top five biggest mobile platforms. Apple’s ‘Appstore’ contributing with at least 7.000 applications related to health, with 30% directly intended for healthcare professionals (Kailas, Chong, and Watanabe 2010, 59).<sup>6</sup> The high amount of health-related applications for personal and handheld devices, is amongst the main contributors to the need to defining the term mHealth (Nacinovich 2011). A report published by

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<sup>4</sup> <https://telemedicinsk-landkort.dk/projects/940>

<sup>5</sup> Examples of lifestyle app.’s are: Endomondo, Health Tap, Life-Sum, Walking for Weight Loss. Located in Apple’s Appstore.

<sup>6</sup> This number is probably much higher today, as suggested by <http://liveclinic.com/blog/telehealth/key-differences-telehealth-mhealth/>. Accessed 27 April 2017.

WHO, show that global use and implementation of mHealth technology is becoming more and more common. WHO define mHealth as; *medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants and other wireless devices* (World Health Organization 2011, 3:6). Of the 112 states participating in the survey, 83% reported having at least one mHealth initiative implemented, Europe being the most active region in incorporating mHealth initiatives in their everyday health practice. These initiatives are ranging from patient monitoring, mobile telemedicine to surveillance technology (Ibid.). Additionally, the report showed that in the European region, barriers for implementing mHealth technology are legal guidelines for privacy and confidentiality together with the cost-effectiveness of mHealth initiatives. An interesting point here, is that the aspect of financial cost is yet to be studied in a more comprehensive manner, a reason for this could be that many mHealth solutions is often local initiatives and thus unlikely to be the most cost-effective (Ibid., 65). Instead mHealth “[...] *needs to be studied in the overall context of eHealth or a larger deployment to recognize the full value and potential for cost-savings.*” (Ibid., 67). In countries such as France, USA and UK, the use and adoption of mHealth technology among healthcare organizations and healthcare professionals have increased over the last couple of years (Currie 2016, 413). Often elderly citizens, an age group that will further increase in the coming years, is set to receive treatment from home, which creates a possibility for the *anytime, anywhere* access that mHealth applications provide (Anwar, Joshi, and Tan 2015). The development of mHealth technologies depends on the regulatory laws developed in the specific countries, though the adoption of mHealth relies on the healthcare organizations and professionals’ engagement and motivation for using mHealth applications. As of now, the use of mHealth within healthcare organisations is increasing, but compared to the financial sector the development is slow (Currie 2016, 415-416). The study suggest that the push towards mHealth should be the possibility to access, store and send health data and information between patient and healthcare professional (Currie 2016, 418).

In Denmark, mHealth is also a subject which have gained attention in recent years. In 2005, a pilot-project named ‘CareMobil’ was launched, where six Danish municipalities in collaboration with a steering committee and a IT-supplier tested the possibilities for handheld mobile devices in the care of elderly (SocialMinisteriet 2005). CareMobil had the overall aim of acting as a facilitator in future implementation of handheld mobile devices, hereby making it possible for the healthcare personnel to access patient related information while doing work in the field. Additionally, the pilot-project sought to create awareness of the potentials and challenges in

implementing such devices in the public healthcare sector. Winding time to present day, the field of mHealth in Denmark has evolved into multiple companies and public initiatives that seek to implement handheld devices into the healthcare sector, from which can be mentioned; Ascom<sup>7</sup>, Patient@Home<sup>8</sup> and Gamelab4Health<sup>9</sup>. Ann-Sofie Andersson, manager of life science for Copenhagen Capacity; the official organization for investment promotion and economic development in Greater Copenhagen, stated in 2015; *“Denmark is the ideal starting point for mobile health companies offering the best market conditions in Europe [...]”*<sup>10</sup>. Gamelab4Health alone, has 24 pilot projects running, related to healthcare monitoring, self-treatment and communication with healthcare personnel through mobile devices<sup>11</sup>. Ascom provide technological services for nine Danish hospitals as well as range of public nursing homes and psychiatric centres located throughout the country.<sup>12</sup> More so, Denmark was the first to appoint a professor in the field of eHealth; Pia Munkholm, chief physician at the North Zealand hospital, whom besides researching in the diseases Crohns, Ulcerative Colitis and Irritable Colon<sup>13</sup>, is assisting in the development of mobile device applications to improve future treatment in these diseases. She states that, through the use of applications, patients become more involved and thus increasing compliance, they get faster through their treatment and their visits to the physician become more effective. It is amongst other things, through pattern recognition and home monitoring that these technologies provide the biggest opportunities for enhancement in medical treatment<sup>14</sup>. By outlining these examples, we mean to demonstrate that the field of mHealth in Denmark is a very relevant topic in the debate regarding the future of public and private healthcare services, and that mobile devices plays a central part in this regard.

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<sup>7</sup> <http://www.ascom.dk/da>

<sup>8</sup> <http://www.patientathome.dk/>

<sup>9</sup> <http://gamelab4health.dk/>

<sup>10</sup> <http://www.copcap.com/newslist/2015/denmark-first-choice-for-mobile-health-business-in-europe>, accessed 27 April 2017.

<sup>11</sup> <http://gamelab4health.dk/pilot/>

<sup>12</sup> <http://www.ascom.dk/da/index-dk/ascom-dk/cases-dk.htm>

<sup>13</sup> <https://www.nordsjaellandshospital.dk/presse-og-nyt/pressemeddelelser-og-nyheder/Sider/ny-professor-oeger-fokus-paa-gastromedicin.aspx>

<sup>14</sup> <http://dagensmedicin.dk/professor-udvikler-apps-til-kronikere/>

## 1.1 Our role in the project

This project was initiated by a desire to create an application to handle patient calls at the Danish hospitals and was proposed by the Centre for IT, Medico and Telephony [CIMT], in the capital region of Zealand in Denmark. CIMT imagined that the creation of an application would be a beneficial substitution for the present-day technologies for handling patient calls and that a collaboration between professions could support the development of such an application. The collaboration came to consist of a team of engineering students and us as techno-anthropologists, whereas the engineering students would develop the application prototype, we were primarily focused on the initial development phase. Our investigation was meant to support the engineers in development by supplying ethnographic field data analyses, to guide the application features in correlation to important aspects revealed by our field data. Development of the application is therefore an interdisciplinary process between techno-anthropologists and engineers with the hope of applying the circular, analytical work models from the techno-anthropological perspective to the more linear structured process often used by engineers. The process is presented in figure 1, which served as a working tool between us, the engineering students and the engineers at CIMT. The bottom part of the illustration depicts our theoretical approach and the top part depicts the engineering students approach. The

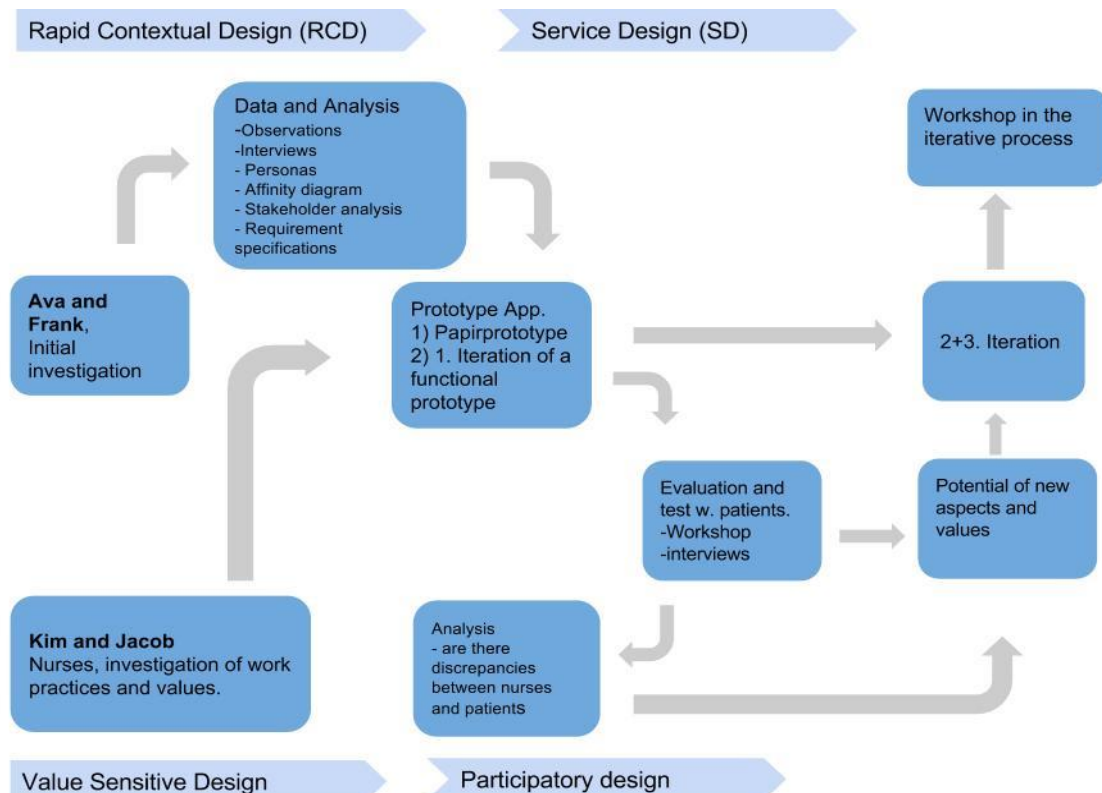


Figure 1

participatory design part of the process is not covered in this project, but stands to serve as a perspective for possible next steps for the development and implementation process.

As shown in figure 1, we sought to impact the design process through the scope of a Value Sensitive Design [VSD] framework. We found it paramount to impact the project with a socio-technical perspective on how the development of such technologies might impact the involved users and how important it is to be aware of the more intangible consequences of implementing them in a given setting. Drawing attention to the relation between users and technology and understanding the underlying aspects at play, is what we believed to be our most meaningful contribution to the collaboration. As the engineering students sought to develop the application through different field observations, interviews and workshops with the users, we saw it more fitting to undertake a preliminary analytical role to complement their design approach. As we perceived the engineering students to deploy a strategy with a more material and practical oriented aim, we believed the process to benefit from a more holistic viewpoint, with the hope of creating an application that would be more apt to a successful implementation and have long lasting applicability.

## 1.2 Problem field

The project proposal from CIMT was to provide them with insight into the implications of implementing a new technology into the work practices at a hospital, which could then be conveyed to New North Zealand hospital and the future development of a digitalised patient call. From a techno-anthropological perspective, this means that the application should not only be functional but also support the socio-technical requirements in a healthcare environment. This raises some interesting questions concerning the human-technology relation and how the work practices of the healthcare personnel are impacted by the patient call application. Our focus of investigation was how the currently installed patient call interacted with the health care personnel, particularly the nurses, and how this relation between the nurses and the patient call affected the practices in which they work. Thus, we could make assessments of how the future patient call application might impact this relation. Within philosophy of technology, technologies should not be seen as value-neutral (Manders-Huits 2011, 273). This statement lead us to investigate what moral values the nurses attach to the patient call and how they could be realized in a future design of the technology, for the patient call to promote these values rather than undermining them (Ibid., 274). By investigating what values were revealed in the interaction between the nurses and the patient call, we attempted to understand how the technology affected the everyday practice at the hospital ward. This would provide us with

indications of which design requirements should be integrated in the digital version of the patient call. Moral aspects can be overlooked and omitted in development and implementation of new technology and we see it as an especially important aspect in the healthcare sector, where working with people are typically characterized by some inherent values in combination with clinical tasks. Compared to the focus on patient safety and patient experience during treatment, we see it is as very relevant to include these aspects in the introduction of new technology into the healthcare sector. More so, as these values are often invisible and harder to monitor and document, in both design and evaluation of technology, they risk being forgotten in the process with potential consequences for the patients. In this sense, we find it obvious to approach such an investigation from the VSD approach. Additionally, we will make use of Annemarie Mol's Praxiography paradigm; to approach diseases, patients and treatments as a multiple factor that displays itself as different entities depending on the context in which it is considered. This follows in line with the fact that technology can be considered as a helping technology for some but risks being a constraint somewhere else in the practice.

### 1.3 Problem statement

*How can a patient call application support the patient experience of Attendance, Safety and Reassurance and improve the work practices of the nurses at the urological ward?*

This problem statement led us to investigate our phenomena through the following research questions:

- What values are tied to the practice surrounding the present patient call technology?
- Why are the nurses acting the way they do in response to the patient calls?
- What moral reflections do the nurses attach to their actions, regarding the patient calls?
- How can the nurses' work practice improve the experience of being hospitalized?

#### 1.4 Project design

In this investigation, we sought to accommodate the wishes by CIMT; to develop an application to replace the current patient call, in cohesion with a vision from the north Zealand hospital to create a wireless hospital. The CIMT engineers believed that a techno-anthropology perspective could benefit the process, but had no specific requirements to how this influence would take form. At the first meeting with the collaborators regarding development of the patient call application, the engineering students proposed to deliver several prototypes of the application and include perspectives from healthcare staff and patients in the design process. As such, we felt that the development process could benefit from a socio-technical perspective on how the implementation of such a technology could influence the hospital practices, for both patients and nurses.

We choose to use the VSD approach because this method is meant as a way to identify underlying human related aspects tied to the use of technology. Before we could identify the more specific values tied to the use of the patient call, we found it necessary to first address the practices surrounding the technology. As such, the praxiography approach seemed a relevant choice to apply in addition to the VSD approach, as praxiography could link the cultural specific values at the hospital ward to the VSD methodology. More so, we believed that it is not only in the exact situation when a patient call occurs, that is representative for how the patient call affects the practices at the hospital and the nurses' perception of its meanings. We needed to understand these aspect in a broader perspective. The multiple situations tied to the enactment of the patient call, gives incentive to the relations, perceptions and feelings surrounding the call, and substantiates the argument for the praxiography approach to be meaningful to perceive of these phenomena. Our observations provided us with the empirical data to obtain an understanding of these conditions. Additionally, we needed to gain a more in-depth understanding of the relationship between the users and the technology itself. As such, we found it relevant to use Peter-Paul Verbeek mediation theory, as this both aid us in outlining the concrete ways that the technology influence the users, but also how the relationship between users and technology shapes the practices at the hospital ward. Our conducted interviews, aided us in making sense of these aspects. By combining observations and interviews, through the VSD approach, we were able to both propose concrete design requirements for the application, and obtained a more in-depth understanding of how the human-technology relations affects the practises at the ward and thus the implementation of technology.



## Chapter 2. Theory

In this chapter, we will outline the theoretical framework that we will use to gain a deeper understanding of the phenomena under investigation. First, we present the theoretical background for Batya Friedman's VSD framework followed by the theory of Praxiography, developed by Annemarie Mol. Subsequently, we outline the theoretical standpoint of Andrew Feenberg, whose notions comes from the perspectives of critical theory. Lastly, we present Peter-Paul Verbeek's theoretical understanding of human-technology-relations and his theory of mediation and shortly address the theoretical frameworks of additional authors which contributes to the understanding of Verbeek's mediation theory.

### 2.1 Value Sensitive Design

Each day we are in contact with technologies that are developed with the intention of making our lives better, easier, funnier, expanding our social life or providing easier access to information. But not every technology fulfils its intentions, which means we are confronted with technology that can influence our life in a negative manner e.g. challenging our patience, family life, ethical and moral views or make us feel insufficient. In other words, the design of a technology can either support or undermine our human values (Manders-Huits 2011, 274).

VSD is an interdisciplinary field, mainly situated around human-computer-interaction, where focus primarily lies on addressing values of moral import. VSD emerged in the 1990's as a theoretical framework for incorporating human values into the design of technology and hereby trying to address the possible discrepancies between the designers' and the users' values, by identifying and reviewing human values implicated by technology use. This of course raises the question of what values, whose values and how to address them? These questions is what VSD seek to explore and incorporate by accounting for human values in a principled and comprehensive manner throughout the design process (Friedman and Kahn Jr 2000, 163; Jeroen van den Hoven, Vermaas, and van de Poel 2015, 750). VSD takes the position, that technological artefacts facilitate human values by being more suitable for certain activities and thus some values are easier to realize than others. For instance, a gun is more likely to inspire its user to shoot something rather than using it to hammer a nail. This stresses the notion, that VSD do not see values as embedded within a technology but rather implicated through engagement of the technology due to the fact that technology can be enacted in different ways; by shape, use and its psychical form and content (Friedman and Kahn Jr 2000, 163; Jeroen van der Hoven and Manders-Huits 2009; Jeroen van den Hoven, Vermaas, and van de Poel 2015, 15). It has been

argued by (Florman 1989) that technology is in fact value-neutral, and it is only when technology is in the hands of the user that values are created. The slogan from the National Rifle Association<sup>15</sup> “Guns do not kill people, people kill people” – is the main argument in the defence of the neutrality thesis of technology (Pitt 2014, 89). It is argued that technology is just a neutral artefact for human-beings to use for good or bad actions and decisions, thus the values enacted through the use of technology are to be blamed on the users and not the technology or designers (van de Poel 2009; van de Poel 2015). This view of technology being value-neutral was challenged by Batya Friedman, who is a professor at the Information School at the university of Washington with speciality in VSD<sup>16</sup>. She argued that whether designers explicitly address values in their designs or not, it is impossible to rid themselves of their own values and stay value-neutral throughout the design process. This means that the designed technology in some way reflects the designer’s values (Friedman 1999, 6). Friedman and colleagues define a human value as; *“what a person or group of people consider important in life.”* (Friedman, Kahn Jr., and Borning 2006, 2). They acknowledge that this is a broad definition and argues further, that human values can be found both on micro and macro scale level e.g. “my children” and “world peace”. Furthermore, they state that certain values are universally held but can play out differently within particular cultures and at a certain point in time. More so, they argue that the more concrete a value becomes the more cultural it is, and the more abstract a value becomes the more universal it is. The VSD approach attempts to address values on both concrete and abstract level depending on the design problem at hand. Friedman and colleagues stresses, that their definition of human values is an empirical proposition based on a large amount of psychological and anthropological data and that not all values can be considered universal, some are clearly culturally specific (Ibid., 14). The VSD approach is primarily concerned with the general values of; human well-being, human dignity, justice, welfare, and human rights and Friedman and Kahn argues that these values holds a moral and ethical epistemic standing related to the cultural context under investigation (Friedman and Kahn, Jr. 2003, 1186). To expand on this overall notion, they review and discuss 13 specific values that they find important to explicitly consider during a design process;

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<sup>15</sup> <https://www.nraila.org/>

<sup>16</sup> <https://ischool.uw.edu/people/faculty/batya>

- Human welfare
  - Ownership and Property
  - Privacy
  - Universal usability
  - Trust
  - Autonomy
  - Freedom from bias
  - Informed consent
  - Accountability
  - Identity
  - Calmness
  - Courtesy
  - Environmental sustainability<sup>17</sup>
- (Friedman, Kahn Jr., and Borning 2006).

Although Friedman and colleagues argue that these values should be used as general guidance points in the VSD approach, this notion is contested by (Borning and Muller 2012, 3), who suggest that it should be possible to employ VSD from a standpoint of values being prescribed through cultural specific context. Thus, we can apply the VSD specification of values from a pluralistic stance and define new values as important in this context, rather than ascribe to pre-given values as universally applicable (Ibid., 3). This is also why we perceive the praxiography approach to be a meaningful contribution to this investigation as we seek to investigate what values are inherent of the practices unfolding at the urological ward, without being focused on applying specific universal values rather than cultural specific ones.

## 2.2 Praxiography

The theoretical framework for this project takes its starting point in the ethnographic paradigm developed by Annemarie Mol who is a professor in ‘anthropology of the body’ at the University of Amsterdam and has a PhD in philosophy<sup>18</sup>. Our investigation took its point of departure in her framework of *praxiography* which is described in her book; “The Body Multiple: ontology in practice” from 2002 (Mol 2002). We used her notions of ethnographic investigation as an inspiration to develop the methodological approach for our investigation. Though praxiography is depicted here as a theory, it is debatable whether it should be viewed as a method or as a theory (Bueger 2014). For the main part, praxiography is used here as a theoretical framework though it leans closely to our methodology and as such the two are complimentary to each other and to a degree interconnected. Annemarie Mol states the following:

Because as long as the practicalities of *doing* disease are part of the story, it is a story about practices. A praxiography. The "disease" that ethnographers talk about is never alone. It does not stand by itself. It depends on everything and everyone that is active while it is being practiced. This disease is being done (Mol 2002, 31-32, italics and quotation marks in original).

<sup>17</sup> For an in-depth description of these values see; Friedman, B., and Kahn, P. H., Jr. (2003), *Human values, ethics, and design*. In J. A. Jacko and A. Sears (eds.), *The Human Computer Interaction Handbook*, 1177-1201. Mahwah Erlbaum) and

<sup>18</sup> <http://www.uva.nl/profiel/m/o/a/mol/a.mol.html>

In this quote, Annemarie Mol presents praxiography and argue that it is a method for ethnographers to study practices through various events, activities, physical environment etc. and that knowledge is found within these practices. Praxiography is a descriptive approach where knowledge is collected via qualitative methods such as observation, interview, photograph, drawings etc. used by the ethnographer to tell stories about practices. The praxiography approach does not focus on understanding peoples' perspectives on objects, but rather attempts to understand objects as things being manipulated in practice. This means praxiography shifts away from focusing on objects and instead foregrounds the surrounding practices and seek to investigate how objects are handled (Ibid.). Praxiography builds on her research on the disease atherosclerosis and how it is *being done*. The term of something being done is closely related to performance, which she equates to a theatrical metaphor of actors that perform new identities in a new reality. Mol illustrate this performed reality through Judith Butlers view on gender identity, which states that identity is not given; it is something people perform. According to Butler, identity is not yet fixed in the early stages of peoples' life but it is practiced through the acts being performed (Butler 1999; Mol 2002). Based on this, Mol describes an example of a patient, Mr. Gerritsen, and how his impaired body is being done in practice and how this offers relevant knowledge for the ethnographer; *"But in telling about the way he lives with his painful legs, Mr. Gerritsen also presents us with insight into the events that happen to someone with an impaired body."* (Mol 2002, 14). By letting Mr. Gerritsen tell his story, the interviewer learns how his everyday life is affected by his impaired body and what practical and material adaptations he must perform in his daily activities. As a researcher, it is important to ask questions of *how* the events are happening and not *why*. This is important as it provide the researcher with knowledge about the events that Mr. Gerritsen have lived through. Via such an interview the researcher obtain an insider perspective to living with an impaired body and how it is being done in practice. As Mol describes it; *"We can listen to Mr. Gerritsen as if he was his own ethnographer"* (Ibid., 15). Mol is not trying to uncover the deeper meanings that subjects assign to a given phenomenon but rather emphasizes practicalities, materialities and events. She describes this as the third step of social science, where the objects become part of what is being done in practice. The first step of social science, in the field of medicine, was to distinguish and delineate between disease and illness. The second step was to understand that, what is said about disease is relative to the patient who is telling the story (Ibid., 12). Mol states, that we are engaged in practices in our everyday life and the aim should be to study how objects are being enacted in these practices (Ibid., 31). The way objects are

handled tend to differ from practice to practice and thus the object is being done in multiple ways through multiple realities. An example could be to uncover and describe how a nurse is responding to a patient call; The nurse receives a patient call on her phone and immediately attends the patient in that she perceives calls from her patients to be very important and should be accommodated instantly. Another nurse in the same situation, will put the call on hold and attend the patient later, as she perceives the call to be of less importance. This example shows, that the patient call can be enacted in different ways. It is important to note, that all these enactments are connected in a network and should not be viewed as fragmented events related to the phenomenon. As Mol explains it; *“there is more than one – but less than many”* (Ibid., 55). This means that the object under investigation is enacted in multiple variants and at different sites. This is what Mol describes as *multiplicity* and it is in the framework of multiplicity that praxiography is trying to uncover, divide and describe how a phenomenon is enacted through different practices (Ibid.).

Though Mol’s praxiography theory draws on a well-established discourse of practice theory and practice thinking, it often tends to disconnect itself from the empirical narratives that it sets out to investigate and becoming more concerned with ontological considerations. Christian Bueger presents this critique and refer to Bruno Latour’s description of theories as hovering above the practice of science, rendering the theories as autonomous objects without connection to the empirical which they ought to enforce (Bueger 2014, 4). This is the challenge of doing a praxiography, as very few partisans of practice theory offer suggestions on how to coherently cope with the issues inherent in such a research strategy. Thus, it calls for heavy considerations on the methodological approach. If practice theory is carried out through a continuous “muddling through” methodology, it inherently will disconnect itself from the practice that it tries to understand. As Bueger describes it; *“To avoid practice theory becoming one of Latour’s ‘flying saucers’ disconnected from empirical work, we have to address the associations and connections between practices and the attempts to theorize them”* (Ibid., 4, italics in original). Following this, Mol points to the notion that praxiography or practice theory should not be viewed as theory per se but as a *“mode of engaging with the world”*, which is the philosophical basis for why we choose to address praxiography as mainly a theoretical tool (Mol 2010, 262). Bueger also stresses this notion through the following quotation: *“Praxiography is not a singular strategy. It has to be tailored to the problems and practices at hand. It requires mixing and blending different strategies into each other or inventing new ones in response to the material studied”* (Bueger 2014, 5). As such, the methodological approach to conducting praxiography

needs to be tailored not only to the specific research project, but due to its kaleidoscopic nature must be addressed through a broader methodological spectrum to embrace its many facets. Though it might appear strange to have a methodological discussion in a theoretical chapter, it is due to the notion that these two interconnect and that knowledge is bound to practice and as such it is hard to separate them into different entities. Theory and methodology form a coherent package (Ibid., 5). Bueger states that; *“Praxiography is first a useful term since it takes up the argument that the turn to practice is not primarily about theory, but about the practice of doing research. The term clearly indicates this shift in perspective”* (Bueger 2014, 5). More so, does praxiography distinguish itself from traditional ethnography by not being concerned with the aspects of culture, rather to engage in understanding implicit and tacit knowledge related to practice situations. In its most literal form, practices are regulated body movements which we as praxiographers believe is related to implicit knowledge which we try to decipher through the subsequent analysis. Decoding these practices and letting the implicit knowledge emerge through this, is the essence of practice thinking. More so, Bueger points to the involvement of artefacts in this context. He states:

Since the majority of practices deal with artefacts (e.g. writing requires a pen and paper), practices are often routinized patterns of behaviour using artefacts. Often a certain way of doing is inscribed into artefacts and they hence can equally be considered as carriers of practice. The core argument for considering practices to be basic or foundational is in the claim that they are anchored materially, primarily in bodies but also in artefacts. Bodies and artefacts give practice materiality (Bueger 2014, 7).

Through this notion, we need to conceptualize not only the actions performed by the people but also the use of artefacts and the implicit knowledge that create the structures for the ways they are handled. This is again founded in the premise of the use of artefacts in practices to have intrinsic meanings to it, which we as researchers attempts to interpret and reconstruct. According to Bueger, the attempt of praxiography is to turn implicit knowledge into explicit knowledge without forcing meanings upon the observed phenomena. Beside requiring a high degree of interpretation, it also seeks to identify situations where the objects themselves articulate implicit meanings although this is somewhat contradictive to the premise of the praxiography thinking. Though praxiography foregrounds implicit knowledge, it needs to a high degree to rely on data founded in explicit meanings, such as utterances, explicit rules and cultural codes to draw meaningful conclusions (Ibid., 8-9). This creates a sphere of dispersity to how and where to deploy your focus in doing praxiography, as practices can somewhat be understood as repetitive patterns, they are also dynamic, continuously shifting and rearranging

the patterns into new practices. As Bueger describes it; *“This place the praxiographers in the midst of a continuous tension between recognizing the dynamic, continuously changing character of practice on the one side, and the identification of stable, regulated patterns, routines, and reproduction on the other.”* (ibid., 11). As such, the researcher must engage the field prepared for contingency as there is no straight forward solutions to conceptualizing the knowledge withheld in practice observations. Bueger describes one aspect in this regard, as *minor adjustments* versus *major ruptures in practice*, which means to distinguish between smaller deviations from normal patterns and events that cause practices to fully break down. A possible methodological response to such major events can be to learn about practices through crises, where it might become eminent the patterns that are to be adjusted to a newly emerged situation (ibid., 11).

From praxiography, we progress to present our theoretical frameworks of critical theory and mediation theory. These provide us with deeper understanding of values as inherent in a more complex human-technology relation, where questions of morality and intentionality becomes apparent.

## 2.3 Critical theory and Mediation theory

In this section, we will present the critical theory of technology developed by Andrew Feenberg and subsequently present Mediation theory developed by Peter-Paul Verbeek. These contribute to a deeper understanding of the human-technology relations regarding the patient call and aid us in explicating how the values are tied to the practices unfolding at the urological ward. Andrew Feenberg holds a chair in Philosophy of Technology at the School of Communication at Simon Fraser University, where he directs the Applied Communication and Technology Lab.<sup>19</sup> His perspectives aid us in reflecting upon the causal effects of technological implementation and development in present day society. Peter-Paul Verbeek is a professor of philosophy of technology at the Department of Philosophy, vice dean of the School of Behavioural, Management, and Social Sciences, and co-director of the Design Lab at the University of Twente.<sup>20</sup>

### 2.3.1 Critical theory

In this investigation, critical theory contribute through its normative approach to reflexivity and its notion of re-evaluating technological progress through a scope of emancipating humans from the constraints of technology and foregrounding the values that “*ought to be*” (Rexhepi and Torres 2011, 689). Furthermore, it claims that the sociological, political implications of new technology cannot be separated from its technical development and therefore must be considered in relation to its potential socio-material causalities through an interconnection between different research disciplines (Ibid., 689). Though critical theory typically designates several generations of German philosophers and social theorists known as the Frankfurt School from the 1930’ies<sup>21</sup>, it is still being developed as a viable theory as it through combining the philosophical- and social sciences, allows for an enterprise to become practical in a specific moral, rather than instrumental, sense.<sup>22</sup> It also serves as methodological tool in that: “[...](critical theory) *is to be, above all, reflective on the social origins and consequences of all knowledge— especially its own.*” (Brincat 2016, 567). Thus serving as a reminder of the implications provided through the researchers role as also proposed by (Borning and Muller 2012) in relation to the VSD approach, as described later in chapter 3. Critical theory is as such closely connected to practice; as the production and understanding of facts and knowledge

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<sup>19</sup> <https://www.sfu.ca/~andrewf/>

<sup>20</sup> <http://www.ppverbeek.nl/>

<sup>21</sup> Critical theory was developed from Marx, Hegel and German idealism, it has later been followed by a number of authors, of whom can be mentioned Jürgen Habermas (Habermas 1993) and Andrew Feenberg (Feenberg 2002; Feenberg 2011).

<sup>22</sup> Bohman, James, "Critical Theory", *The Stanford Encyclopedia of Philosophy* (Fall 2016 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/fall2016/entries/critical-theory/>>.



changes over time, so is the goal of critical theory to understand the inherent in these changes which are created through thought patterns, material conditions and human institutions. Thus, the framework of inquiry must also change and deploy reflexivity to what contextual aspects and historical conditions brought about the construction of this particular framework (Brincat 2016, 566). In his article; 'Modernity, Technology and the Forms of Rationality', Andrew Feenberg presents the term *social rationality* (Feenberg 2011, 865). Social rationality refers to a group of phenomena based initially on the works of Georg Lukács called *reification*, which seeks to crystalize the fluid boundaries between social relations, institutions and commodities. Individual features of human situations are eroded through the conceptualization of the social world and are perceived as a *second nature* to be studied as a realm of facts and laws through the understanding of natural science and controlled by technology. But in contrast to natural science reification actually shapes the relations and objects it conceptualizes (Ibid., 866). As Feenberg describes it:

[...] reification is not merely a theory, but also a systematic practical relationship to the world. Reified practice constructs the world in the form of a collection of things governed by laws specific to the different domains into which society is fragmented. Reification depends on a peculiar attitude toward social processes that is unique to modern societies (Feenberg 2011, 866).

The point is, that subjects subdued to reified institutions are limiting their knowledge and behaviour to the manipulation of technology. Activities are restricted to mere objective manner of evaluation, disregarding human relations and implications in the process and causes a *reduction to function* (Ibid.). In this context, meanings come to denote the significance and associations that objects have in the life of which they are part of; food is not just a means of obtaining calories but is tightly connected to culturally established rules. The complex cultural associations with food is as much tied to its experienced reality as its content of energy and the richness of such cultural dimensions are lost if its functions are abstracted through the reified thought. According to Feenberg, this notion is applicable throughout many areas of social life, but nonetheless he concedes that it is the premise for the progress that has shaped society of today and that; "*nation states and cities depends on the generalization of social rationality*" (Feenberg 2011, 866). The concept of rationality is highly relevant when it comes to discussions of technology in society, as the argument for disastrous occurrences in the intent of progress can too quickly, and wrongly be ascribed to bad people making bad usage of neutral instruments (Ibid., 867). According to Feenberg, the common-sense rationale is corrupted by the very nature

of the system that are the foundations for this rationale, the acknowledgement of what is perceived as facts of life; the reified organizations of society is lived by individuals as the necessary form of their own experience. As Feenberg says: *“Only modern societies free instrumental activity from all concern with the essential and conceive a total technical system that embraces human beings as well as things in accordance with arbitrary plans”* (Feenberg 2011, 868). This outlines the opposition to technology proposed by critical theory, as a critique of the consequences of technological progress; that many human aspect of reality are ignored, but as Feenberg also acknowledge, we cannot go back to premodern times and as such must *innovate unprecedented solutions* (Ibid.). Feenberg refers to the ideas proposed by Herbert Marcuse, who believed that there are inherent normative truths in all human experience, such as beauty and ugly, tasteful and vulgar. Based on the environmental movements expressed in modern day politics, Marcuse argues, eventually lead to technological change and as such the design and development of technologies are no longer guided exclusively by the pursuit of power and profit. Marcuse’ position is unique amongst classic critics of technology, as he does not ascribe to regression to former states but recognizes the flexibility of technology and its potential reconfiguration under different social circumstances. The form of rationale and its relation to meaning is what bridge these ideas into the realm of newer social studies of technology; *“The key insight of the new field of technology studies is the role of social actors in the design of technologies and technical systems. The notion of “actors” dereifies technical practice by restoring human decision in the technical sphere”* (Feenberg 2011, 870, quotation marks in original). Feenberg points to Wiebe Bijker and *the social construction of technology*<sup>23</sup> as an example of a newer theoretical framework of technology studies, but on a second note could also be mentioned the VSD approach. These types of approaches translate social demands into technical design criteria and as such are bearers of social content in technical form. If such approaches arrive at similar conclusions as the ideas presented by Marcuse, they recognize; *“[...] that technological design is responsive to society and embodies a way of life, although it usually abstains from political references and philosophical reflection on the nature of rationality.”*(Feenberg 2011, 871). Furthermore, Feenberg acknowledges the ideas proposed by Marcuse through a progressive scope that link the transformation of technology to an ongoing process that is being strengthened as technology forthcoming presents a variety of problems, to which solutions must be found in the present. This development has two sides to it, a negative

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<sup>23</sup> For further reading see: Bijker, Wiebe E, Hughes, Thomas Parke, Pinch, T. J, and Douglas, Deborah G. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Elektronisk Udgave. -Anniversary ed. Cambridge, Mass: MIT Press, 2012

and a positive. The negative side is founded in the technological rationale, that perceive technology in its raw form of materials, disconnected from their natural background; a simplified understanding of its objects. The unanticipated side effects of such systems become significant as it is developed and eventually causes people to protest. Through such negative feedback the system is modified to reflect a more realistic understanding of the complexities at hand, thus leading to a raised awareness of the hybrid character of technology (Ibid., 871). The positive side of the development is founded in the colonization of users in pursuit of personal fulfilment through enhancing the technology to better suit their interests and via this revealing complex possibilities unanticipated by their original designers. It enables new forms of sociability and creative possibilities for ordinary people, where private unforeseen developments of technology offer feedback to the original design and gives rise to reflections of the technology's form and usage in relation to more complex human aspects. As Feenberg describes it: *"Values do not appear within the disciplines directly and immediately, but indirectly through mediations that address side effects and opportunities identified in protest, hacking and innovation."* (Feenberg 2011, 872). This is an improvement of the technology, both from a technological standpoint and from a normative judgement, and is an effect of the dynamic interaction of technical disciplines and public intervention which is the causality of present day society. Feenberg proposes, that modernity has unleashed technology by creating the conditions for independent rational systems to emerge and as such the social rationality is a productive, yet problematic feature of modern society, as he explains; *"The ultimate reality test for technology is public acceptance since the public must deal not only with each particular technology in its ideal setting but all of them together in the chaotic world of daily life."* (Feenberg 2011, 872). Though this might prove to be helpful in a world full of technology, as the informal common-sense rationality arising from everyday experiences, it might reach a new position in making judgement adequate to that of technical rationale. The benefits of such evolvment would be that the common-sense rationality is not limited to explanatory boundaries of causes and functions, but operates on the surfaces of the phenomena, where values and meanings circulate freely thus opening up to the unforeseen complexities of the world; *"Feedback from "reality" as it is experienced by ordinary people under these conditions is thus not extraneous to technology but essential to its successful development."* (Feenberg 2011, 872, quotation marks in original).

Feenberg's presentation of technologies and their effect on our society today, stands to serve as the overall framing of the human technology relations and its implications, thus presenting the broader philosophical context in which we are to understand our observed phenomena.

After outlining Feenberg's position in the realm of critical theory of technology, we continue to the positions presented by Peter-Paul Verbeek regarding a further expansion of human-technology relations.

### 2.3.2 Mediation theory

In this section, we will present Peter-Paul Verbeek's mediation theory. First, we outline the theoretical pre-conditions that has helped shape the development of his works and afterwards go further in depth with his theory of mediation.

Verbeek contests Feenberg's discourse that proposes humans and technology as opposing entities and claims that a more hybrid understanding of this relationship is needed. Verbeek attempts to present a broad theory of technology that actively deploys the notion of technological mediation through the premise of the hybrid relationship. This step towards a new theory of technological mediation is known as the empirical turn, where Feenberg represents the emancipating position that we as humans are to free ourselves from technology, Verbeek builds on the notion that these relations are interwoven and cannot be separated. Thus, we need to more thoroughly conceptualize these relations in order to fully understand its impact on society as a interdependent entity, rather than a strict subject-object divide (Dorrestijn, Van Der Voort, and Verbeek 2014, 286).

Don Ihde's post-phenomenology and Bruno Latour's Actor Network Theory [ANT] which both have their origins in phenomenology, are the two main contributors to Peter-Paul Verbeek's work on human-technology relations (Verbeek 2016, 5). Though post-phenomenology and ANT is often seen as in disagreement with each other, Verbeek attempts to integrate both positions in his framework of technological mediation. Verbeek argues that Latour's view on mediation of actions and Ihde's view on mediation of experience can be brought together and hereby creates a new concept of mediation where both perception and action plays an important role in his take on the relations between human and technologies. Additionally, Verbeek argues that both post-phenomenology and ANT tries to leave the subject-object divide in similar ways, as Ihde and Latour suggest that mediation can't simply take place *between* subject and object. Verbeek constitutes that mediation *co-shapes* subjectivity and objectivity (Verbeek 2005, 130). He states that; "[...] *any technology creates specific relations between its users and their world, resulting in specific experiences and practices.*" (Verbeek 2015, 28), which outlines the basic understanding of human-technology relations that is the foundational premise for his perception of human-technology interaction. Reality is constructed in the technological

mediation between humans and the world in that; *“Technology mediates our behaviour and our perceptions, and thereby actively shapes subjectivity and objectivity: the way in which we are present in the world and the world is present to us.”* (Verbeek 2005, 203). More so, he claims that a common misunderstanding in the field of design is the perception that technologies are designed to be used and therefore the overall notion becomes, that the quality of a product depends on its functionality and usability. In the human-technology relation, not all technologies are designed to be used per se (e.g. a smoke alarm placed in a restaurant is not used actively by the visitors) and technology cannot merely be reduced to being instrumental objects; *“[...] the relation between humans and technologies is in fact part of a larger relation, between human beings and their world, in which technologies play a mediating role.”* (Verbeek 2015, 28). Thus, we must understand technology in a more complex and nuanced way, than as the mere presence of artefacts that neutrally exist and linger in our daily lives. To do so, Verbeek outlines three aspects of conceptualizing the understanding of human-technology relations described as; (a) technologies as extensions of the human, (b) the dialectics between humans and technologies, and (c) the hybridity relation (Ibid.). Extensions of the human (a), perceive technology as tools that facilitate human practices and experiences, where technology is viewed as being morally neutral. The dialectic relations (b) between humans and technology, is situated around the tension that can develop between the two, where technology to a certain degree takes over humans physical and cognitive capacities and that technology possess a level of cognition that assist humans in thinking, remembering and experiencing (Ibid., 29). Verbeek perceive a fundamental problem with relation (a) and (b), as it positions humans and technology in two distinct spheres, the subject (humans) and the object (technology), as this fails to grasp the complex intertwining of this relationship. He argues that we must approach human-technology relations in a more hybrid manner to fully understand the complexity of this relation. Thus, he places himself in the last aspect of this conceptualization; (c) the hybridity relation. The hybridity relation builds on the notion, that technology and humans help shape each other, where every element of human existence take shape in close interaction with technology. Thus, technology plays a mediating role in shaping the human perception of the world and ultimately shaping humans’ relation to the world, in other words the human-technology understanding must be expanded with a direct connection to ‘the world’ (Ibid.). From this position, Verbeek has developed his mediation theory with which he seeks to address this complex relation through a more concrete framework to understanding and analyse these phenomena.

Mediation theory builds on three dimensions in the human-technology-world relations; (1) *Relations*, (2) *Points of Contact* and (3) *Types of Influence*. The concept of relations (1) is a development from Don Idhe's schematization of his different human-technology-world relations, which he described as:

- *Embodiment relations*: (human-technology) → world
- *Hermeneutic relations*: human → (technology-world)
- *Alterity relations*: human → technology (world)
- *Background relations*: human (technology/world) (Verbeek 2015, 29).

Verbeek argues that these categories are inadequate to suit all present day's advanced technologies and proposes an expansion of the configurations. He includes what he calls

- *Cyborg relations*: human/technology → world, e.g. brain implants.
- *Interactive Context*: human ↔ technology/world, e.g. face recognition technology or environmental feedback such as special lighting or advertisement.
- *Augmentation*: (human-technology) → world + human → (technology-world), e.g. Google-glasses which augments the entire experience of reality (Verbeek 2015, 29–30).

The second dimension of mediation concerns the *Points of Contact* (2), which refers to the types of connections between humans and technology. Dorrestijn, Van Der Voort and Verbeek, presents through their product impact model, four zones that represents different points of contact;

- *Before the Eye*
- *To the Hand*
- *Behind the Back* and
- *Above the Head* (Dorrestijn, Van Der Voort, and Verbeek 2014, 287)

Before the eye, refers to technology that influence our lifestyle through *guidance, persuasion and interference*; to be intrusive on the human behaviour with the aim of designing for intended use. This type of technology attempts to affect the human decision-making process, a kind of cognitive manipulation (Ibid.). To the hand, is a more physically oriented perception, foremost the notion of *coercion*; such as speedbumps that limits speed or limited administrative rights to management of programs on a work-computer. It also entails *subliminal effects* such as the smell of fresh bread to enhance the shopping experience of customers by altering their buying mood (Ibid.). Behind the back, is concerned with environmental factors that again alters the way humans behave, e.g. surveillance cameras that can either enforce people's moral behaviour or cause an increase in feelings of insecurity. Which illustrates potential conflict in the designed intention of the technology, which is referred to as; *environmental conditioning of subjectivity*

(Ibid.). Above the head is a more abstract aspect, that address philosophical claims on the impact of technological hybridity on society. This ranges from *utopian* beliefs in progress through technological advancement to *dystopian* fear of domination e.g. that technology will cause massive unemployment due to technology taking over human occupations (Ibid.). The first two zones concern how humans encounter technologies physically and cognitively and the latter two are ambient and contextually oriented. The third dimension is, *Types of Influence* (3) and builds on the aspects developed by (Tromp, Hekkert, and Verbeek 2011) who have further distinguished two ways through which we can assess the mediating role of technology; *Salience* and *Force*. Within the realm of salience and force, a technology can present its influence on human beings between the *hidden* or *apparent* on one side, and the *strong* or *weak* on the other. An example of a strong and apparent technological influence, happens when you use the subway and the turnstiles force you to buy a ticket before entering the subway or the car won't start until you have your seatbelt fasten, also referring to the above described term of coercion. Milder variations referred to as *persuasive*, can be seen in e.g. dashboards in cars that presents feedback on energy consumption, which represents apparent and weak influences. A hidden and weak influence, referred to as *seductive*, presents itself in milder and more non-cognitive ways such as the placement of coffee machines in a hallway to promote social interaction. The last configuration, hidden and strong, can be seen in e.g. buildings without elevators indirectly forcing people to use stairways instead, applying its influence without being noticed. This is referred to as *decisive* or *implicative* influences (Tromp, Hekkert, and Verbeek 2011; Verbeek 2015). Through this framework, we can assess in which way the technology in our investigation is exerting its influence on the users and how this influence affects their perceptions of work practices and how it comes to show through our observations. This is a practical way of structuring our data and help us conceptualize the individual details of the situations more clearly, but to grasp the complexity of our investigated phenomena, we need to expand these notions into a more in-depth theoretical framework. Thus, we will address the concepts of morality- and intentionality of technology and also touch upon the concepts of agency and freedom in this regard.

Various positions review the notion of morality of technological and whether artefacts themselves should be considered agents of morality; what does it mean to be an agent and can artefacts possess intentionality and freedom? Where some consider them as agents (Floridi and Sanders 2004), others view them as an entity that help steer peoples moral behaviour (Latour 1992; Johnson 2006) and some do not believe artefacts to be in consideration in questions of

moral responsibility (Swierstra 1999 in Verbeek 2011).<sup>24</sup> Though these positions do view morality of technology from different perspectives, Verbeek conclude that by presenting these positions we can acknowledge that technologies are morally significant because they have a morally relevant impact in shaping society. He believes that to equate things and humans in the sense of placing responsibility is too radical, but acknowledges that technology play a role in the morale community and propose material answers to moral questions of acting (Verbeek 2011, 42). In line with this, Deborah G. Johnson argues, that for an artefact to be considered a moral agent it must be able to act intentional and the intended act become possible only in a realm of freedom. She does not see technological artefacts as being free in the same way humans are free, because artefacts are human made and therefore are created to behave in a certain way (Johnson 2006, 198–99). Even though the behaviour of e.g. a computer system is preconceived by designers to be used in a specific way, with a certain intentionality in mind, when activated, the computer system can deploy several autonomous actions without human interference. Through this, Johnson argues, that technological artefacts possess intentionality created by their designers, and that the act of designing the technology requires intentionality in itself, thus making design more than a value neutral set of instruments that produce a value neutral output (Ibid., 201–202). This goes to show, that technological artefacts, though not to be considered as moral agents themselves, but as moral entities that mediates some form of intentionality. Even though, a computer system deploys a range of connections between non-human entities, these reflect the designers' intentionality. The user of the technology will use it with his perceived intentionality in mind, thus creating an outcome that may or may not be in coherence with the original intentionality of the designer (Ibid., 201). For instance, when a patient at a hospital ward, based on his perceived intentionality, presses the patient call, the technical functionalities of the patient call runs through a set of processes and informs the nurse that the patient has pressed the button. This process is created by the designer with an intention for the patient call to act in a certain way, created with a specific intentionality in mind resulting in certain corresponding behaviour. Thus, is the intentionality of the technological artefact connected to the intentionality of the designer and the intentionality of the users, and through this intentionality cannot be disconnected from the question of morality and therefore technology can be considered as a moral entity, possessing some degree of agency (Ibid., 202).

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<sup>24</sup> Swierstra, T. E. (1999). Moeten artefacten moreel gerehabiliteerd? *K&M—tijdschrift voor empirische filosofie*, 23(4), 317–326.



From this standpoint, we make use of Verbeek's theory of *moral mediation* to further conceptualize the notions of technologies as moral entities. He presents the term based on Latour's notion of artefact that; though not being moral agents themselves, are something that *have* agency which can mediate certain moral behaviours. Though Verbeek stresses that artefact will not have agency until they are contextualized with other agents (Verbeek 2011, 52). As Verbeek describes it:

Moral mediation always involves an intricate relation between humans and nonhumans, and the "mediated agency" that result from this relation therefore always has a hybrid rather than a "purely nonhuman" character. When technologies are used, moral decisions are not made autonomously by human beings, nor are persons forced by technologies to make specific decisions. Rather, moral agency is distributed among humans and nonhumans; moral actions and decisions are the products of human-technology associations (Verbeek 2011, 53, quotation marks in original).

Verbeek's point is, that even though we as humans are the ones holding free will and intentionality, technology affects our capacity to have intentions and help us shape the directedness of our moral intentions to the world. Thus placing technological artefacts in the realm of intentionality (Verbeek 2014, 81). Though Verbeek ascribes to Latour ideas of contextual interplay of moral agency, he also points to the notion that artefacts sometimes have unintended roles, he uses Latour's example of speedbumps; they might cause drivers to slow down, but might also attract local skaters to use them, thereby compromising traffic safety in a different way. Therefore, they cannot be assigned directly with moral agency, as it would be going too far to explain these derived effects as moral actions. Moral mediation is better suited term, as it imposes both the active role of technologies and the contextual role of which they are a part of (Verbeek 2011, 52). Verbeek outlines his view on technologies influence on human morality through the following quotation;

The ways in which technologies help to shape our actions and the interpretations on the basis of which we make decisions, after all, determine to a high degree what can be recognized as a moral obligation, what moral problems are morally relevant, and what persons have specific moral responsibilities. Technologies shape us as specific moral subjects (Verbeek 2008, 23).

This shows the importance to stress that technology and morality should be seen as interdependent when doing design and that the intentionality and use of technology plays a role in the moral actions that are mediated by technology. Verbeek do not see technology as having intentions like people do, but their intentionality lies in their ability to direct and control human

actions; human intentionality is mediated by technology (Ibid., 24). Through the conceptualization of mediation of technology, we can understand the moral significance that technologies can have on our actions and decisions and how technology plays a mediating role in our everyday life. When investigating how a digital version of the patient call can impact the users' values in the practice of nursing, we can provide the designers with information about the mediation role that the technology can play and what moral obligation are withheld in the use of the technology. When investigating moral values Verbeek states; *"Rather than starting from pre-giving normative frameworks that can be applied to technology, it starts from identifying and analysing normative issues that arise in people's 'everyday morality'."* (Verbeek 2016, 202). Thus, the VSD approach in combination with theory of moral mediation becomes a relevant fulcrum for our investigation, as it enables us to explicitly make people's everyday moral considerations available for analysis and reflection and adding these specific moral values to a later design of the patient call application.

## Chapter 3. Methodology

In this project, we have used qualitative research methods to conduct our investigation. The aim was to identify values that the nurses and patients attach to the present patient call at a urological ward at major hospital in the capital region of Denmark, and link these values to the design of a mobile device application, intended to replace the present patient call. We made use of the VSD approach, presented originally by (Friedman 1999b) and later iterated by multiple authors such as (Manders-Huits 2011; Borning and Muller 2012; Steen and Poel 2012; van den Hoven, Vermaas, and van de Poel 2015). VSD defines the overall methodological research structure and is developed through ethnographic field methods in the form of participant observations and interviews. The individual aspects of our methodology are described in the following.

### 3.1 The Value Sensitive Design Method

The VSD approach is a consideration of human values during design, implementation, use and evaluation of technologies and is comprised of a tripartite method through a conceptual-, empirical- and a technical investigation (van den Hoven, Vermaas, and van de Poel 2015). The conceptual investigation entails two aspects. First, we identify direct and indirect stakeholders of the technology e.g. those who use surveillance equipment to monitor a given area (direct stakeholders) and those being observed – knowingly or unknowingly (indirect stakeholders). Secondly, we identify and define the values related to the use of the technology and analyse these in relation to the setting under investigation. In the above mentioned example, the values at play could be those of security and privacy, as both arguably could be related to the surveillance scenario but obviously are at conflict with each other and should both be accounted for (van den Hoven, Vermaas, and van de Poel 2015). The second step of the tripartite method is empirical investigation, which seeks to examine the users' understandings and experiences regarding the use of the technology. This serves to enlightening potential value conflicts in the subjects use of the technology and examine if the technology overall corresponds to the conceptual set of values as described above. This investigation can deploy the full array of socio-technical investigation methods for qualitative research such as interviews, surveys, participant observations etc. (van den Hoven, Vermaas, and van de Poel 2015; Botin and Nøhr 2015). The third step is a technical investigation, which specifically concerns the features of the technology and in detail accounts for its potential violation of the earlier investigated values, in the context of where the technology is being used. Even though the original outlining of the method is structured as a somewhat rigid iteration, some authors has argued for a more intertwined usage

of the tripartite method steps. As these modes of investigation naturally unfolds themselves in overlap, they prove difficult to distinguish clearly and secondly is influencing one another in such a way that it hardly seems meaningful to view them as isolated modules of activity. Likewise, should the prescribed ordering of the steps not necessarily be applied in the chronological order but can be applied as the researcher sees fit for his particular investigation (Manders-Huits 2011; Borning and Muller 2012; van den Hoven, Vermaas, and van de Poel 2015; Botin, Nøhr, and Bertelsen 2015).

Defining values in the VSD approach can be a delicate matter, as the early publications on VSD propose that values can be prescribed as universally applicable and has suffered some critique for this notion by e.g. (Manders-Huits 2011; Borning and Muller 2012). Borning and Muller find it to be a problematic claim that a certain set of values is universally applicable but rather should be viewed in direct relation to the cultural setting of the investigation, as local norms and values are highly variable. It is important to make explicit the exact cultural context in which the investigation is taking place, which also correlates with their view on informants as valid sources in this regard, being equal to the interpretations of the researcher. Considering its close relation to the participatory design tradition, it seems logical that a VSD approach could benefit from sharing power in this sense between researcher and informants. As Borning and Muller writes; *“The participatory design tradition has demonstrated the value and fidelity of informants speaking for themselves”* (Borning and Muller 2012). Following this line of thinking, even if some values are universal it still would not be possible to make universally applicable designs due to the different ways that cultural interplay unfolds. Nonetheless, Borning and Muller argues that it should be possible to deploy the VSD approach to any setting, whether one ascribes to the notion of values as universal or values as being contextual and socially constructed (Ibid.). The main point being, that VSD should not be used in its traditional rigid form as it omits important aspects of culture and context and that the tripartite steps are always intertwined and should not be perceived as separate modules as described earlier (van den Hoven, Vermaas, and van de Poel 2015, 16). Alongside this discussion is Noëmi Manders-Huits, who argues that VSD is not explicit enough in its methodology regarding how to define stakeholders and values, as well as lacking a complimentary ethical theory to help answer the questions that unfolds in the slipstream of such investigations. She claims there is a need in the VSD approach to induce a normative component; a way to define what is to be considered as values in order to structure a clearer hierarchical order of these values as well as distinguish between general values and moral values (Manders-Huits 2011, 284).

### 3.1.1 Deploying Value Sensitive Design

For our investigation, we came to deploy the VSD approach in reversed order, meaning that our primary goal was to conduct a conceptual investigation which could be used as a stepping-stone for the engineering students in designing the prototype for the patient call application. The conceptual investigation is traditionally the first step in the VSD approach, but we initially did a technical investigation of the present patient call system, as our reasoning was that; whatever values are important in relation to the use of the present system should act as requirements in the development of the new one. Following this, we conducted the empirical investigation which supplied the data to proceed in making a conceptual investigation. Thus, the aim was not to proceed the investigation towards the technological investigation of a technology and hold it accountant in relation to the conceptual investigation, as the technology in need of conceptual input did not yet exist. We have illustrated our work progress in figure 2. It seemed logical in this investigation to apply the VSD approach in this order, as it also corresponds to the purpose of VSD not just to serve as method of

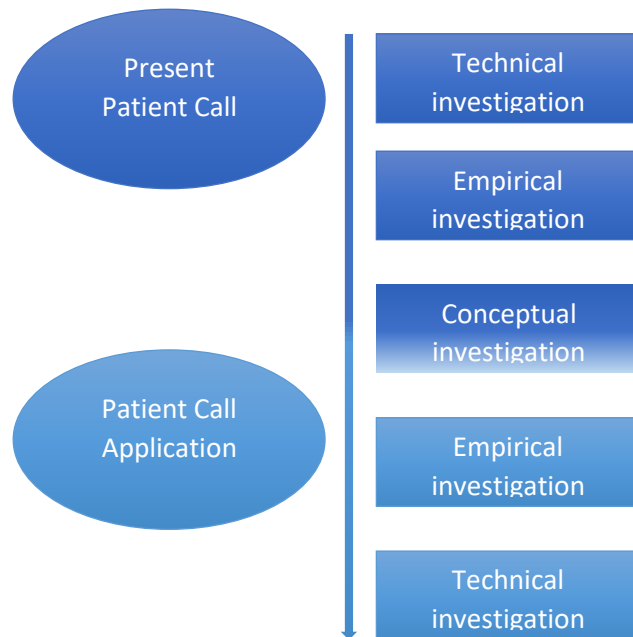


Figure 2

inquiry for already existing technologies, but as a way of integrating the human values in the design process. As such, our investigations became an interconnected process of the three investigation phases. This is to be understood, that the empirical investigation was the initial focus in this project but it also includes both technical- and conceptual investigation.

Following these different types of investigation, is the concept of translating the identified values into concrete applicable design requirements. What is important to note in this regard, is that the specification of the values is tied to specific aspects of the enactment of the value, the content and context that is the foreground for concluding the presence of the values. The other aspect that needs to be distinguished from specification, is the conceptualization of the values, which means to define what is contained in the values and clarify their meaning in the specific context of investigation (Poel 2013, 261). The specification of values is done in chapter 4 and the conceptualization is described in the bottom of this chapter. To fulfil the purpose of

the VSD approach, we need to specify certain properties and attributes, that the patient call application must possess and that these requirements are informed by the defined values. The requirements are meant to guide the design process and as such is the prime target for investigation through the VSD approach (Ibid., 254). To create a more concrete process of defining design requirements, Ibo Van de Poel describes the notion of constructing a; “*Value Hierarchy [...] a hierarchical structure of values, general norms and more specific design requirements*” (Ibid., 254). Figure 3 shows an example of a value hierarchy.

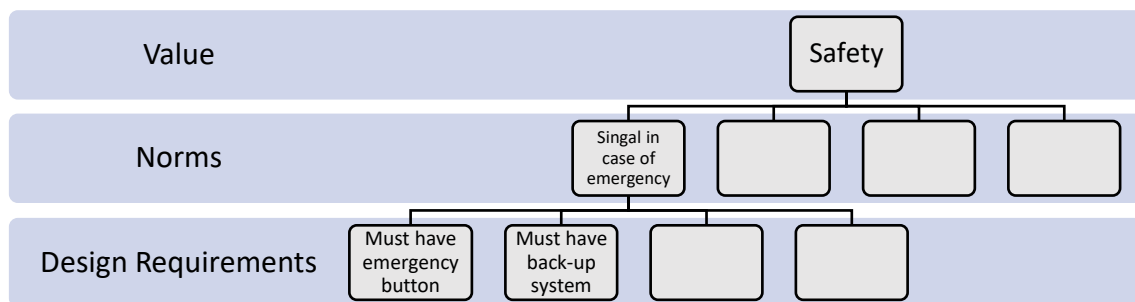


Figure 3

Value hierarchies are constructed with the conceptualized values at the top and often contains an intermediate layer of norms, which is to be understood as contextual prescriptions and restrictions for practice that are attached to these values. Through this layer, we can condense our values into concrete and tangible design requirements that the new technology must fulfil to support the identified values. These norms can be categorized into *Objectives*, *Goals* and *Constraints*. Objectives refer to strivings towards e.g. maximum safety, without more specific definition of the shaping of this requirement. Goals, specifies a given target for the technology which could be; “The patient call application should be able to display triage of patients”. Constraints, refers to boundaries and minimum requirements, such as; “The patient call application must have a backup system to alarm in case of system failure” (Ibid., 258-259). The value hierarchy can be constructed from a top-down approach or bottom-up approach, or a combination of the two which is the case in this project. This is also due to the fact, that the process of explicating values was a discussion we began immediately following our data collection, but the collaboration with the engineering students called for simultaneous debate about the connection to concrete design features. The concrete construction of a value hierarchy for this investigation, is illustrated and explained in chapter 4.

### 3.2 Technical investigation

The technical investigation will briefly be presented in this section, as the more detailed description is included in the analytical chapter. It was initiated during the first meeting with our collaborators from CIMT and the engineering students, where we were presented with the physical shaping of the present patient call. Later, the technical investigation of the present patient call was integrated in our empirical and conceptual investigation. We obtained observations of the use of the patient call in practice, as well as a detailed demonstration by a nurse at the urological ward.

### 3.3 Conceptual investigation

In our conceptual investigation, we chose not to lean on a specifically prescribed set of values, but tried to let the data speak for itself in unveiling what came to be of most importance in the life of our informants. Obviously, the meanings and values drawn out in our data processing are a product of our interpretations and meaning-condensation of conversations and practice descriptions, and as such it can be difficult to define data as speaking for itself. Nonetheless, we tried to apply this viewpoint which is derived from (Borning and Muller 2012, 2) who points to the importance of making the context of the researcher more explicit in publications to more clearly recognize the researcher's pre-understanding of the field. Applying this layer is widening the contextual perspective as this supply the reader with a understanding of the researchers level of impartiality, or in this case rather the opposite (Ibid., 2). As we both come from a healthcare background it is to be expected that we have pre-perceived notions of what values a group of nurses holds regarding their work, and this knowledge obviously affect the interpretations and analysis of the data. The impartial aspect being, that since we come from the same professional sphere as the informants in this case, there is a high probability of the nurses' perception of values being in line with our own. As mentioned earlier, the notion of not searching for a specific set of universal values contrasts with the traditional approach to VSD which has later been contested by authors like (Manders-Huits 2011; Borning and Muller 2012). Thus, we felt confident in proceeding with a VSD approach that we iterated to best fit our project with values not being drawn from a theoretical set of universal values. Instead, we sought to let the values emerge from our empirical data.

### 3.4 Empirical investigation

For the empirical investigation we decided to make use of the following methodological tools; interview to the double [ITTD] (Nicolini 2009), participant observation (Mack et al. 2005) and semi-structured interview (Kvale and Brinkmann 2008) They were conducted in a three-step approach as illustrated here:

1. Interview to the double
2. Participant observation
3. Semi-structured interview

This three-step empirical investigation was inspired by Enrique Uribe-Jongbloed who used this approach in his research on identity negotiation in minority language media (Uribe-Jongbloed 2014). First, we conducted the ITTD to gain an understanding of what is being done at the urological ward, how relevant the phenomenon might be and how much of a routine it is. Secondly, the participant observation was conducted with the purpose of studying whether the information given in the ITTD, was representative of the everyday practice observed. Lastly, the semi-structured interviews were used to gain a more in-depth understanding of the observed phenomenon's. The reason for initiating our data collection with an ITTD, was to grant us a window into the practices at the urological ward and helped us get an understanding of the everyday routines unfolding there. By starting with the ITTD, we hoped to be able to observe the phenomena more nuanced and focused as we ventured into the field, and be more effective and structured in what data was relevant for us to observe. The observations helped us gain a deeper knowledge of the daily practices at the urological ward and served as a way for us to see how the description given by the informant in the ITTD unfolded in the real world. The semi-structured interviews were then constructed, based on the experiences gained through the ITTD and our observations. The first two data sets served to uncover the overall structures of practices, through which we could get a deeper and more nuances understanding of in our semi-structured interviews. In the following sections these empirical investigation methods will be presented in detail.

#### 3.4.1 Interview to the double

As mentioned above, the first step of our empirical investigation was an ITTD conducted with the assisting department-nurse at the urological ward. The ITTD is a technique where the researcher asks the informant to imagine they have a double who is to replace them in their job the next day, and must instruct the interviewer how to perform the job. The intension is to



create articulations and re-representations of the practices in relation to the life of the informant. Nicolini states:

I will operate on the assumption that practice constitutes a molar phenomenon that must be explored along different dimensions and moments. Because of its multifaceted and complex nature, practice can never be captured by a single method or reproduced through one single style of writing (Nicolini 2009, 196).

This quote frames Nicolini's notion of how to approach the field of practice. This inspired our choice of ethnographic methods for data collection and the theoretical framework in this project. According to Nicolini, the ITTD should be kept as an unstructured conversation where the researcher intervenes as little as possible, which creates a narrative story where the informant gets an opportunity to tell about the activities, events and situations that unfolds during the day as well as what tools, artefacts etc. is being used (Ibid.). Our aim was to identify how an everyday working shift unfolded for the nurses at the urological ward, or in other words; identifying the practice of the nurses. We emphasized to the informant that we were not interviewing him to evaluate on his job, but that we were trying to comprehend how his work practice unfolded. Therefore, we began by explaining that he should describe how his work *is* done and not how he thinks it *should* be done. This was an attempt to distinguish between the normative descriptions of how is practice ideally done and how is it actually being done, as these aspect are always going to be enmeshed in the ITTD and the narratives will often tend to become; *"Moralizing and largely idealized stories"* (Ibid., 203) This is not solely a bad thing, as it grants us access to exactly the normative and moral views on the healthcare practice and through this might offer us indications of what values that are important for the nurses. Thus, it is Nicolini's point that through the ITTD will emerge; *"The normative and moral texture of the local practice [...] the local good [...] and the grammar and accountability that sustains such good"* (Ibid., 204). Through the ITTD method, the informant is turned into an observer of his own working environment, which leans closely to Mol's idea of making the informant his own ethnographer (Mol 2002; Nicolini 2009). Both Mol and Nicolini argues, that this does not necessary mean that the informant is a good ethnographer and Nicolini adds to this notion, that the informant often disregard some of the work they do and take it for granted thus not regarding it as important information for the interview. It is possible that the informant is normally unaware that he performs certain tasks, as they are just a small part of a daily work routine that does not require special attention. Nicolini presents an example: *"[...] all the contradictions and ambiguities of daily activities are hidden or showed to be demonstrably*

*solvable (deciding whether cells grow healthily or not is extremely complicated) [...]*" (Nicolini 2009, 204). Nonetheless, these informations are important to gain a comprehensive understanding of the entirety of the practices enacted (Ibid.). Nicolini makes it clear, that the ITTD can be used as a stand-alone method, but its potential highly increases when supplemented by participant observation because the ITTD can help reveal (a) less common characteristics of the practice, (b) the concerns and matters to take care of and (c) what activities the nurses is accountable for. In addition, the data generated from the ITTD can be compared with the data observed. This can support the researcher in uncovering and describing how a phenomenon is enacted by multiple subjects and in different settings. This also ensures to uncover alternative versions of practice and not only the one being told through the ITTD, thereby ensuring a nuanced depiction of the investigated phenomenon (Ibid., 205).

#### 3.4.2 Participant observation

*"What people say they believe and say that they do are often contradicted by their behaviour."* (Mack et al. 2005, 13)

This initial quote is from Natasha Mack and her colleagues in the book: *Qualitative Research Methods: A data collector's field guide*, and stands to serve as an illustration of our point of departure in designing the methodological approach for this investigation (Ibid.). If we chose to acknowledge the truth in this statement, the natural human inconsistency in reporting one's own activities needs to be checked, and observation is a powerful tool in this regard (Ibid., 13). This notion was the basis for conducting our investigation the way we did and naturally leads us from the ITTD to collecting data via observation. Participant observation is a method, where the researcher tries to learn how life is for an insider while studying the multiple perspectives that unfolds in a community's daily activities. The researcher participates in the environment in various degree to gain knowledge of the diverse perspectives and interplay among the subjects. Through this, the researcher tries to understand a multitude of physical-, social-, cultural-, and economic contexts as well as the subjects relationship amongst each other, their ideas, norms, and values (Ibid., 13-14). To gain a nuanced understanding of the phenomenon under investigation, the researcher must become familiar with the cultural milieu that he is engaging and this can best be obtained through participation. It also grants the possibility for the researcher to build a trustworthy relationship between him and the field and through this uncover previously unknown information crucial for understanding and interpretation of the data. As stated by Mack et. al.:

There is no substitute for witnessing or participating in phenomena of human interaction – interaction with other people, with places, with things, and with states of being such as age and health status. Observing and participating are integral to understanding the breadth and complexities of the human experience (Mack et al. 2005, 14).

Obviously, the matter of conducting participant observation can be a complex process as vital information is often obtained through various little details, informal conversations and daily routines that at first might appear irrelevant. The sum of all details is what creates a deeper understanding of the subjects and their relations to the environment and thus the researcher must strive to record as much information as possible throughout the process. This is typically done through field notes and should be kept as detailed and objective as possible. The researcher must remember, that important factors may reveal themselves at later times and thus be careful not to judge information as irrelevant though it might seem so at the time of observation. This is one of the advantages of this method; though we might get truthful answers to our research question, we might at the same time learn that we are not asking the right questions (Ibid., 14). In line with this, the participant observation method serves as a great tool to support data collected via other methods and e.g. support the researcher in designing questions for a subsequent interview, as was also the reasoning behind our choice of structuring the data collection. This way we could obtain a far more nuanced understanding of the phenomenon under investigation, than what would be gained through a narrower data collection (Ibid.). Though participant observation has a lot of advantages, it is a very time consuming process, with the difficulty of documenting the data because it is hard to write down everything exactly as you experience them. The quality of the data depends very much on the researcher's memory and discipline to expand the field notes as soon as possible after the observation has been conducted. It is important that the researcher can distinguish between his own interpretations of what he believed happened in the field and what actually happened, which can be rather challenging and requires a lot of practice (Ibid., 14-15). We used the participant observation as a stepping stone for our last stage of data collection, and it allowed us to develop more focused and applicable semi-structured interviews.

### 3.4.3 Semi-structured interviews

The third and final step in our empirical investigation was to conduct semi-structured interviews with two nurses at the urological ward. The purpose of these interviews was to further identify related values in their work routines regarding the practices surrounding the patient call. The interviews were conducted as semi-structured interviews, based on the information given in the ITTD and our observations, and featured both authors as interviewers.

Steinar Kvale and Svend Brinkmann argues, that the qualitative semi-structured interview is a form of structured conversation with the aim of understanding themes from the informant's everyday life, through his or hers own perspectives (Kvale and Brinkmann 2015, 45). Based on a phenomenological way of understanding knowledge, this type of interview has 12 main aspects which are; *everyday life, meaning, qualitative, descriptive, specific, deliberate naivety, focus, ambiguity, change, sensitivity, interview situation, positive experience*, which all acts as a guide to create the qualitative narrative description of a phenomenon (Ibid., 50-51). Thus, this type of interview seeks to examine and understand a phenomenon from the informant's perspective and the interview is structured with the aim of gaining a cognitive clarification of the given subject (Ibid., 47). The semi-structured interview is built up of thematic questions which are prepared beforehand and acts as a guideline for the interview, though the conversation itself is open ended. In the semi-structured interview, knowledge is actively produced through a relation between the interviewer and the informant and thus it is contextual, linguistic, narrative and pragmatic in its form (Ibid., 39). This has to do with the qualitative interview being rooted in phenomenology and the social construction of knowledge, that basically focus on the assumption that the subjects experience of reality is of most importance. The interview attempts to understand themes from the daily lifeworld of the informants from their perspective, with the intention of interpreting the meaning of the described phenomenon (Ibid., 48-49). In this type of interview the investigator often interferes as little as possible with the informant's descriptions, but this also poses a methodological bias as the validity of such descriptions are questionable. The informant needs to recall the situations under investigation from memory and describe how the informant experienced it (Ibid.). Our interview guide was constructed on the foundation of the previously collected data, which meant we could construct questions more precisely aimed at the themes we found relevant to further investigate. The semi-structured interviews allowed us to get more in-depth information about situations observed, conversations overheard, the use of technologies and possible underlying reasons for observed practices.

### 3.5 Data processing

Our data processing started with a transcription of the ITTD and from this we could identify various themes in how the work practice at the urological ward unfolded. This provided us with an overall sense of the structures of the work practices which aided us in narrowing down our focus of observation. While conducting observations, we took notes as detailed as possible given the circumstances, and attempted to capture precise accounts of relevant conversations and statements. After our observations, we immediately sat down and recorded the field notes in as full details as possible on a computer file, while the observations were still clear in memory. The semi-structured interviews were also transcribed, and subsequently colour coded according to themes. Inspired by a phenomenological approach to meaning condensation, we tried to identify themes in our data which related to the phenomenon under investigation from an ad hoc approach of structuring and understanding our data (Kvale and Brinkmann 2015). This was done by reading through the material and colour each section of text in our transcriptions or field notes if we found it to be in relation to one of the themes. The themes were the following:

- Patient call related
- Collaboration between staff members
- Physical work environment
- Pedagogical interactions between nurse and patient

Through this, we could get an overview of the different sub-themes withheld in the depiction of the work practices. From this we could begin to examine and discuss the intrinsic aspects tied to these enactments and how they potentially related to values underlying these specific actions. We identified three overall values, that we believed to identify through the data and we categorized each part of the interviews and observation notes in accordance with these values; meaning that each value was substantiated by a range of quotes or situation descriptions tied in some way to a specific moral value. This enabled us to conduct our conceptual investigation from a value centred condensation of data, which could then be further analysed through our theoretical framework.

All our data was obtained and transcribed in Danish, but for sake of comprehension, all included citations from our data is translated to English by the authors.

### 3.6 Literature search

The literature search for this project was conducted via University of Aalborg's online library, which provided access to different online library search engines. To begin with we decided to use libraries that targeted a wide range of professions, e.g. Ebsco, and later narrowed it down to libraries such as ProQuest, Pubmed and SAGE journals. We began our search for a broader knowledge by formulating a pre-problem statement, which gave us a point of reference when starting the literature search. From this, we formulated sub-questions to aid us in defining relevant phrases and words to search for.

Figure 4 illustrates one of our pre-problem statements and some of the related sub-questions and how these led to different online library search queries.

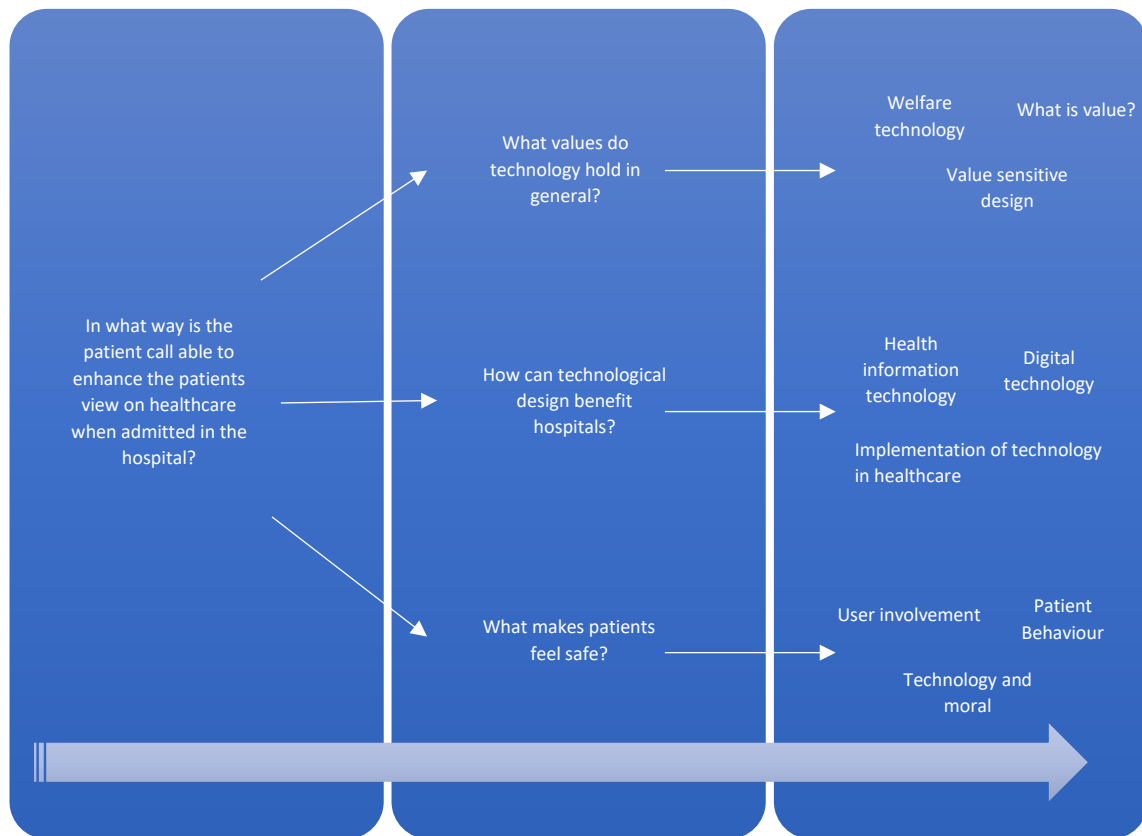


Figure 4

This way of approaching the literature search helped us narrow down the number of search results and provided fewer and more relevant publications relating to our investigation. We further narrowed our search by making use of the "advance search" function. Through this we could combine words and phrases in a more specific manner. E.g. we used "Title contains: Value Sensitive Design AND subject contains: technology" which provided us with a manageable 12 results for this specific example. Furthermore, while reading through the articles we went

through the bibliography and searched for the cited references that seemed relevant to our investigation, hereby generating more relevant articles. Initially, we narrowed our articles search to include literature from the last 10 years, and focused on the articles with most “cited by” references, to get the most recent information on the topics. Some of the included literature ended up being older than 10 years, due to a necessity to use the original material as reference point.

### 3.7 Conceptual clarification

*Attendance*, is in this project defined as both a physical and practical action and a cognitive emotional experience of situations and relations between patient and nurse. The physical refers to the physical actions of the nurses interacting with patients in their rooms e.g. giving them their prescribed medicine or checking their general wellbeing etc. The cognitive state is that of the patients, which experience a sense of being taken well care of and that the nurses are present nearby and are aware of them and checking up on them regularly. This gives them the comfort of not having to call the staff with the needs they might have because they feel reassured to be regularly attended to during their hospitalization.

*Reassurance*, is in this project defined as the emotional experience of feeling reassured during the hospitalization, that the staff at the ward are conducting the proper care for them, are present and will make the correct actions in case of emergencies. It also covers the patients’ perception of the nurses’ awareness of their physical, medical and cognitive condition and that they will act in accordance with the needs that derives from these conditions.

*Safety*, is in this project defined as the elementary premise to call for help in the case of emergency. It also covers the patients experience of always being able to call for help through some means and that the call will be received by the healthcare staff. Safety is in this sense, both the technical precautions of having emergency buttons located in strategic places in the rooms, backup systems in case of power outage etc. Additionally, it covers the emotional experience of feeling safe knowing your ability to perform emergency call is always close and never fails to function.

## Chapter 4. Analysis

In this chapter, we will present the analysis of our data through the scope of the previously outlined theoretical framework. As earlier mentioned, we are foregrounding the conceptual investigation of the VSD approach, however we need to include the technical investigation to outline a basic understanding of the technology being investigated. To fully understand the situations and practices being described, we need to explain the context in which these practices are occurring in and how the physical shaping of the technological system is organized in the surrounding environment. Following this, we will present the analysis of the field data which led to identifying the relevant values and describe how our theoretical framework substantiates our arguments for the interpretations of these phenomena. First, we present the technical investigation followed by the conceptual investigation which is divided into three sub-chapters that outlines the values of *Attendance*, *Safety* and *Reassurance*. Lastly, we draw together the results of our analysis into a value hierarchy, from which we can outline the future design requirements for a patient call application to support the values that we found to be of importance at the urological ward.

### 4.1 Technical investigation

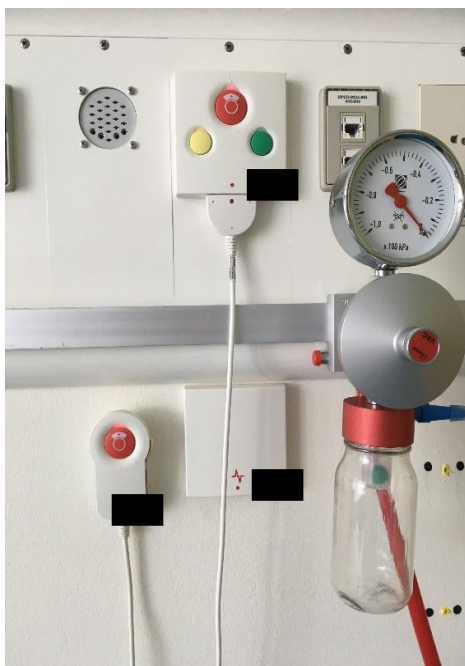
In accordance with the VSD approach and to outline the contextual setting for our investigation, we first address the technical investigation of our project. This is to assign the reader with a basic understanding of the physical functionality of the present-day patient call and frame the working environment in which it is being used. It also enables us to understand the patient call technology from the patients point of view and tell us something about the incentives that these physical conditions convey on the patients in relation to their usage of the technology.

The technical investigation was initiated through our first meeting with the CIMT engineers, where they presented their project ideas and the present-day patient call system. We were shown a model of the patient call and given descriptions of its location in the hospital wards and its connections to the nurses' phones. Further we conducted investigations of the patient call, both via our observations in the field, where we were given explicit demonstrations and explanations by our informants and through the following interviews. Through the observations and demonstrations, we obtained an overview of how the technicalities of the call is working and got in touch with some of the inherent values withheld in it, which we could further get elaborated and clarified through our interviews. As described by (van den Hoven, Vermaas, and van de Poel 2015, 16) it is part of the VSD approach that the technical investigation is integrated



and enmeshed in the empirical investigation and the two, though separated systemically, in practice overlap and intertwine during field work and is meant to inform one another rather than being differentiated aspects.

As mentioned, we were given explicit descriptions and demonstration of the patient call during our field work at the urological ward. A nurse assisted us in testing it, showing us its physical location in the rooms, the different sounds it makes and how the call is received on the phones. During our observations, we witnessed situations where nurses receive the call and how they reacted to them, and our following interview provided us insight into how they perceived them as part of their work practices.



*Picture 1. The patient call by the bedside*

The patient-call system is designed and manufactured by a Swiss ICT-company with a focus on healthcare technology solutions. The system is built up of both displays and remote-controls in the patient rooms, as well as phones carried by the nurses and a computer system that controls how the calls are being distributed, which is administered by the secretary at the urological ward. The patient call remote-control is located in the patient rooms by the bedside (picture 1) and one by the armchair (picture 2) at the window. It is attached to a conduit about one meter in length, which enters a receiver box in the wall. The remote-control features a big red button with the image of a nurse, and the receiver box features three buttons; a

green, a yellow and a red one as shown in (picture 1). When the patient needs the assistance of a nurse, he or she presses the red button on the remote and the call is sent to the respective nurse, whom is prioritized to this specific patient via the computer system. The system is set up by the ward secretary in the morning, where she assigns each nurse to a phone which is then set up to receive the calls from specific rooms. When the nurses receive a call, they have the option to accept the call or relay it to a colleague which then has the same options to either accept the call or relay it.



Picture 2. Patient call by the armchair

When the patient presses the call a green light is lid on a lamp above the door facing the hallway, to indicate that a patient in this room needs assistance (picture 3). When the nurse attends the patient, she is to turn of the call on a display located on the wall next to the door, and press the 'attendance button', which indicates via a different lightning on the panel above the door, that a staff member is present in the room. The attendance button is the green button on the display (picture 4). The yellow button on the display activates the 'assistance call', which is used if the nurse needs additional assistance from a colleague, which might be both acute or minor issues that requires two staff members, such



Picture 3. Green light facing



Picture 4. Display at the door

as transferring of an obese patient. If a patient presses the red button several times in a row, the call will be diverted to an assistance call instead of the normal patient call, which is prioritized much higher by the hospital staff as it could indicate an acute situation such as the patient having slipped on the floor and hurt themselves.

## 4.2 Conceptual investigation

Following the technical investigation, we present our conceptual investigation where we outline the identified values. The values that presented themselves through our data, was; *Attendance*, *Safety* and *Reassurance*. First, will be present an analysis of the value Attendance, secondly Safety and finally the value of Reassurance. After presenting the analysis of each value, we will summarize the sub-chapters with a part conclusion.

### 4.2.1 Attendance

The first value we found to be of importance regards the aspect of attendance. Attendance entails a range of nuances which can both be a physical and practical action and a cognitive emotional experience of situations and relations between patient and nurse. Not only does it affect patients and their hospitalization experience, but also guide the nurses to perform the proper type and amount of care for their patients and assist the nurses in clinical decision-making. The nurses express the importance of being in contact with their patients, building trust and creating a constructive relation to the patient, as this has multiple positive effects on the patients' stay at the urological ward. One of our informants described in the interview the importance of face-to-face contact with the patients:

19:02: A: We also discussed face-to-face contact [...] what does that mean to you in this ward?

X: It means a lot, it means you have been here (in the patient room). If you don't give your patients attention and inform them about who you are, what you are doing and what your intentions are for the day, then the patients don't feel anybody has been there. So, you must go in and present yourself [...] how am I to walk the ward without attending to the patients that I am dealing with? Many get confused if I haven't had the time to go out and present myself, then the patient wonders; "who is that woman who walks around speaking to the physician? She doesn't know me and my situation!" They (the patient) cannot know what I have read on the computer and it might be some completely different issue at hand. So, face-to-face contact is extremely important (Appendix 6, p.6).

What this phrase shows, is that the contact between patient and nurse builds trust and understanding and that the patients have a need to know what is going on at the ward; who is their primary nurse and what does she know about the patient's situation. Additional effects of such deeper relations between patient and nurse was described by the nurse in our second interview:

18:24 X: [...] The fact that you come in and talk to patients it's a big part of it and when you're there, you get some confidentiality and the patients also tell you something they would

not have told if you were not there. And the calmer there is, the more the patients tell you.

B: So that's the way they react to you?

X: Yes, when I'm there and we are talking, they tell you additional things which might be the home situation, and how that might affect them; It's not going well or I have a very sick wife at home too. Then they tell you things that they may not have told otherwise, which are also important in relation to discharging at least (Appendix 7, p.5).

More so, she expressed the importance of her role between physician and patient and described exactly why she believed her role as an attentive nurse had advantages in these work practices. Through the following phrase, a nurse explains how she through an attentive relation, can better aid both patient and physician in applying the proper care for the patient and accounting for his individual situation:

2:26 X: My function is to assist the patient with the problems they are hospitalized with, and then I am their speaker in relation to the physician's ward attendance. I perceive my role as such, because many patients today see the physician as an authority – they dare not tell the physician everything. Then I see it as my role to talk to the physician about some things, if you as patient can't quite get it said, and it isn't everybody who can. [...]. But they are here because of a given problem that we are trying to solve. So, I definitely see that my role is to help the patients with the problems they have and be a speaker for them. (Appendix 7, p.1)

As the phrase illustrates, does attendance not only necessitate an important humane aspect of being a patient but it also assists the nurses in their ability to perform the most effective care for the patients. Through this, the nurses can better assist the patients' medical progress and aid the physicians in constructing the best plan for the future course for this specific patient, based on who they are and what their life situation entails.

After establishing the premise for perceiving attendance as an important factor in the nurses' work practice at the urological ward, we can address how the technology offers itself in this context and how it influences and mediates certain effects in the nurses' work practices. As earlier described, when the patients press the patient call in their room, the call is transmitted to specifically assigned nurses (the patient's primary nurse) which receives the information on their phone via a sound, as well as message that displays which room and thus which patient is calling and needs attendance. The way that the patient call offers itself in this situation, when applied to the schematics of *points of contact*, it falls into the category of *before the eye*, as the call they receive on the phone has the intension of guiding their decisions of prioritizing their

work schedule to attend this specific patient as soon as possible (Dorrestijn, Van Der Voort, and Verbeek 2014, 287; Verbeek 2015, 30). The effects of adding a sound to the call, incentivises that these types of calls require immediate attention, if not acute action then at least the need to make the nurses aware of a more or less prominent situation which they need to address in the nearest future. The type of influence it enforces on the nurses can be classified as *apparent* and *weak*, as it provides feedback on their patients' level of need and through this attempt to persuade them to act on this knowledge (Tromp, Hekkert, and Verbeek 2011, 12). When addressing the morality of such influence, it goes well in hand with the nurses described intentions of deploying thorough attention to their patients. Though our observations implied, that the nurses did not seem to consider these calls as something rather urgent which is illustrated through the following example:

Two nurses and a physician sits in front of a computer (I can see their profession on the name tags). They discuss different patients while watching the screen and looking through some papers.

After three minutes, there is a beep-sound from a phone. One of the nurses takes the phone from the chest pocket and presses a button, then puts the phone back in the pocket and continues the conversation.

One minute later, the beep sounds again from a phone. The other nurse takes her phone from the pocket and presses a button. She says something to the first nurse in relation to a patient regarding the patient's wishes for washing times. The nurse puts the phone back into the pocket and continues the conversation.

10 seconds later the beep sounds again. I cannot see who interrupts this call, but it stops beeping. Two minutes later, the beep sounds again and the first nurse interrupts the call. Then they all three get up and, leaves the area and enters a patient room down the hall (Appendix 2, p.2).

This example shows us, that the received patient call in this situation did not awake any significant attendance from the nurses, whom we might assume is the respective patient's primary nurses. Though we cannot know whether it came from the patient that they presumably were about to visit together with the physician. We assume this is what is going to happen, as it is a normal procedure at the urological ward, that physicians attend patients at certain times a day and that they preliminarily address the patient issues with the nurses and refer to the patient's journal.<sup>25</sup> An interesting detail to withhold to this situation, is the fact that the

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<sup>25</sup> Based on our own knowledge and experiences as educated healthcare professionals (Physiotherapist and Occupational therapist).

urological ward has two large whiteboards placed in the administration area, making them visible to all in the room. Both whiteboards have a schematic drawn onto them where a list of names is written alongside coloured magnets. Each column has a name and a coloured magnet. These are intended for the staff at the urological ward and aids them in prioritizing attendance to the different patients:

[...] I ask a nurse what they mean. She explains that they indicate the frequency of how often a patient should have taken physical measurements which again have something to do with how bad their conditions are and therefore should be observed more frequently. Red is most often and green least (Appendix 1, p.1).

This knowledge, combined with the above described, gives us the indication that there is a general structured consciousness regarding the level of aid and attendance each individual patient should have. This aspect must be taken into consideration when assessing how the nurse react to a patient call, as the situation probably is prioritized very differently depending on the patient's medical and physical condition. Such environmental factors are part of the practice that affect the decision-making of the nurses' reactions to a patient call. The nurses have a structured background knowledge, both from their face-to-face relation with the patients and from the information provided on the whiteboard. The whiteboards can both be perceived as a pseudo-extension of the actual patient call, falling into the realm of *before the eye*, as we can assume that it actively shapes the nurses' interpretation of the specific call they receive, even though the effect is of a subtle to invisible nature. On a different note, it might fall into the environmental category of *behind the back*, as the effect describe above is more likely of an *environmental conditioning of subjectivity*; causing the nurses to act in certain ways based on the knowledge of the individual patients (Dorrestijn, Van Der Voort, and Verbeek 2014, 287). Nevertheless, the technology of the patient call offers itself as a reflection of a patient's need of attendance that the nurses have not fulfilled, which they must compare to the knowledge given through face-to-face contact and the condition statement of the whiteboard. A contrasting feature in this regard, is the nurses' expression of a desire to accommodate these calls before they happen, as we encountered this aspect through our data. This is illustrated through the following example:

00:30 A: Do you also attend to the patients even though they have not called you via the patient call?

X: [...] I've figured out that I can minimizing the calls I get if I go a water round, a food round, a social round and have I have divided them like that. I think a lot in 'boxes' in

my head and need all those boxes to be solved. This means, that when I'm doing these rounds they're not calling me (the patients).

A: What's the reason behind doing this?

X: It's for my own sake only, because I've noticed that they do not call nearly as much if they have all they need. That is, I make sure they have the fluid they need and the information they need. [...] If I have finished documenting my work, there is no need to just sit in the office. Then it's easier to give them the information they need. This means that I have more time to be more social with those patients who need that (Appendix 6, p.1).

Considering this notion, the patient call technology offers itself as a potential unattended need that the nurses could have accommodated through the structuring of their practices. As a dashboard light reminds the driver of a need to refuel the car with gasoline, the patient call might reflect a lack of attendance to the patients' needs, offering itself *before the eye* as a subtle guidance to consider one's immediate practice. In addition to the nurses having to interpret the urgency of the call, due to the simplicity of the call just being a singular sound, they cannot know the underlying reasons for the call, causing them to sometimes change their practice based on assumptions.<sup>26</sup> This is illustrated through the following situation:

15:48 A: Could you imagine that, when you receive a patient call now, there is a difference in how to do it? If you have just 5 minutes, will it sometimes retain someone from entering?

X: Yes

A: You don't have to be ashamed, I was thinking that if you have that uncertainty, does it actually affect one's work?

X: Yes, we know that there are some people that for example shit all the time, and it takes quite some time to handle such a situation, so there are some who are put a bit on hold. You can see that.

A: If you got the message that there is one who has stool in the bed?

X: Then you know that; we two go in and fix it right away, because then it's done. Instead of thinking we go in and guess, we think it's ... so you must wait, but it might be pain, or something like that. "He probably had stools again". Then we just have to wait until I've found a colleague instead of just taking the call right away. It happens (Appendix 6, p.5).

Through this situation, we see that the nurses must construct their work practices based on assumptions and interpretations of what a call presumably entails. In these type of situations,

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<sup>26</sup> In the case of severe emergency, the sound is different.

the patient call offers itself as an uncertainty in the nurses in that it might represent additional tasks that require the assistance of several staff members, which must be accounted for before deciding whether to accept the call or put it on hold. The nurse in the above phrased interview, appears ashamed of the notion that they sometimes put patients on hold if they presume it is a larger task which they do not have time for at the given moment. The knowledge that the patient call has been pressed, induces the nurses with moral and ethical questions concerning the attendance of the patient. On the other hand, they must consider the work situation at the given time of the call, for them to individually evaluate if this task is more or less equally important. Though the nurses cannot know if this is the case, and thus it sometimes restrains them from attending the patient based on this uncertainty, even though the situation could regard a minor issue that might be solved quickly. In this sense, the patient call offers itself as a mediator of moral evaluation in that, a nurse who is being called for will potentially have a perception that she is not attending enough to her patients. Several nurses express that they do 'attendance rounds' to counter the calls before they occur. Thus, there is an implicit perception that the patients' needs and the face-to-face contact with the nurse are very important and that a patient call to a greater or lesser extent expresses a lack of attendance to the patients' fundamental needs. Though this is a mediation caused by the nurses' interpretation of the reason behind the call, based on their background knowledge and experience with the patient, and the nurses induces this intentionality of the call through the potential prospect of additional requiring tasks. This intentionality shapes their actual work practices, as well as we addressed the fact that they attempt to accommodate the patients need to prevent the situations from arising where they must do such moral evaluations.

#### 4.2.1.1 Part conclusion

The value of attendance reveals itself as an important part of the nurses' work practice on the physical and practical level as well as on the cognitive emotional level in the relation between the nurse and patient. For the patient to experience this notion of attendance, the nurses must offer face-to-face contact and information about the status of the patient's hospitalization; who their primarily nurse is and what activities are going on at the urological ward. By doing so, the patients feel cared for and trust the nurses which means they more openly talk about other issues, such as the situation at home or ask question that they do not feel comfortable asking the physician. The patient call offers itself as a reflection of the patients' need of attendance which the nurses have not fulfilled, but the simplicity of the call forces the nurses to interpret



what the patient call is about and this induce the nurses with moral and ethical questions concerning the attendance of the patients.

#### 4.2.2 Safety

The second value that unveiled itself at the urological ward is the value of safety, which is something the nurses feel strongly about and seeks to transfer to their patients. To understand what role the patient call has in assisting the nurses in making the patients experience the notion of safety, we start by investigating the nurses' perception of safety regarding the patient call. First, we address how the value of safety is attached to the possibility of receiving a patient call, which is illustrated through the following statement; *"It is almost the most valuable tool we have; the patient call. It is sick people we are working with"* (Appendix 2, p. 1). This was stated by the ward secretary, when asked about what meaning the patient call has in their everyday work practice. One of the ward secretary's main tasks regarding the patient call system, is to make sure that every nurse has a phone, and that the phone is assigned to the corresponding patient call in the rooms. What is important in this process is that every nurse remember to log-in to their respective phone, otherwise the ward secretary cannot assign them to the patients that they are responsible for, in which case they are unable to receive patient calls. This type of impact on the practices of the morning routine, can be categorized as *to the hand* and more so, its influence can be positioned in the quadrant of being *coercive* as the nurses are unable to receive patient calls if not physically having a phone. In this way, we see how the physical design of the patient call directly impact the morning practices at the urological ward, which effects both patients, nurses and secretary. We can classify this influence as being *strong* and *apparent* as the patient call requires the nurses and the ward secretary to perform a specific task in order to make use of the patient call (Tromp, Hekkert, and Verbeek 2011, 12; Dorrestijn, Van Der Voort, and Verbeek 2014, 287). This was revealed to us, in the way that the secretary is forced to address those nurses that have not logged-in on their phone; *"I need lots of phone numbers, girls"* (Appendix 3, p.2), the secretary tell her colleagues, who forgot to log-in. More so, the importance of the nurses being assigned to a phone and its relation to the value of safety is illustrated in the following phrase, where one of the interviewed nurses expressed how the patient call assists her when she does not have the time to perform her patient rounds:

08:40 It's helpful, because those times I don't do them (rounds to check up on patient needs), it is because it's so insanely busy, so it's a necessity that I can receive the patients calls for assistance. So, if the patient call is not there I do not visit the patients, so you need to have those calls because otherwise I'm not there for them. It's a terrible thing to say, but some days it's so busy that we only get the absolute necessities done, and those

who have not called or complained will not be attended to [...] it *must* be there (the patient call) (Appendix 6, p.3).

This quote also shows us, how the patient call mediates the nurses' perception of the reality in the urological ward with the presence of the patient call as an absolute necessity in their work practice. In the relation between nurses and patient call technology, the technology offers itself as a 'must have' tool, especially on a busy day, where their daily routines are inadequate. One could argue that the mediated role of the patient call is positioned in the *above the head* category and is perceived as a lifeline in a *dystopian* reality, positioned in a state of terrible consequences if the nurses did not have this technology. Regarding, *salience* and *force*, the technology's influence on safety, is *coercive* with a *strong* and *apparent* presentation to the nurses, who are aware of the importance of the patient calls role in keeping the patients safe no matter how the nurses' practice unfolds on that specific day (Ibid.). As one nurse expressed; "*You cannot remove the patient call from them (the patients), they need to have the option of calling, when needed.*" (Appendix 6, p.6). Furthermore, the value of safety can be found in the nurse to nurse practice as well. During a meeting, held on the first day of our observation, five nurses discussed how they should interpret and act according to either a patient call or an assistance call. During a normal work shift, the nurses receive both calls on their phones, but there is a discrepancy within the group of nurses about how quickly and how important the different calls should be interpreted; "*There is a reason why we have this system. When we have the opportunity to answer a call we should or we should pass it on to the others, but this is not always done.*" (Appendix 6, p.2). Some nurses perceive the assistance call as more important than the patient call and vice versa, which creates uncertainty within the other nurses of when they will get the needed help; "*[...] it is mentioned that in the ward there is a significant difference in how the different calls are interpreted. The present nurses agree that some clear guidelines should be set for when to call for what*" (Appendix 3, p.3). The lack of and wish for clearer guidelines is further elaborated by a second nurse, who are very quickly not to blame the technology for the issues at hand, but instead focus more on the nurses' way of using the patient call; "*It's not because the call as such does not work, it's just us that do not have clear guidelines for the use of the buttons*" (Appendix 3, p.4). By addressing the issue of unclarified guidelines, the nurses show us that the mediating role of the technology forces them to articulate the challenges that it brings. What is interesting, is that even though the technology seems to have caused unintended consequences relating the value of safety, it also becomes a tool for the nurses to explicitly addressing this value. Through this we can see how the nurses,

as a mediated effect of the patient call, addresses a larger human-technology-world relation in form of the communication and agreement about how their practice around a patient call should unfold.

From this point, we address the more practical use of the patient call and how the technological mediation shape the practices of the relation and interactions between nurse and patient. For the nurses to react to a patient call the patient must be able to make the call. For a bedridden patient to operate the patient call it must be in arms reach which means either in the bed, coffee table or the hand of the patient. But these positions of locating the patient call do not always fulfil the intentions of supporting this ability. This became apparent through a conversation with one of the nurses we followed during our observation. She explained that;

Sometimes the patient's call is in the bed, when you elevate the bed, the cord will be pulled out of the socket. Then, when people want to plug it back in, there are two sockets on the wall and then they put it in the wrong connector. Then the patient call howls and alarms and you must reset the whole call (Appendix 1, p.2).

The placement of two identically socket next to each other, creates a confusion for the user when the patient call is accidentally unplugged. In that, the patient call reacts with howling and alarms, if inserted in the wrong socket, could indicate that the designer from the start of the design process was aware that a situation like this could occur. Thus, it was decided to integrate this feature into the technology with the intention to accommodate the possible confusion that the two sockets could bring. By informing the users that something is not right, the patient call strongly incentivises a human action to be performed to fix the issue. This also tell us something of the intentionality of the designer and that it becomes a part of the final technology. Though the designers can only imagine how the users will act when the patient call howls and alarms, they have, by including certain ways for the patient call to behave in emergency situations, incorporated their intentions into the technology. Their intentions are then reflected through the patient call which then is accommodated by mediated behaviours and experience of the users. This leads to the idea, that by letting the users know something is wrong, the designers indirectly shape and strengthen the value of safety through the design of the patient call. A good example in this regard, is illustrated in the way the nurses are trying to accommodate the issue of the patient call being accidentally unplugged, or being out of arms reach, by attaching the remote control to the bedside lamp:

08:10 In the patient room, I (researcher) notice that the electrical cord connected to the patient call system is attached to the bedside lamp and I asks; “why”? The nurse answers; “this is so the patient has easier access to it” (Appendix 3, p.2).

Through an intentional act (output) from the patient call, when being unplugged (input) the intentionality of the designer is explicitly put forward by the patient call, which meditates certain moral actions of the nurse. The quoted nurse has experienced, that the patient call is not always easy for the patient to use because it does not have a fixed dock to be placed in. Thus, she has changed her practice in response to this and come up with the solution to attach it to the bedside lamp, which help the patient to know where to look if they need help. One could say, that the nurse see the technology as not performing its intentions sufficiently and therefore she decides to attach the patient call to the bedside lamp. This we perceive to fall under the *embodiment relation* between the nurse and the patient call (Verbeek 2015, 29).<sup>27</sup> The embodiment relation support the nurse in protection her value of safety, in that changing the practice of the patient call she is reassured that the patient call will not end up somewhere where the patient is unable to reach it. The patient call in this specific situation offers itself as a *seductive* design, with a *hidden* and *weak* influence on the nurses practices and her moral actions and decisions (Tromp, Hekkert, and Verbeek 2011, 12). Further, by attaching the patient call to the bedside lamp the nurse visualize to her patients, that the patient call is something that needs to be available all the time which should indicate to the patient that they are entitled to use the patient call anytime they want. Additionally, we can see from the following quote that, the attachment to the bedside lamp is not the only suggestion to alter the practices at the urological ward to accommodate this aspect. A nurse in one of our interviews expressed her ideas to a future design feature for the benefits of patients in regards to safety;

09:30 It should be possible to attach the remote control to the patient’s clothes, e.g. with Velcro as it is experienced that the cord often unplugs from the socket and that it can be quickly put in the wrong socket causing it to break down (Appendix 3, p.3).

This tell us that the value of safety is of such importance to the nurses, that they are exploring new ideas to how the patient call could further enhance their work practices. This moral mediation of safety becomes visible through the *behind the back* impact in that it is a part of their work practices and they perceive it as an inherent feature that must always be accommodated. It is tacitly integrated in the nurses practice in such a way that the nurses are thinking of new ways to improve the patient call so it fit better into their practice in regards to

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<sup>27</sup> (human-tech.)→ world

safety (Dorrestijn, Van Der Voort, and Verbeek 2014, 287). Another safety precaution that have been applied to the patient call, is the emergency feature which appears if the connection between a phone and its assigned patient rooms gets disconnected. If this problem occurs, the patient call system will redirect all patient calls to every phone instead of just the assigned ones (Appendix 7, p.4). As a nurse describes it, when asked about how often the patient call system goes into emergency mode; *“About once a month, for example, the alarm can go off every 5 minutes even though there is no one who has called.”* (Appendix 2, p.1). As soon as the patient call system switches into emergency mode, the nurses’ intentions of keeping the patients safe are mediated by the technology in that the nurses no longer know, if it is their assigned patients that are in need of help. Thus, changing the practice in which the nurses can care and nurse for the patient. Another aspect regarding safety was explained in one of our interviews:

20:44 X: But there are some who calls to much. You can’t say it out loud but some is calling too much.

B: [...] Do you get the feeling of: “the wolf is coming”, when they call too much?

X: Yes

B: How do you react to that?

X: I explain to them that they should stop calling so much. So, I can say that: “you call all the time and do not want anything but small things, so it's not always that we give you priority if you keep calling and if you're ill then we might not come fast enough” (Appendix 7, p.6).

This situation shows, that if the patient keeps calling they are in risk of being less prioritized. The same can be argued for a system that either randomly starts calling or go into emergency mode without any reason. This indicates that the patient calls intentionality of enhancing the value of safety also provides a feeling of uncertainty about the functionality and a sense of frustration due to some patients calling more than necessary. Even some patients abuse the call by calling multiple times for the nurses to attend to them faster (Appendix 6, p.6). This again gives us a picture of the complexity involving the patient call technology and how the intended and unintended mediations of the patient call impact the working practice in a way that is referred to as *environmental conditioning of subjectivity* (Dorrestijn, Van Der Voort, and Verbeek 2014, 287). For the nurses to maintain their moral obligation they must be ready to alter their behaviour and actions according to what reality the practice of the patient call unfolds in.

#### 4.2.2.1 Part conclusion

In this subchapter, we have outlined the complexities of the patient call and how it influences the nurses work practices in relation to the value of safety, which can be identified in various situations at the urological ward. Both in a more overall picture of the work practice regarding new guidelines for the nurses' use of the patient call, to how their practical work with the patients is mediated by the patient call. The value of safety is a fulcrum in the morning practices, reflecting itself in an instrumental manner through the engagement of the practical features of the patient call. Especially on busy days, the connection between safety and the patient call becomes apparent. The absence of clear guidelines and the discrepancy of the nurses' interpretation of the use of the patient call, challenges the relation between the users and the patient call technology and not the functionality of the technology itself. These unintended consequences, forces the nurses to explicitly address this discrepancy and hereby the design of the patient call somewhat help shape and strengthen the value of safety at the urological ward.

#### 4.2.3 Reassurance

The third value that revealed itself through our data, is the value of reassurance. For the nurses, the value of reassurance is something that they strive to make sure is upheld during their everyday contact with the patients and in their collaboration with colleagues. This creates a practice where patients and nurses feel reassured of each other's presence and the nurses have the professional competencies to assist one another when needed.

The patient call is constructed to act as an entity between the nurses and the patients to make sure that information can be facilitated between the two, where the patient can press the patient call and the nurses can accept or disconnect the call on her phone. It happens that the same nurse can receive multiple calls simultaneously and she needs to make assessment of which call she must to prioritise to answer first. One nurse described this scenario and the need to possess knowledge of your patients to assess which are most vulnerable and they should be prioritized first if simultaneous calls should occur;

6:35 B: Would you say that if you have a call from two rooms at the same time, you know your patients well enough that you know that Mr. Hansen is the one who is the worst and therefore he probably needs to be attended first?

X: We are attending the calls as they arrive, but if we have one that is not doing well and we see that call coming soon after and I have not reached the first one, then I will attend this first. You can possibly just stick your head in and say; I'll be there in a little while. This usually happens. We give priority to the calls the entire day when we know there are some who is not doing well. We also have some patients with fixed attendances, that sometimes is not well, and that we know we shall prioritize if a call comes is made by them (Appendix 5, p.2).

As illustrated through this example, the patients should have the reassurance that the nurses are there to help them and that they have the overview to accommodate the situations correctly, understood that they have the medical and professional competencies to evaluate which patients should be attended first. This underlines the importance that both patient and nurse understand each other's practice and how the patient call should be used. The nurses strive to meet every patient's needs, but at the same time they need to prioritise in what order they fulfil those needs of care. If the nurses receive two patient call as the same time, one strategy is to accept both patient calls, and shortly after informing one of the patients that he or she will be taken care of as soon as the other patient have been assisted. This strategy is something they attempt to facilitate throughout the day to support the patients' sense of reassurance and maintain a positive relation between the two. Maintaining a positive relation,

where the patients experience reassurance when hospitalized, is something that the nurses feel strongly about, as a nurse told us during our observations; “[...] *we are here to give the patients a sense of reassurance while being at the hospital.*” (Appendix 3, p.2). Additionally, she expresses her view on the possibility of a digital version of the patient call, which indirectly informs us about how the priority of patients is handled at the urological ward:

Nurse: “There are many older patients here, how should they be able to use a smartphone when they have not tried it before? It may be that they have impaired vision or are hampered due to illness. It is important that you look at the type of patients we have here at the ward in such a situation.”

The nurse also explains that it is important for her that it is the: “real calls” that are being made and that “the patients feel safe and confident in using the call” - “If they are not very mobile, you can always put the remote control in their hand” (Appendix 3, p.2).

This quote shows us, that not only is it important that the patients experience reassurance, but also to support this value, the use of the patient call must be accessible to the patient suffering from either physical or cognitive diagnosis. Different patients possess various levels of acquaintance and comfortability with the use of technology. Not only do the patients need to feel reassured that the nurses will make proper assessment regarding attendance, but they themselves must also have self-assurance that they are able to make proper use of the technology when signalling the nurses. As the above-mentioned quote shows, the nurse can increase the patient’s experience of reassurance by leaving the patient call in the patient’s hand, if they are not mobile enough to get it themselves. Hereby she not only feels that the patient is reassured of her presence, but also that she knows the patient always has the option of using the call because it is close by. Though this, we see how the patient call is mediating the actions and behaviour of the nurse for her to be able to support the value of reassurance for both the patient and herself. One could argue, if the option of leaving the patient call in the hand of an immobile patient was not possible this could undermine the experience of reassurance for both groups. The nurse’s effort of enhancing the experience of reassurance at the urological ward starts when the patients arrive at the ward and they meet their primary nurse for the first time. As cited below, some nurses devote time to explain how the patient call is to be used, whether the patient have been hospitalized earlier or it is their first time at the ward:

When I receive a patient, I inform them about the call and how it works. If you click here, it's for my phone and if I don't reply it is reassigned to my colleague. If you are in urgent need of help, you keep the button pressed down, then it is for assistance call and then



we will attend you faster. And if it is very critical then there's a cardiac arrest button. I explain about where they (patient call buttons) are. [...] People may have difficulty understanding it because it's not just a string like in the old days. So, you need to explain it to the patients for them to understand the system (Appendix 6, p.2).

By providing the patients with a very thorough introduction to the patient call and its functions, the nurse tries to establish an environment where the patient can feel assured that he or she is being taken care of. Through this, we can establish that the value of reassurance is present and important in the nurses practice at the urological ward. Following this notion, we can assess the implication of the patient call technology regarding reassurance.

The first aspect concerns how the patient call offers itself to the patients. One would assume that the call is very simple to understand, but the nurses at the urological ward explains, that there is a big inconsistency in how and when the patients are using the call. According to the nurse in one of our interviews, the patient call is not as simple as it looks; “[...] *how many time should one press the button, does it blink or not blink. What does it do?*” (Appendix 6, p.2). Thus, she feels it is necessary that the patients are introduced to the patient call and she believes that after the introduction the patient should be able to operate the call as it is intended and hereby be reassured that they will receive the necessary care. Through this, we see how the design of the technology facilitates unintended actions and behaviour falling under the *behind the back* impact with *apparent* and *weak* influence (Tromp, Hekkert, and Verbeek 2011, 12; Dorrestijn, Van Der Voort, and Verbeek 2014, 287). What is interesting in this situation, is the inherent moral evaluation the patients must consider when using it. This causes a high variance in its use, understood in the sense that the reasons why patients are calling a nurse can differ greatly and makes it difficult for the nurses to evaluate the urgency of the calls. In one of our interviews it was expressed as follows:

5:00 A: Now you mention that detail, that some patient does not want to disturb the physician. How do you experience that problem in relation to patient calls, do you experience the same things?

X: You sometimes experience someone who says to us if you come around in the morning;

“How have you been sleeping tonight has it been a good night?”

“No, I've had such awful pain all night!”

So, you say; “Well, we are in here”

“But I do not want to disturb.”

“No, but we are sitting here waiting for someone who calls us who needs help, so you may call us.”

But there are some who is like; “It's night time, I do not want to disturb you or you are so busy”. But whether it's night or we're busy, you should have the treatment you need (Appendix 7, p.2).

This situation illustrates, that some patients are not using the call even though they are in pain and could have used the assistance from a nurse, who could have addressed the situation from a medical professional perspective. Perhaps the patient did not have the correct prescription of pain relievers but are too polite to use the call, as they perceive it as an intrusion in the nurses' work and do not want to be bothersome. On the other hand, it became apparent through the other interview that some patients will use the call more aggressively. Some patients are aware that if they press the button multiple times, the call will be transferred to an emergency call causing the nurses to attend them very quickly even though their need to see a nurse is not categorized as a need for immediate help. This is illustrated through the following:

20:29 A: Are there any patients who call too much?

X: Yes, yes, and there is someone who calls because the more annoying you are, the sooner things can actually go [...] there are some patients which makes use of that. So, yes there are some who call too often.

A: Deliberately?

X: Deliberately, and they say so too: “If I keep calling and is a pain-in-the-ass patient, I promise you will come quicker and help me because you do not want to listen to me; I'm angry, I'm rodent and am Irritating but I get what I want and so that's how I do it. I'll keep calling until I get my will! (Appendix 6, p.6).

This type of patients that the nurse describes, intentionally tries to be as intrusive as possible to get attention faster, through the ability of using the call in such a way, that it approaches the realm of cognitive *coercion* on the nurses' work practices. Thus, the moral incentives to use the call falls to the patients to whether they should call the nurse with their problem at hand. Some patients are uncertain to how the call will be perceived by the nurses, even though it is the professional task of the nurses to make the proper assessment of whether this call should be attended and how quickly. This lead us to address the perception of the patient call from the nurses' perspective as they have a strong urgency towards their patients being reassured that the patients can get a hold of them if in need of assistance. This also relates to the patient call being assigned to the phones carried by specific nurses (the primary nurses) in that they have

specific knowledge and insight into the condition of their respective patients, and thus are able to better assist the patients with their needs. One nurse explains this in the following:

26:18 B: If we stick to your comment, that it's good for patients to get a familiar face. Could it, in principle, have an effect that they might be met by several different faces?

X: Yes, and it could be any nurse that attends the room if there is one who has called three times. Then you say, "I'm not your nurse so I do not know your situation, but is there's something I can help with?" Then you're getting annoyed, because - who's my nurse then? Is there anybody who wants to attend me? Why is it only outsiders that comes when I call? Does anyone know anything about me at all?

Can you imagine how frustrating it may be if I come in and say; "I don't really know anything about you, but can I do something for you?" (Appendix 6, p.7).

What this situation illustrates, is that the nurses want the patients to feel reassured that they are taken care of and get the proper physical, cognitive and medical care mediated through the patients' ability to call them if needed. The nurses also express that the patient call is a valuable tool for them in their work practices, in that they know the calls will be relocated to their colleagues if they do not have time to attend the patient. This we see from the following quote, where we asked the nurse at the interview how it affected her when her phone rang during the interview:

X: I don't get stressed when it rings because I know I have two colleagues in there to take care of my patients, so that does not stress me. It would be stressful to me if I was sitting with the phone and I knew it's only me that takes care of those patients, then it would stress me. But now I know there are two colleagues in there to look after them (Appendix 7, p.4).

The reassurance she has, that her colleague will handle the situation is a *hidden* and *weak* influence of the technology, as it is an inherent knowledge for the nurses that they do not have to hurry themselves if they are unable to answer to the patients (Tromp, Hekkert, and Verbeek 2011, 12). Through this, the nurses feel reassured that their patients are taken care of by best possible means, depending on the current work situation. If everyone is busy, the call will never be accepted and the phones will keep referring the call back and forth until a nurse shuts it off, but the basic notion is that someone will pick up the call and attend the patient rather quickly.

#### 4.2.3.1 Part conclusion

The value of reassurance is of a more psychological nature. For it to be fully obtained, some consensus must be established between the nurses and the patients regarding an understanding of the daily practices at the urological ward. This will enhance the experience of

reassurance for both patients and nurses, because they have a clear agreement when and how to use the patient call. This means that every patient at the urological ward, no matter their physical or cognitive capacity, must be able to use the patient call as intended. To accommodate the experience of reassurance, the patient call should be accessible to the patient and the patients should be given a thorough introduction when admitted at the urological ward. The use of the patient call is more complex than it looks and for some patients can facilitate to unintended- or lack of use, because the patient call's mediated intensions are not perceived clearly by the patients. The feature that the patient call will be redirected to a colleague if the primary nurse does not answer, assists in creating an experience of reassurance. For the nurses, it means that their patients will be attended to by a colleague and for the patients it means that there always will be a nurse to aid them in case of emergency.

#### 4.3 Conclusion on analysis and Value hierarchy

Through the above presented analysis, we can conclude that the enactment of the patient call at the urological ward is tied to the values of Attendance, Reassurance and Safety. The patient call technology offers itself through different points of contacts, addressed through the conceptual schematics presented by (Dorrestijn, Van Der Voort, and Verbeek 2014). More so, we addressed how it exerts its influence in different ways through the concepts presented by (Tromp, Hekkert, and Verbeek 2011), which affects the work practice of the nurses in multiple ways and have multiple implications in relation to mediation and intentionality. Following the methodology of the VSD approach, we have assembled our findings in a value hierarchy (figure 5) to address these findings in a more concrete and transferrable way regarding concrete design proposals for the patient call application (Poel 2013). As described earlier in chapter 3, the process of constructing the value hierarchy was a result of mingling back and forth between a theoretically based analysis of inherent values and discussions with the engineering students regarding concrete design requirements to support these values. Through the value hierarchy, we get both an overview of the results of our analysis and the conclusions we can draw from our collected data. Through this schematic, we are able to define a set of design requirements which we can attempt to apply in the development process of the patient call application and thus seek to influence the development of the application to support the identified values. Implementation of these requirements can hopefully reflect the values through the way the patient call applications offers itself to its future users and its moral intensions supposedly mediated through its design. Though, such a conclusive list to be incorporated and result in such accurately desired outcomes might be a bit utopian, but we can hope that some of these aspects

sifts through the process and affect the outcome to be more closely related to the values outlined in this investigation. It should be noted, that the concrete requirements found at the lowest level cannot directly be deducted from a given value at the top, because these are highly contextual dependent and are representative only for this specific milieu of investigation (Poel 2013, 259). More so, it would be wrongful to assume that normative features and values exist in a symmetrical relation, as values are more abstract and general and as such assume a motivating role in addressing the normative issues underlying it. Specific requirements are done for the sake of a given value, but it would be illogical to assume the scenario reversed e.g. “the ability to display patient triage is a value for the sake of reassurance” does not make sense, but

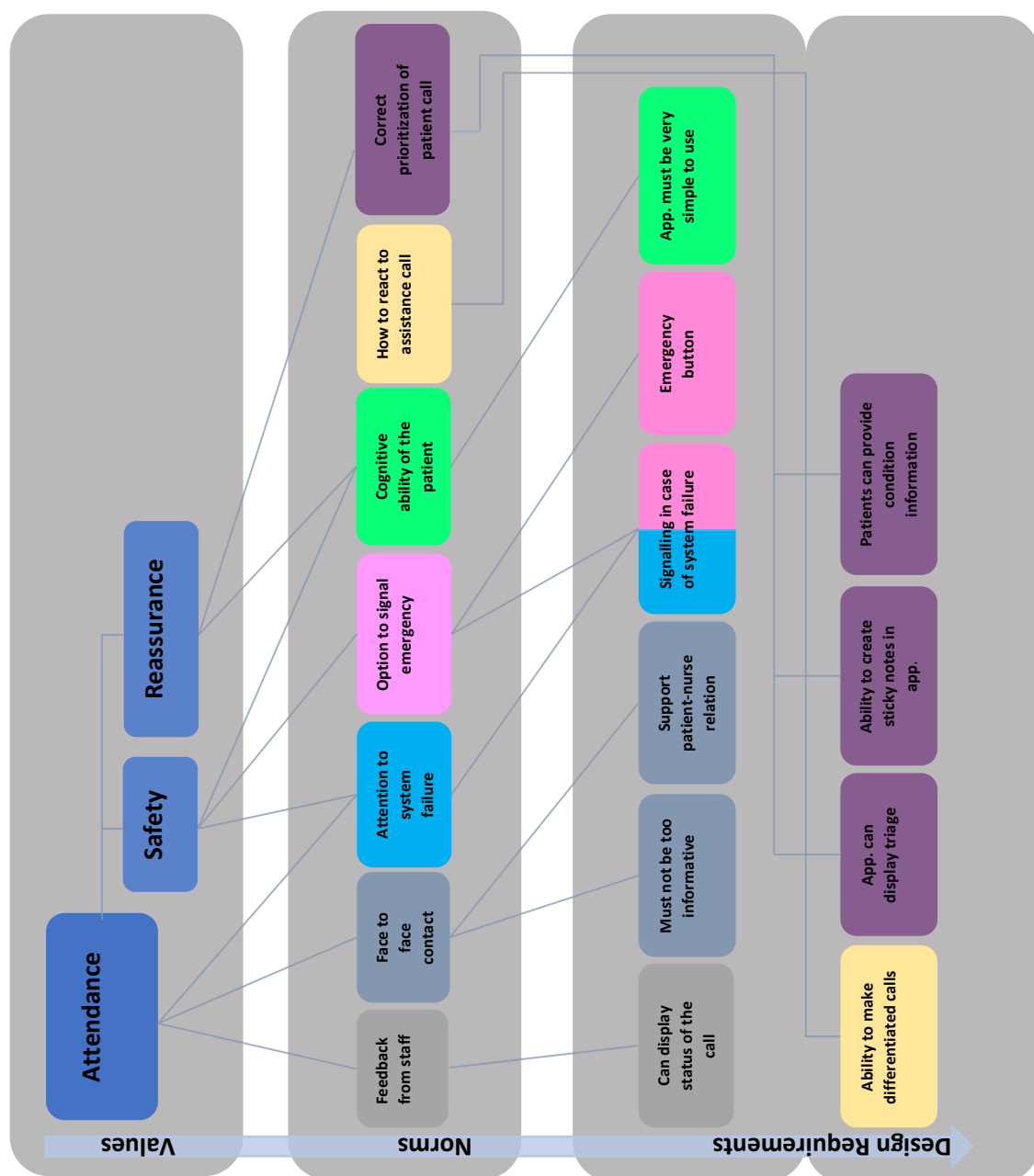


Figure 5; Value hierarchy

rather that the value of reassurance is supported by this design feature; which is done for the sake of reassurance (Poel 2013, 260). We further divided our design requirements into the categories of objectives, goals and constraints as suggested by (Poel 2013, 258-259):

Objectives:

- Support patient-nurse relation
- Assist in making correct prioritization of calls
- Must not be too informative
- Application must be very clear/easy to use (user-friendly in relation to elderly and impaired patients)

Goals:

- Display triage
- Ability to make differentiated calls
- Ability to make sticky notes in the app
- Can display status of the call

Constraints:

- Must have backup system
- Must have an emergency button or similar feature

By dividing our design requirements into the above described categories, we get an overview of how specific and concrete these requirements are. More so, the value hierarchy provide us with a concrete tool when presenting our design requirements to the engineering students. This enabled for a comparison on similarities and differences to the prototype of the patient call application, and make an easy presentation for assessing whether the proposed design features from the engineering students resembles or contrast the values we propose to be necessary in the design of the patient call application.

## Chapter 5. Discussion

In this chapter, we will discuss various aspects related to the enactment of patient call drawing on perspectives presented in our theoretical and analysis chapter.<sup>28</sup> Through this we will outline further relevant details, nuances and complexities that apply to the relations between humans and technology regarding how the practices of the patient call unfolds. We draw on Andrew Feenberg's position in critical theory, to assist us in viewing this relation in a broader and more philosophical perspective through the scope of his concept of social rationality, and how this apply to the nurses' perception of technology. Furthermore, we address this issue from the hybridity perspectives presented by Peter-Paul Verbeek and how his concept of human-technology relations applies to the concepts of agency, intentionality and mediation. In figure 6, we illustrate how these implications apply to the human-technology relation to further clarify how the patient call affects the nurses' work practices through the scope of intentionality and mediation. Throughout the chapter, we relate these aspects to the previously outlined values of attendance, reassurance and safety and lastly discuss the more practical implications of applying a patient call application to replace the current patient call.

The first aspect we cover in this discussion, is Andrew Feenberg's notion of *social rationality* and how this applies to the nurses' way of perceiving their work practices within the technological boundaries that are entangled in it (Feenberg 2011). Following Feenberg's position, technology creates a perceptual framework of self-reflection, where the nurses are unable to perceive of a work practice without the boundaries of technology, in this case the patient call. This notion is their inherent social rationality or maybe more accurately described as 'socio-technical rationality' regarding the influence of technology on their work practices. As we described in chapter 4, the nurses cannot conceive of a work practice without the patient call, as they believe it would completely hamper their ability to uphold a normative work practice and the technology is expressed as a must-have tool. Regarding the value of safety, it was expressed as follows: "*You cannot remove the patient call from them (the patients), they need to have the option of calling, when needed.*" (Appendix 6, p.6). This is somewhat in line with Feenberg's point when he presents the element in social rationality described as *reification*, in where he argues that reification actually shapes the relations and objects it conceptualizes (Ibid., 866). The nurses have very clear expressions and opinions towards the reasons why they have the patient call and how they perceive its functionality in cohesion with their work practices. If we

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<sup>28</sup> Chapter 2 + 4

are to follow Feenberg's notion, then the boundaries for grasping and understanding the phenomenon of the patient call, are constructed through the social rationale presented by the nurses. But for Feenberg's notion to assist us in this understanding, we must take into account that, what we observe in practice is a product of the nurses' attitude towards the socio-technical relation and reflects patterns and enactments, manipulated by the presence of technology itself. To a degree, Feenberg's position stands as a contradictory aspect to the basic premise for attempting what we are trying to achieve through this investigation; to transfer the inherent values founded in the enactments of the present-day patient call to the development of a digital one. As Feenberg warns us, not to fall into the trap of *reduction to function*, we would be naïve to believe our conceptualized values can be transferred linearly to a new technology, as this new technology will create new boundaries from which the implicated relations will be manipulated (Ibid., 866). The hope was, that through the praxiography approach we could conceive of the underlying aspects of the human-technology relations, as Feenberg tells us that the common-sense rationale is corrupted by its very own nature. Understood in a sense, that the fact that the nurses' work practices are enacted through technology, technology comes to shape the attitudes toward the understanding of what values are at the essence of these work practices; manipulated to believe that technology holds the answers to the complexities withheld in human interactions. If we denote the importance of human implications, we fall victims to the reduction to function paradigm, and forego the moral obligations that the invention of such technologies tries to assist us in achieving. As Feenberg also point out: *The notion of "actors" dereifies technical practice by restoring human decision in the technical sphere*" (Feenberg 2011, 870, quotation marks in original), which comes to follow in the track of the praxiography approach. As such, we should seek to 'dereify' our perspectives from technological boundaries, and by focusing on the multiple ways the nurses enact the patient call, we hopefully can expose its underlying nature.

Following this philosophical approach, we tried to free ourselves from the boundaries of a purely technological rationale through praxiography's *"mode of engaging with the world"* (Mol 2010, 266). Thus, we attempted to deploy a perspective that could expose the underlying features both detached from the technological manipulation, but also to expand the understanding through Verbeek's perspectives of this relation through a more hybrid understanding of its implications. As Feenberg presents human-technology relations as a more dialectic approach, where humans and technology are detached entities, we should consider these additional nuances in order to not limit our understanding of these phenomena. Through the hybridity



perspective, we saw an example of how the nurses' practices revealed, that the essence of the patient call, in relation to attendance, was detached from the technology in that the nurses attempt to accommodate the patient calls before they occur. It was not through technology that the value of attendance was foregrounded in their work practice, and as such the perception that the technology is needed to uphold the underlying values in the normative practices is contested by this fact. On the other hand, it can be argued that the presence of the patient call technology is what incentivizes the nurses to structure their practices in this exact manner and that these enactments are a mediation of the technology. As Verbeek points to the notion that; "*mediation co-shapes subjectivity and objectivity*" (Verbeek 2005, 130), we need to take this notion into account before ascribing these practices as detached from technological implications. If we are to follow Verbeek's concept of human-technology relations, we can classify these actions in the realm of *Interactive Context* (human  $\leftarrow \rightarrow$  tech./world), as this would lead to the argument, that the nurses' consciousness of the patients' possibility to call them through the use of technology, is what incites them to change their behaviour (Verbeek 2015, 29). The patient call is an embedded contextual feature of the nurses' work practices and the interpreted feedback from the call should be accommodated in a certain manner, to a degree trying to persuade the nurses to perform certain actions. Thus, the mere presence of the patient call technology entwined in the nurses' work practices, shapes their subjective assessment of what is normative behaviour in this regard, in that the patient call comes to represent a contextual feedback on the lack of such normative behaviours. More so, it could be argued that the technological mediation, even though it is not physical coercion that forces the nurses to take action, will be a derivative effect that leads them to mediate a new intentionality into the technology; the intentionality of attendance. If we accept this proposal, we come to follow Feenberg's notion that these mediations are exactly derived from the unforeseen complexities of the world that reveals itself through "*Feedback from reality*" (Feenberg 2011, 872). As also described in chapter 4, we believe the patient call regarding attendance, position itself in the sphere of *environmental conditioning of subjectivity*, as the subjective mediations of the patient call leads to objectively observable behaviours which relates to the value of attendance (Dorrestijn, Van Der Voort, and Verbeek 2014, 287). But not only does it apply in the form as we describe above, it also leads to interesting questions such as; would the nurses attend their patients more often if they did not have the current patient call? And do the patients feel that they must actively use technology to gain the attendance that they need? We cannot answer these questions through the scope of this investigation, but we can argue that if these

behaviours, from a hybridity perspective, are derived effects of this co-shaping of subjectivity and objectivity we cannot apply a new technology to the practices at the urological ward without addressing these possible outcomes. Though a patient call application offers itself in a cognitively similar manner and with similar meanings underlying it, the mediated perceptions of this technology might be different from those of the current patient call with different mediated outcomes in relation to attendance. We should also take into consideration, factors such as empowerment of patients, and that a patient call application featuring a high degree of service functionality, might have a dampening effect on the patients' willingness or perceived notion of self-reliance. E.g. a technical device displaying the functionality to order a cup of coffee might not induce the patients with the notion, that to do this yourself is actually what the nurses seek to encourage patients to do as part of their hospitalization. Arguably, the ability to force coercive features, such as locking the service functionality on the patient call application for certain patients, could support such notions of empowerment if we believe to induce and persuade the patients with the perception of self-reliance during their hospitalization through environmental conditions. We also experienced this notion in relation to the value of reassurance and safety, where the nurses attempt to project these values to their patients in order to enhance their experience during hospitalization at the urological ward. These values express the nurses mediated intentionality of what the patient call is supposed to reflect. The fact, that the nurses place the remote-control in the patient's hand (Appendix 3, p.2) or attach it to the bed railing to be in arms reach (Appendix 7, p.2), speaks to the idea that the technology itself does not mediate the nurses' intension of reassurance or safety well enough, and thus they change their practice to better suit these mediated attentions. In this sense, the patient call also comes to offer itself with a degree of moral character, as this mediated practice is an expression of the morality of leaving your patients in the room with the experience of being reassured and safe and in the absence of this the patient should turn to technology. As we addressed in chapter 4 regarding reassurance, the mediated morality from the patient perspective is inherent in their assessment of whether they feel entitled to call for a nurse. This is interpreted differently by the individual patients. As the patient call to some patients, offers itself as an entity that enforces reassurance in case of emergency, to others it represents the opportunity to achieve faster service through intrusive abuse of its functionalities (Appendix 6, p.6). Through this multiplicity scope, it also becomes apparent that the common-sense rationale presented through these situations, shows that the patients' individual interpretation of the same technology unfolds rather differently. This to some extent, speaks volume of the real-life complexities that has to be addresses in

making socio-technical judgements of a technology's implications in a given setting, in order to successfully develop technology to support given aspects within this particular environment (Feenberg 2011, 872). Whether we perceive the patient call technology as far as having agency, it nevertheless places its users in a reality where they are faced with moral questions; should I or should I not call the nurse - are my needs so urgent that I should disturb them? Why are they not here when I need them, I will call until they come! According to (Johnson 2006) we cannot prescribe these moral questions to the technology itself, as it possesses no other free will than that of reacting to a patient pressing the button, thus signalling to the nurse's phone. We can though, assume its intentionality both from the designer's perspective and from the mediated intentionality of the nurses, as they operate in the realm of freedom and therefore are able to assign moral intensions through the specific enactments tied to the practices of the patient call. Though we can contest Johnson's position of technological artefacts to only rely on their functionality, through Verbeek's notion of *moral mediation*, as he proposes that moral actions and decisions are the product of human-technology interaction from a hybrid understanding; *"Rather, moral agency is distributed among humans and nonhumans; moral actions and decisions are the products of human-technology associations"* (Verbeek 2011, 53). Thus, the technological artefact gains agency through the contextual relation to other agents, in this case nurse and patient, and because of this relation the patient call will become an agent that mediates moral issues within this relation. As the patients and nurses shape their subjectivity of this relation through a hybrid association to the technologically influenced environment, the technology does become an agent of morality. As Verbeek also states; *"The ways in which technologies help to shape our actions and the interpretations on the basis of which we make decisions, after all, determine to a high degree what can be recognized as a moral obligation [...]"* (Verbeek 2008, 23). Therefore, we cannot detach the questions of morality from the patient call itself, as the actions that are the premise for making such judgements are to such a high degree interlinked and shaped through the perceptions of technology. If we return to the questions mentioned above; would the nurses attend their patients more often or in a different way if they did not have the opportunity to use the patient call? Following Verbeek's notion, we cannot hold the patient call responsible for the morality of attending your patients, but it does propose a *"material answer"* to the morality of attending your patients and to be aware of their needs (Verbeek 2011, 42). It would not be unreasonable to assume that the nurses at the urological ward would structure their practices in an entirely different way if the patient call did not exist and that the morality of acting in accordance with the values we have outlined in this

investigation would unfold entirely different<sup>29</sup>. As such is the enactment of the patient call, in relation to both attendance, reassurance and safety a product of the hybrid subjectivity of having the patient call technology present and shapes what actions correspond to a moral obligation in this particular context. An interesting contrast, is the fact that the urological ward situated on the floor just below does not have the same patient call technology. When we asked the nurses at the ward below how it affected their daily practices, they replied; in that they cannot see which room or patient the call is coming from, they often take a lot of extra steps to first address the location of the call. Sometimes the call was not made by their respective patients and thus the nurse was disturbed needlessly (Appendix 2, p.3). What is interesting, is that they had much more tacit agreements concerning the enactment of patient calls and communications to colleagues which is illustrated through the following situation from our observations:

- Nurse 1 to Nurse 2:   How do you make assistance calls down here?
- Nurse 2:               We can't do that, I don't even know what that is?
- Me:                    How do you call assistance if, for example, a patient bleeds or falls?
- Nurse 2:               Then we press the cardiac arrest button and say when the colleague arrives; It's not a cardiac arrest but I need assistance.
- Me:                    But doesn't it call directly to the cardiac arrest team?
- Nurse 2:               No, not ours, it does that upstairs, we need to call them on the phone. You can also pull 3 times in the string, if you just need a colleague's help with something.
- Me:                    Okay, so it's such a kind of work practice that you have agreed on in the ward.
- Nurse 2;               Yes, that's something we've agreed that if you pull 3 times and the alarm sounds, it's because you just need some extra help without it being absolutely critical (Appendix 2, p.3).

As this situation illustrates, the nurses at the urological ward on the lower floor, does not have a technology that directly support the functionality and intentionality to make assistance calls. The patient call at this ward, is just a red string attached to a socket in the wall that the patients can pull once for normal call and multiple times for an alarm. Nevertheless, the nurses have developed a practice to expand the functionality of the patient call at hand, thus changing the

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<sup>29</sup> E.g. as the call did not exist 20 years ago, we would presumably observe a much different practice then, also they have the old patient call system at the urological ward located on the lower floor (Appendix 2, p.3 + 4, p.2).

intentionality of the original design to suit their work practices. We can argue, that the morality of the assistance call is the same as in the first ward. When in need of a colleague's assistance they can differentiate their intentions through different material answers dependent on the call being assistance or a more critical manner to which they use the cardiac arrest button. As such, the question of interest becomes; if the lack of intentional technology to directly support these functionalities are creating a clearer structure for their work practice at this ward? More so, is the presence of technology on the first ward causing the nurses to believe they do not need to explicit these practices as they suppose the technology to present these answers clearly to everybody?

### 5.1 Mediation of the patient call

In figure 6, we illustrate our approach to how the theoretical concepts of mediation and intentionality apply to the enactment of the patient call.

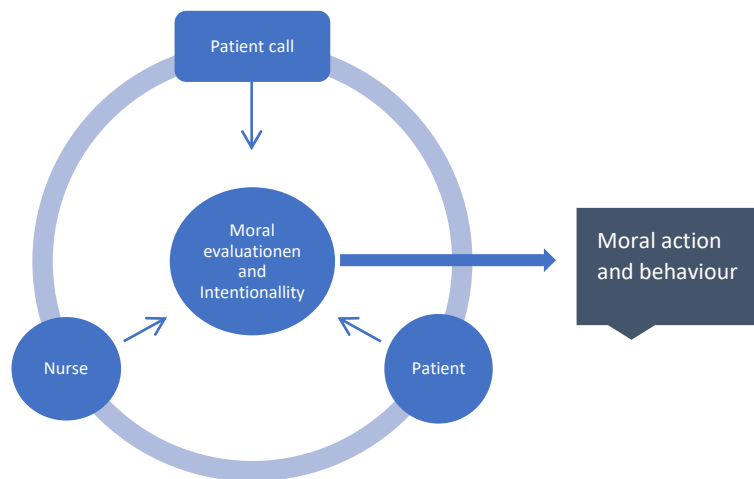


Figure 6

Through this figure, we attempt to create a visual structure of the implicated aspects when a patient call occurs and how the interpreted intentionality affects the mediated outcome for both patient; *whether to press the call?* and for the nurse; *should I answer the call?* The patient's reason for pressing the call is based on his presumptions of how and when the call should be used [intentionality] and make a moral evaluation based on these presumptions; *can I justify disturbing the nurses with this particular issue?* [moral evaluation]. It should be noted, that the moral evaluation and intentionality are interdependent in that these aspects overlap and affects the outcome based on the patient's moral and ethical beliefs and the patient's perceived intentionality of the technology. Thus, the patient activates the patient call in accordance with these aspects, assuming that the nurse's perceived intentionality will correspond to that of the patient's. In most cases, there appears to be a relative consistency in the perception of how to react in accordance with the normative work patterns at the urological ward. As mentioned earlier, the mediation of the patient call is also affected by the fact, that the nurses possess specific knowledge regarding the individual patients and they have the option to refer the whiteboard that displays the triage of patients. E.g. a nurse receives a patient call, she evaluates the perceived intentionality of the call; *what are the typical reasons for this patient to use the call?* This is based on her knowledge of the patient, which then leads her to the notion of a

mediated intentionality of the call. She makes a moral assessment of whether these perceived intentions fit with the current conditions of the work practices - *if she is in a hurry, can she morally justify not to answer this call?* An interesting aspect in this regard, is that the mediated intentionality that shows itself through our data, does not always reflect the full intentionality of the design itself. For instance, does the nurses in the case of some patients, make assessment based on their knowledge of the patient, which directly constraints them from taking direct action (if the patient is prone to having stools). The interpreted meaning underlying the call, for certain patients would cause the nurses to refrain from answering the call, rather than assessing if they could be of relevant assistance during an available 5-minute period (Appendix 6, p.5). It is reasonable to assume, that the designed intentionality of the patient call is to persuade the receiver to take direct relevant action towards the patient's situation, but in this case, it also mediates the opposite behaviour even though the patient's true intentions are just being estimated by the nurses. More so, these discrepancies in perceived intentionality can be founded in the patients' perspective of how the call should be used and for which situations. As we also addressed earlier regarding reassurance, some patients perceived the call only to be used very seldom, and do not want to disturb the nurses in their work, even though being in pain or feeling uneasy. Other patients call too often, either to get faster service or with minor issues such as having dropped a comb on the floor or the desire for a cup of coffee (Appendix 7, p.6). Thus, the mediated intentionality perceived by the nurses, is a product of the nurses' interpretation of the specific patient's perception and moral evaluation of when to use the call, often based on previous experiences with the patient. In the case that the patient has just been hospitalized, this will be an elusive evaluation as the nurses have limited knowledge of the patient at this point. The nurses in our interviews, explained that they always inform the patients of how and when to use the call when the patients are admitted at the ward, but despite this, the enactment of the call unfolds very different for individual patients (Appendix 6, p.2, Appendix 7, p.2). More so, the issue that there were no clear guidelines for how to react to the assistance call function, further illustrates the existence of discrepancy in intentionality. This is illustrated through a quote from one of our interviews:

X: I had a discussion with my colleagues at the last staff meeting, where I informed about the fact, that it often was a problematic that people don't come when the assistance call is activated. I've been taught, that when the assistance call rings, you run there and ask what you can do to help one's colleague or the patient that lying there (Appendix 6, p.2).

Additionally, we were told by one of the nurses, that the assistance call is prioritized above the normal patient calls and therefore it is also transmitted to all phones (Appendix 3, p.3). This informs us about the mediated intentionality, whether it be from a design standpoint or as a mediated intentionality it is not being interpreted equally by the individual nurses. In the case quoted above, the perceived intentionality of the nurses varies and thus the assistance call mediates into different behaviours regarding these situations. Where some nurses believe it to be of utmost urgency, others perceive it as less important and not to be replied before having the proper time.

When discussing the practical implications of implementing a patient call application, we need to consider that the hybrid relation between nurses and technology might not be equivalent of the patients' relation with technology. One thing is to consider the cognitive differences of the individual patients, with various ages and medical conditions that might affect their cognitive state. As well, we must consider the received outcome from a patient call application and must account for the patients' condition to make proper assessment of perceived intentionality. Though a nurse might believe to be highly informative through the use of technology, a patient might not look at his phone for hours or misinterpret the information as something sent by a computer. Thereby imposing a risk, that the patient will not relate this type of interactions to the realm of nurse-patient relation. The presentation of the present patient call, informs the nurses with a perceived intentionality from a premise that their patients have a basic understanding of how to use the call. To interpret the perceived intentionality of a much more complex patient call application, could be a more complicated matter with the need to evaluate the individual patient's relation to this type of technology, his ability to use and communicate correctly via its functionalities. This adds additional nuances to the enactment of the patient call, which might affect the outcome in multiple ways. As such the matrix of mediated intentionality would be of a different nature than what is tied to the present patient call and therefore the concept of mediated intentionality cannot be linearly transferred from the enactment of the old patient call to the new application, without considering these additional implications.

## 5.2 Part conclusion

Through the perspective of Feenberg's social rationality, we understand that the technological setting for the nurses' work practices creates a human-technology relation in which it is difficult for the nurses to perceive their work practices without the use of technology, thus finding it difficult to free themselves from it. It is also connected to the premise of Verbeek's conception of the hybrid relations and that the mediation of technology co-shapes subjectivity and



objectivity. Thus, the moral evaluations and intentionality of the patient calls and the practices that unfolds, are a product of these mediated implications. This lead us to claim the present patient call to be theoretically located in the realm of an interactive contexts, that co-shapes the nurses' practices as the technological boundaries incites the nurses to behave the way they do. It is also through this hybrid relation, that we claim the patient call to be an entity for mediating moral issues through its contextual relationship with nurses and patients.

## Chapter 6. Conclusion

In this project, we have investigated how a digital version of the patient call can support patients' experience of *Attendance*, *Safety* and *Reassurance* during hospitalization and how these values can benefit the development and design of a patient call application. More so, how a digital version of the patient call can improve the nurses' work practice at the urological ward. We have deployed our investigation via the Value Sensitive Design and Praxiography approach and through our theoretical framework we have analysed how these values are explicated and what implications they entail in the nurses' work practices. Our goal was to identify what values are tied to the practices of the present patient call, which would enable us to outline requirements for the design of a patient call application to support these values.

We can conclude that the values of Attendance, Safety and Reassurance are inherent in the nurses' work practices at the urological ward and that these values are the underlying premise for the observed practices regarding the patient call. In accordance with the VSD approach, we have congregated our findings into a value hierarchy, from which we can condense our data and analysis into more concrete design requirements. This enables us to transfer our findings into the design and development of a patient call application. The concrete requirements are listed in table 1 and are categorized as *objectives*, *goals* and *constraints* to further aid in structuring its applicability.

| Goals                                   | Objectives                                       | Constraints                                      |
|-----------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Display triage                          | Support patient-nurse relation                   | Must have backup system                          |
| Ability to make differentiated calls    | Assist in making correct prioritization of calls | Must have an emergency button or similar feature |
| Ability to make sticky notes in the app | Must not be too informative                      |                                                  |
| Can display status of the call          | Application must be very clear/easy to use       |                                                  |

Table 1

We conclude, that a new patient call technology should consider these requirements and seek to implement them in the development and design process. However, as the social rationale and human-technology relation change with a new technology, so will probably the mediation of a patient call application. In this regard, it is important to consider the technological

boundaries, shaped by the presence of the patient call, as these boundaries has shown to be closely connected to the nurses' work practices, as we have argued through the theoretical perspective of Andrew Feenberg. Thus, it impossible to precisely predict the mediated effects of a patient call application, but it is possible to strive toward achieving supportive features of the identified values in the design of such a technology.

Through the theoretical framework of Peter-Paul Verbeek's mediation theory, we can conclude, that the patient call technology offers itself through various points of contacts and exerts various types of influences in the nurses' daily work practices. We understand this through the sphere of multiplicity as we have observed the patient call being enacted in multiple ways. The nurses try to limit the amount of patient calls by frequently attending to the patients' basic needs, thus freeing themselves from attention of potential incoming patient calls, rendering the patient call unneeded. This practice is only possible when the nurses are not busy, but during busy hours at the ward the patient call become a must-have tool. In addition, the nurses express that their job is to care for patients face-to-face, thus it should be considered how intrusive a technology one should try to introduce in this relationship. More so, it is important to consider the aspect of potential communicative benefits through the face-to-face relation that have relevance in treatment considerations. More so, there are various practices in relation to assistance calls and there is some tacit consensus concerning the practices, but there are no clearly defined guidelines for the use of the different calls. This is tied to the fact, that patients use or abuse the patient call on individual basis and therefore the mediated intentionality of the calls is being perceived differently by the individual nurses.

We have argued that the patient call technology offers itself through a hybrid relation, and that the perceived intentionality of the calls and therefore also the corresponding enactments, are tied to the hybridity rationale. This means, that implementation of a new technology would alter this relation, and thus the environment for perceived and mediated intentionality would also be altered. Therefore, we cannot predict that the patient call application will present the same outcomes as the present system in this regard.

## Chapter 7. Perspectivation

Through this project, we have attempted to shed light on some of the values that are tied to the enactment of the patient call at a urological ward.

An interesting step for further investigation, would be to address the development of a patient call application through a scope of *Participatory Design* or *User Driven Innovation* from which we might compare the design preferences from the users' standpoint, to the values that we have come to define. In collaboration with the engineering students and CIMT engineers, we discussed how to develop this project further through a workshop driven iteration process, where the users' perspectives and perceptions of the prototypes could be compared to the value derived design requirements that we have concluded to be underlying the nurses' work practices.

Additionally, as we have only addressed the human-technology relation from the nurses' perspective, it would be relevant to investigate how this relation might unfold from the patients' perspective. As the nurses perceive the patient call technology as an obligatory work tool, this perception might not be the same in the case of the patients. To perceive design requirements to be fulfilled from a hybridity premise and mediated as such, without considering the patients perception of this relation would be to draw hasty conclusions. As such it could also be beneficial to compliment this investigation through the scope of e.g. *Scenario Based Product Design*, as this approach is developed to address the uncertainty surrounding new technology.

As a final note, we only investigated a single urological ward and the enactment of the patient call in this ward, might not necessarily be representative for the enactment in other hospital wards. We hope that our investigation of the patient call and the inherent values tied to its enactment, can lay the foundation for further research and development of how the implementation of technology affects the relation of its users in a healthcare setting. More so, we hope it will contribute to a more successful development and implementation of a patient call application to replace the current technology and that its functionalities will be developed in cohesion with the values that are tied to the practices and relations between nurses and patients at the hospital wards.

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## Appendix

### Appendix 1

Observation Jacob d. 23.02.2017

Makes 6.55 Vi ankommer til venteværelset og venter med en 8-10 andre personer. Man kan se gennem glasdørene en del personer i hvide kitler der er samlet omkring nogle tavler og de gestikulerer mod tavlerne.

Vi snakker med en sekretær angående vores aftale med afdelingssygeplejersken og hun tager os med ind gennem dørene. Her snakker vi med afdelingssygeplejersken, som byder os velkommen og finder et skab vi kan ligge vores ting i. Hun finder noget tøj vi kan have på ude i afdelingen og hun finder de sygeplejersker vi skal gå sammen med.

7.15 Jeg hilser på sygeplejersken og forklarer lidt om hvorfor jeg skal følge hende i dag. Hun har en patient der skal klargøres til operation og skal derfor hente noget medicin i medicinrummet. Hun siger jeg ikke behøver at gå med hende, men jeg spørger om jeg ikke kan få lov at gå med alligevel. Det må jeg gerne og jeg stiller mig inde i medicinrummet og kigger på hende og en anden sygeplejerske der er i gang med at fordele medicin i små glas. Efter et par minutter bipper hendes telefon og hun tager den op ad lommen med den ene hånd og kigger på displayet. Hun trykker på en knap og siger til den anden sygeplejerske:

Spl. 1 *Det var opkald fra stue 3, har du den?*

Spl. 2 *Nej, jeg har ikke nogen telefon endnu.*

Spl. 1 vender sig mod mig og siger; *Kaldene er ikke blevet prioriteret endnu, jeg har normalt stue 22-25*

Jeg følger sygeplejersken ned til stuen med operationspatienten. Han hilser kort på mig også og siger. *Nå, du er også med i dag eller hvad?*

Jeg forklarer at jeg går med rundt i dag og ser hvordan sygeplejerskens dag foregår. Han virker nervøs og taler lavt og hurtigt til sygeplejersken og har mange små ting at forklare. Jeg vil anslå hans alder til ca. midt halvtredserne. Sygeplejersken giver ham pillerne og et glas vand at skylle dem ned med. Da han har slugt pillerne giver hun ham en sprøjte i låret efter hun har forklaret ham at det er noget blodfortyndende medicin. Efterfølgende går jeg med sygeplejersken ud til computeren i administrationsområdet hvor hun skal dokumentere patientbesøget på computeren.

Efter nogle minutter kommer en anden sygeplejerske og siger de skal ind og vaske en patient og det nok er bedst jeg ikke er med til det og bare kan vente her.

Jeg observerer de 2 store tavler på væggen hvor alle afdelingens stuer er listet op, ligesom navnene på patienterne er skrevet på de pågældende stuer. Der er en række kolonner med forskellige overskrifter og ned langs rubrikkerne er der anført tal eller skrift i relation til overskrifterne. Der sidder en række magneter ved patienterne i farverne, grøn, gul, rød og jeg spørger en sygeplejerske hvad de betyder. De angiver hyppigheden af hvor tit en patient skal have taget fysiske målinger, som har noget at gøre med hvor dårligt de har det og derfor skal observeres hyppigere. Rød er oftest og grøn mindst.

7.55 Sekretæren, som har plads i et glasbur ud til venteværelset og i forlængelse af administrationsområdet, kommer ud i området og går hen til en lille tavle ved døren. Der er tegnet nogle rubrikker med sort og hun flytter rundt på nogle magnet labels med tal på tavlen. Efter få minutter siger hun højt ud i lokalet:

*Jeg mangler rigtig mange telefonnumre oppe på tavlen piger.*

En sygeplejerske spørger en anden: *Har du ikke fået en telefon endnu?*

Spl. 2: *Nej, der er ikke flere*

Jeg spørger sygeplejersken: *Har i ikke en telefon hver, er det ikke meningen. Ellers kan i vel ikke modtage patientkald?*

Spl: *Nej, men det er fordi der lige er kommet 5 nye medarbejdere på afdelingen så er der ikke nok til alle, men så er de selvfølgelig fordelt så der er en i hvert team.*

Der kommer nogle sygeplejersker ind i rummet. Sekretæren spørger dem:

*"Er der nogen af de damer der har en telefon? – der er 4 telefonnumre her og der er ikke nogen der har dem på?"*

Spl. *"Jeg har 78; undskyld jeg har ikke fået den på"*

8.20 Jeg snakker med sekretæren om tavlen med magnet labels og hun forklarer mig, at det er der hun prioriterer telefonerne til de respektive sygeplejersker så patientkald bliver sendt til dem der hører til stuen. Hun forklarer at det ofte bliver glemt at markere på tavlen når man har taget en telefon.

Der er en del aktivitet i administrationsområdet, hvor nogle sygeplejersker kommer og går. Nogle sidder ved computere og gennemgår nogle patienter i fællesskab, andre taler med sekretæren eller står alene ved en computer. Jeg snakker kort med en sygeplejerske om patientkald og hun siger:

Spl: *Nogle gange ligger patientkaldet i sengen, når man så kører sengen op og ned så bliver ledningen revet ud af stikket. Når så folk vil sætte stikket i igen, så er der 2 stik på væggen og så sker det at de sætter den i det forkerte. Så hyler og larmer den og man er nødt til at nulstille hele kaldet.*

9.00 Jeg følger sygeplejersken rundt til nogle patienter som skal have morgenmad, som hun henter til dem.

9.15 sygeplejerskerne samles i personale rummet og spiser mad og snakker om løst og fast.

9.25 sygeplejersken jeg følger får et opkald på telefonen. Jeg rejser mig for at gå med hende, men hun siger det bare er et telefonopkald, så jeg behøver ikke gå med. Jeg bliver siddende i personale stuen og lytter til de forskellige samtaler.

9.50 En patient skal have skiftet IV adgang. Efterfølgende skal en anden patient have hjælp til personlig pleje og de går ud på badeværelset og lukker døren. Jeg venter på gangen. De 2 mænd på stuen har en anslået alder på mellem 60 og 70. En tredje patient på stuen ved siden af er også mand og af samme alder.

Efter et par minutter kommer sygeplejersken ud fra badeværelset med en plastpose med tøj i hånden. Hun bærer posen over i et rum overfor og vender kort efter tilbage.

## Appendix 2

Observation Jacob 24.02.2017

7.00 Vi deltager ved morgenmøde kl.7. Spl. Står i administrationsområdet og kigger mod de 2 store tavler. Der diskuteres forskellige patienter og fordeling af personale til stuerne. 7.10 alle sidder ved computere. Nogle stykker går til tavlen med magnet labels og sætter labels med tal på efter de har taget en tlf i holderne.

Vi snakker med sekretæren ift. At se hvordan hun opsætter differentieringen af patientkald. Hun viser sin computer hvor hun først har en kolonne med navnene på alle medarbejderne på afdelingen. Først klikker hun af hvilke personale der er på arbejde i dagvagten. Derefter kommer hun til et nyt skærbillede hvor de respektive medarbejder navne står listet vandret og stuerne numre listet lodret. Derefter trykker hun enten 1,2 eller 3 ud for stuen alt efter om denne medarbejder er første anden eller tredje prioritet til et kald fra denne stue.

Hun forklarer at systemet ofte er langsomt og at det ikke responderer når man trykker. Hun forklarer om hvordan man kan se de forskellige kald ude på lamperne over stuerne. Hun spørger om hun ikke skal vise os det nu hvor der er stuer ledige. Vi følger hende ud på en stue og hun forklarer om nærværs knappen. Det er en knap der sidder på ... betjeningsen og er en grøn knap lige inde for døren. Ved tryk på den markerer sygeplejersken at hun er på stuen og derved er nærværende. En grøn lampe lyser over patientens stue således andre medarbejder kan se der er personale tilstede på stuen.

Hun forklarer at hvis man trykker flere gange på det røde knap, som er det almindelige patientkald, så udløser det en alarm. Det er f.eks. Hvis en patient er faldet eller på anden måde har brug for akut hjælp. Hun går ud i personale området og siger til sine kollegaer at hun lige tester systemet vi kan høre hvordan de forskellige opkald lyder. Hun demonstrerer patientkald, assistance nr og nødkald for os. Alle kald nulstilles ved tryk på den grønne knap. Hun viser os hjertestop knappen, som er positioneret over ... betjeningsen ved døren. Den er beklædt med en plastik hætte som skal løftes før end man kan trykke på knappen. Kaldet går til alle personalets telefoner og desuden også til hjertestop teamet som straks vil komme til assistance. De har oplevet at kaldet ikke sendes til hjerte teamet og de derfor selv skal ringe dem op. Tlf. Nummeret står bagpå deres telefoner. Hun fortæller at nogle gange har pårørende trykket på denne knap i den tro at det var til patientkald.

Herefter går vi tilbage til administrations området hvor hun viser os en knap der styrer den generelle omstillings system til telefonerne. Hvis systemet går ned kan det omstilles så alle kald går til alle telefoner i stedet. Vi spørger ind til hvad patientkaldet betyder i deres arbejdsdag:

Sekretær: "Det er nærmest det vigtigste redskab vi har; patientkaldet" "det er jo syge mennesker vi har med at gøre" Hvor tit oplever i problemer med systemet? Spl. " ca en gang om måneden, så kan det f.eks. Være der går en alarm hvert 5 minut selvom der ikke er nogen der har kaldt."

Sek. " det er et vigtigt redskab for mig, ellers ved jeg jo ikke hvor folk er på afdelingen hvis jeg skal have fat i dem" " hvis der f.eks. Ringer nogen fra kommunen eller en pårørende som vil snakke med den spl. der passer vedkommende så kan jeg så omstille direkte til den person, ellers skal jeg ud og rende alle mulige steder de kan være"

Hvordan med det med ledningerne til pt.kaldet, som kan blive revet ud af stikket. Tænker i man kunne lave noget smartere med velcro på tøjet eller dådan noget så de ikke har den i hånden og så går?

Sek. "Det kunne man nok godt, men du kan nok aldrig lave et system som kan bruges af alle, altså det vil altid være et problem ved de demente patienter' man kan ikke helgardere sig 100% ved alle patienter. "80% af vores patienter har en iphone eller en ipod og det er jo så smart når de har de her ikoner som man bare skal trykke på. Det er de fleste faktisk med på, du skal nærmest være over 80 år før end du ikke er med på det. Det er jo sådan når systemet er så simpelt".

Jeg sætter mig i administrations området og observerer. En sygeplejerske trækker et rullebord med en computerskærm med sig gennem døren ind til afdelingen.

De sidder 2 sygeplejersker og en læge ved en computer (kan jeg se på deres navne skilte). De diskuterer forskellige patienter mens de kigger på skærmen og i nogle papirer. Efter 3 minutter lyder der bippet fra en tlf. Den ene spl. Tager telefonen op ad brystlommen og trykker på en knap og lægger telefonen tilbage i lommen og fortsætter samtalen. 1 min senere lyder der igen bippet fra telefonen. Den anden sygeplejerske tager sin telefon i lommen og trykker på en knap. Hun siger noget til den første sygeplejerske i relation til en patient om dennes ønsker til vaske tidspunkter. Hun lægger telefonen tilbage i lommen og fortsætter samtalen. 10 sekunder senere lyder der bippet igen. Jeg kan ikke se hvem der afbryder dette kald , men den stopper med at bippe.

2 minutter senere lyder der bippet igen og spl. Afbryder kaldet. Derefter rejser de alle 3 sig op og går ind på en stue

og

lukker

døren.

8.55 Sekretæren kommer ud i administrations rummet;

“Hvorfor har Susan ikke nogen telefon? - det er skide irriterende”

Sosu ass. “Det er nok fordi der ikke er flere”

9.10 Vi går ned på etagen under (afd.22)

Vi står i venteværelset og venter på en sygeplejerske. En cirkel med bogstaverne A-F i farvede firkanter hænger over døren. Der lyder et højt bip og lampen med F bogstavet lyser.

Sygeplejersken vi skal mødes med kommer ud fra sit kontor og jeg spørger hende om det vi kan se på tavlen er patientkald og om det er til den dør længere ned af gangen, hvor jeg kan se en grøn lampe lyse over døren.

“nej det tror jeg ikke det er, men det er et patientkald”.

Hun forklarer os at bogstaverne på tavlen refererer til de forskellige stuer på afdelingen som er inddelt i sektioner. De 4 stuer vi står ved hører f.eks. til sektion A osv. Hvert personale er så allokeret til en sektion, med undtagelse af A og B hvor nogle af A sektionens stuer er kontorer og man derfor som personale her skal varetage 1-2 stuer i sektion B. Derved kan et opkald fra sektion B henvises til op til 6 sygeplejersker, som så skal hende og kontrollere fysisk om det er deres stue der er blevet ringet fra eller om den hører under en andens ansvarsområde.

Spl.1 til en anden: “hvordan laver i assistance kald hernede?”

Spl. 2: “Det kan vi ikke, det ved jeg slet ikke hvad er?”

Hvordan kalder i så på assistance hvis f.eks, en patient bløder eller er faldet?

Spl. 2 “Så trykker vi på hjertestop knappen og siger når kollegaen kommer; det er ikke hjertestop men jeg har brug for hjælp”

Men ringer den ikke ned til hjertestop teamet?

Spl. 2: “nej ikke vores, det gør den ovenpå, men vi skal ringe med telefonen derned til”

Spl 2: “Man kan også hive 3 gange i snoren, det er sådan hvis man lige har brug for en kollegas hjælp til noget”

Ok, så det er sådan en slags arbejdspraksis i ligesom har aftalt på afdelingen.

Spl. 2 “ja det er noget vi har aftalt, at hvis man trækker 3 gange og den alarm lyder, så er det fordi man bare har brug for lidt ekstra hjælp uden det er helt kritisk”

Vi følger sygeplejersken ind på en stue og hun viser og forklarer hvordan deres patientkald system er sat op. Der er en lang rød snor som fører ind i en kontakt på væggen. Over indgangshullet sidder en rød knap som er knappen til hjertestop.

Vi går ned på hendes kontor igen og taler om de forskellige muligheder som kunne ligge i en digital applikation til patientkald. Hun fortæller at hun gerne så noget der minder om en iPad som patienterne kan bruge til at skrive beskeder til personalet og at de fleste på hendes afdeling vil være i stand til at bruge en sådan en.

Spl 2: “Således skal man jo så ikke gå de ekstra skridt ned og se om det er min patient eller en andens når der lyder kald. Og kan man så spare de skridt på dem der kan finde ud af at bruge sådan en, så er der jo mere tid til dem som ikke kan finde ud af den.

## Appendix 3

Observation Kim d. 23.02.2017

7.00 Vi møder på afdelingen og tages imod af Sygepleje sekretæren der viser os ind til vores kontaktperson.

Vi får tildelt uniform og SPL som vi skal følges med. UT's SPL er i dag i akut funktion og kan derfor ikke have studerende med. UT får tildelt ny SPL som i dag er tilknyttet gruppe 1. Hun har foruden mig en nyuddannet SPL med som er i gang med oplæring.

SPL1 læser op på dagens patienter og forklarer nyuddannet hvad man skal kigge efter og hvad hun forstår ud fra nattevagten rapport. Midt i det administrative område er på væggen placeret to store tavler hvor stuerne og de patienter der ligger på stuerne er nævnt med stue nr., patient navn, SPL der er ansvar for den stue, diagnose, plan. SPL1 og nyuddannet skriver noter på et stykke papir hvor der er for printet stuerne og de patienter der ligger på dem.

7.33 Pt. Kald. SPL1 modtager er patient kald på sin telefon og kan se det er på stue 2 kaldet kommer fra. Hun accepterer kaldet ved at trykke accept på sin telefon og går derefter mod stuen. Der er placeret boks på væggen foran stuen der lyser rød. Dette indikerer at det er på den stue pt. Kaldet kommer fra. SPL1 går ind på stuen og spørger patient "Du ringede, hvad kan jeg hjælpe med?"

Inde på stuen er der et pt. Kald placeret lige til højre for indgangsdøren, et kald ved pt.s lænestol og et kald over sengen, hvor der er tilkoblet en ledning hvor der for enden er en rød knap med et sygeplejeske symbol på. Pt. Kaldet har tre knapper; en rød til pt. Kald, en gul til assistance kald og en grøn der er til at slukke for pt. Kald eller fortælle andre ansatte at den pågældende ansatte som er på stuen ikke vil forstyrres fordi hun måske er i gang med at skifte pt. eller have en længere samtale med pt/pårørende. Når SPL skal slukke for pt. Kald skal dette ske på den grønne knap over sengen. Rent visuelt er patientkaldet placeret over indgangen til stuen hvor den lyser en af de tre farver præsenteret ovenfor alt afhængig af hvad der er blevet trykket på.

Efter pt. Kald er overstået går SPL1 ind på stue 1 og checker op på de patienter der er på stuen. Foruden pt'er er der 2-3 pårørende, 4 personale, 3 sygeplejersker og en bioanalytiker. Dette er ikke et patient kald, men rutinemæssigt check for bl.a. at høre hvad patienterne skal have til morgenmad.

7.40 SPL1 går tilbage til det store åbne administrative område. Her er lige nu 17 synlige ansatte. De sidder i grupper omkring computerne. Sygeplejerskerne er delt op 2og2 med ansvar for 4-6 stuer, hvor den ene SPL er på gulvet (klare de praktiske opgaver med patienter) imens den anden SPL klare administrative opgaver og er med på stuegang.

På gange og stuerne er der mange farver og disse farver indikerer hvilken gruppe som SPL er tilknyttet. Det er også denne gruppe hvor deres telefon bliver tilkoblet.

7.50 SPL1 går ud i vente rummet. Her er masse skabe hvor hun i et af skabene henter forskellige redskaber der skal bruges til personligplejer på en stue. UT går ikke med ind på stuen da jeg ikke mener det er relevant/etiske korrekt at gå med.

8.00 SPL2 spørger UT indtil hvorfor jeg er her og jeg forklarer at jeg er her for at lave teknologivurdering af pt. kald. Hun nævner at opsætningen og tildeling af stuerne igennem ... er besværgelig og meget tidskrævende. Det aftales at UT og JH bliver introduceret i opsætningen den følgende dag.

8.05 SPL1 og nyuddannet mødes i det administrative område og gennemgår forskellige værdier der er målt på patienterne, både i nattevagten og her til morgen. Dette foregår på en "Rover", hvilket er en ipod der er sat op til at scanne QR koder fra de forskellige apparater og man kan derefter skrive værdier ind direkte imens man er hos patienten. Disse værdier opdateres så automatisk i sundhedsplatformen.

SPL sekretæren kommer ind i det administrative områder og gør opmærksom på at der er flere SPL'ersker der har glemt at logge ind på deres telefon og hun kan derfor ikke sætte dem op til pt. Kaldet, hvilket gør at de ikke kan modtage nogle pt. Kald fra deres gruppe. *"Jeg mangler masser af telefonnumre, piger"*.

SPL1 forsætter med at tage noter af patienterne fra hovedtavlen. Hun er opmærksom på dem med røde stjerne da det er dem der skal til operation i dag. De er derfor ikke relevante at inddrage i dagens rutine opgaver, som er at sætte morgenbakker frem til pt. Og hente dem igen inden kl. 9 da det er her køkkenpersonalet vasker op. SPL1 finder også tøj frem til de patienter der har brug for hjælp til det og hjælpe de patienter der har behov for hjælp til personlig pleje.

Forlader administrative område og forsætter ind til en patient (ikke pt. Kald) for at checke kateter og forhøre sig om hvad han vil have til morgenmad. Dette skrives ned og SPL1 fortsætter til stue 5 og forhører sig også om hvad de vil

have at spise og skriver dette ned. På stuen lægger jeg mærke til at den ledning der er tilkoblet til ... systemet er sat fast til lampen, og spørger hvorfor. Svaret er at dette er for at pt. nemmere kan komme til den.

8.10 Stue 2 ringer og SPL1 tager imod kaldet. Det viser sig at patient på stue 2 har brug for hjælp til personlig hygiejne og det faktisk ikke er blevet ordnet siden sidste kald hun lavede derfor følte hun det nødvendigt at bruge kaldet igen. SPL1 slukker for kaldet inde på stue 2 og starter med at forklare pt. Hvordan situationen vil komme til at foregå. UT er ikke med under personlig hygiejne, etisk beslutning.

8.15 SPL1 er færdig på stuen og på vej tilbage til administrative område møder hun sin gruppe makker og de diskutere patient i et kort øjeblik. Fordelingen mellem SPL1 og SPL3 er at SPL1 laver praktiske opgaver på "gulvet" imens at makker (SPL3) står for de administrative opgaver, stuegang og medicin givning.

8.20 SPL1 og UT kommer i snak og UT forklarer mere i dybden hvorfor der er behov for observation. SPL1 begynder efterfølgende at snakke omkring hvordan hun ser nuværende pt. Kald og en evt. mere digitaliseret udgave

SPL1 "Der er mange ældre patienter her, hvordan skal de kunne klare at benytte en smartphone når de ikke har prøvet det før. Det kan jo være de ser dårligt eller er hæmmet grundet sygdom". "Det er vigtigt at man i sådan en situation kigger på hvilke patienter det er vi har her på afdelingen". SPL1 fortæller ligeledes at det er vigtigt for hende at det er de "rigtige kald" der kommer og at patienterne "føler sig trygge ved at bruge kaldet". "Hvis de ikke er særlig mobile kan man altid lægge fjernbetjeningen i deres hånd", "man skal være obs på at der jo er en virkelighedsverden også", "Vi er her jo for at give patienten tryghed ved at være på hospitalet" "Det er vigtigt for mig at have ansigt til ansigt kontakt med patienterne", "en app ville måske give mening på barselsgang"

Vi snakker videre omkring det nuværende patient kald og SPL1 fortæller at rødfarve på lampen er et normalt kald, gulfarve er assistance kald, det har også en anden lyd end almindeligt patient kald. SPL1 fortæller at assistance kald bliver prioriteret over pt kald. Assistance kald bliver sendt ud til alle på afd. Hvor patientkald kun sendes til den gruppe som er sat op til specifikke stuer.

8.45 SPL1 fremviser "rover" der er en iPod udstyret med hospitals app der kan bruges i forskellige situation imens man er inden hos patient. Fx kan man indtaste nyligt mål blodtryk på roveren og den opdaterer resultatet direkte i sundhedsplatformen.

Her nævner SPL1 "patient kontakten er meget vigtigt, men den bliver der mindre og mindre af". Her nævnes bl.a. en nyligt indkøbt computer der står på et rullebord som så er beregnet til at tage med under stuegang. Det, fortæller SPL1, gør dog at både SPL'er og læger bruger meget tid med at kigge på computeren frem for på patienten.

9.00 UT har forladt SPL1 for at observere hvad der sker af situationer i det administrative område. Her sidder mange af de SPL'er der har det administrative ansvar for hver deres respektive gruppe. Der snakkes værdier, vægt, indlæggelses længde, udskrivelse. SPL4 henvender sig til UT og forhører sig yderligere om hvordan det går med vores observationer. Hun nævner ligeledes at de på etage 22 (afd. 22), der også er urologisk afdeling, bruger et ældre patient kald system. Her får SPL'erne ikke kald på telefonen, men det bliver vist på en rund tavle ude på gangen. Det fortælles ligeledes at der er en del nye teknologier der bliver introduceret de senest år og at det er frustrerende at de ikke altid virker samt at det er en stor tidsrøver (sundhedsplatformen).

Som SPL1 fortæller "jeg er uddannet til at pudse og pleje, ikke til at sidde foran computeren" i forlængelse nævnes det at "for mig er patienterne i højsædet" og "og det kan være svært at man ofte skal gå på kompromis med det man laver" "man skal være noget for patienten, individuelt, psykisk, fysisk pleje"

9.30 Pause, personalet der er på gulvet holder pause i personale stuen. En ansat har taget teborler og smør med. Der snakkes både privat og professionelt. Her nævnes det af flere SPL'er at log in og tildeling af de telefoner der er tilknyttet hver ansat og som de får deres patient kald igennem er langsom og at flere patienter kan have svært ved at vide præcist hvad de skal trykke. Fjernbetjeningen skulle være mulig at sætte fast på pt's tøj, fx med velcro da det opleves at ledningen ofte ryger ud af stikket og at den hurtig kan blive sat i den forkerte ... modtager hvilket får det hele til at bryde ned. Det nævnes også at patient kaldet skulle have en funktion hvor det kunne kalde "automatisk", fx hvis det var sat fast til pt. Og han/hun så faldt eller anden u hensigtsmæssig adfærd opstod kunne knappen ringe automatisk til personalet.

9.45 Der holdes et møde mellem personalet (5 tilstede). UT fik ikke fat i hvad mødet omhandlede, men der bliver nævnt at der på afdelingen er stor forskel på hvordan de forskellige kald tolkes. De tilstedeværende bliver enige om at der skal opsættes nogle klare retningslinjer for hvornår man skal ringe hvad. Ligeledes nævnes det at det ikke er muligt at trykke "nødkald" på væggen, hvis patienten falder og det er nødvendigt for SPL at blive ved pt (ER DET MULIGT FOR SPL AT TRYKKE NØDKALD FRA SIN TELEFON (SKAL DETTE INTEGRERES I PT APP'EN?). Et nødkald aktiveres ved at trykke patientkald knappen 2 gange efter hinanden. Ligeledes nævnes det at det er frustrerende at man ikke kan se hvem der ringer assistance kald. Pt eller personale. Assistance kald er oprindeligt kun beregnet til personale til

personale kald. Men nogle patienter kommer til at trykke denne funktion. En SPL foreslår om det kunne være en mulighed med en tredje knap. Bliver hurtigt stemt ned af resten af gruppen da de mener det vil blive for uoverskueligt for patienterne.

SPL5 "Det er ikke fordi kaldet som sådan ikke virker, det er bare os der ikke har klare retningslinjer for brugen af knapperne"

10.05 Mødet fortsætter med samtale om patienter. Hvad er der sket og hvad skal der ske efter frokost. Fx hvem der skal udskrives eller hvem der skal til operation.

10.10 assistance kald: SPL1 rejser sig og går over mod stuen hvor der er kaldet efter assistance. Her har SPL1 valgt at gå over mod stuen hvor kaldet er opstået med det samme, men det var ikke nødvendigvis sket så hurtigt hos en anden, igen der er ikke standard for hvornår man kalder hvad. De vi når frem til stuen er kaldet blevet besvaret af en anden fra gruppen. I stedet viser SPL1 UT at kan man acceptere eller afvise et kald alt afhængig af hvilke arbejdsopgaver man er i gang med. Det sker også at personalet glemmer at logge sig ind på den telefon de tager fra vagtens start og det gør at de ikke kan modtage nogle kald, da kaldende er koblet op igennem telefonen.



## Appendix 4

Observation Kim. 24.02.2017

7.15 Efter morgenkonference start SPL-sekretæren med at forhører sig og nedskrive hvilke stuer de forskellige SPLer. Dette for at hun kan indtaste deres telefoner ind i ... systemet. På en tavle tæt ved døren ud til venteværelset er placeret en tavle på væggen, hvor de SPLer der husker det sætter magnetstrips med telefonnummeret, på den telefon de bruge i løbet af dagen, op.

Efterfølgende viser SPL sekretæren os ind på hendes kontor og fremviser proceduren for at opsætte de forskellige telefoner i ... systemet så de kan modtage de forskellige kald.

Hun starter med at afkrydse det personale der nu er på arbejde i dag. Dette gøres manuelt ved at sætte flueben i en boks til højre for personalets navn. Herefter åbner hun fanen "tildeling" dette går ofte rigtig langsomt og sekretæren kan nå at åbne andre programmer som hun skal bruge i løbet af dagen. Hun nævner "programmet er utilgiveligt langsomt, jeg kan nå at åbne flere andre programmer imens den bare tænker. Nogle gange trykker man flere gange fordi man er i tvivl om man overhovedet har trykket. Det gør at der popper flere vinduer op som man så skal lukke".

Da fanen "fildeling" er åbnet indeles personalet i den gruppe de nu har besluttet de er tilknyttet i dag. Herefter sætte SPL sekretæren numre ud fra den stue/personale som er tilknyttet den relevante gruppe. 1 = primær, 2 = sekundær, 3 = tertiær. Til sidst tjekkes stuerne af og hermed er det hele sat op til ... systemet. Ofte er dette en meget lang proces og flere SPLer har nævnt at de synes det er frustrerende at det skal være så langsomt.

SPL sekretær "Det er tidskrævende", "nogle gange kan stuerne og personalets navne stå helt hulter til bulter. Det er heldigt at det i dag står så fint som det gør". "Det er meget frustrerende at systemet reagerer så langsomt".

7.30 SPL sekretæren viser UT og JH ind på stue 4. Denne stue er tom og vi får en uddybende forklaring af pt. kaldet og præsenteret hvordan det virker i praksis. Når en SPL er på stue og klare en arbejdsopgave der er længere en bare at gå ind med fx mad og vand til pt. skal hun slå nærværs knappen til. Dette er den grønne knap. Når hun er færdig, slås denne funktion fra igen.

Den røde er det reelle patient kald som patienterne kan bruge til at komme i kontakt med personalet. Hertil er tilkoblet en ledning med en fjernbetjening hvorpå en enkel knap er tilgængelig. Pt. bliver introduceret til at bruge denne fjernbetjening hvis de har behov for hjælp.

Selve ... boksen er placeret over sengen og ligner til forveksling en anden ... boks som er placeret under. Det sker ofte at ledningen til fjernbetjeningen bliver revet ud af den ene eller anden grund. Når pt/personale vil sætte denne tilbage kan de ofte komme til at sætte den i ... boks2 hvilket kan få det hele til at lukke ned.

På væggen tæt på døren er også placeret et patient kald, dette bruges primært af personalet. Ovenover dette kald er "hjertestop" knappen placeret. Den er sikret ved at der er en plastik hætte uden over som skal løftes hvis der skal trykkes på knappen. Der er ligeledes skrevet "hjertestopknap" på et stykke dymo, men alligevel formår pårørende at bruge denne knap fordi de tror det betyder patientkald. Personalet oplever også at demente har svært ved at benytte patientkaldet korrekt.

SPLsekretæren fortæller at ca. 80% af deres patienter har en smartphone/tablet og i hendes optik kunne en patientkald applikation have potentiale.

8.25 UT mødes med SPL1 for at følge hende i hendes arbejdsopgaver. Hun er i øjeblikket i gang med at oplærer en nyuddannet SPL er forklare at de ved 9 tiden skal have samlet morgenbakker ind da det er her køkkenpersonalet skal gøre service og bakker rent. Efterfølgende går de ud i skyllerummet hvor der er behov for oprydning. SPL1 fortæller hvor de forskellige ting skal være efter de er gjort rent, hvor skraldespanden skal stå så det er klar til rengøringspersonalet kommer. De checker ligeledes hvordan der ser ud på toiletterne der ligger op mod skyllerummet. Herefter går de ind på stue 4, hvor de checker ilt og sug på de apparater der er herinde. Dette er vigtigt da ilt og sug er vigtige apparater ift. Patienternes ve og vel. De checker også om der er vådservietter til holderen og hvornår de er åbnet (de kan kun holde sig i en måned). SPL skriver dato på vådserviettepakken.

Herefter går SPL og nyuddannet ud og checker om der er styr på en sygepleje vogn. Der skal bl.a. være apparater til brug ved blodtryksmåling, blodsuktermåling og andre apparater der kan være relevante når man er inde hos patienterne.

8.45 Patientkald på stue 3, besvares hurtigt da SPL og nyuddannet er tæt ved. Nyuddannet går der ind alene og efter hun er kommet ud igen er der igen patientkald fra stue 3. Nyuddannet hører SPL om hun ikke kan tage den da patienten har set sig sur på den nyuddannet. SPL1 går ind til patienten og patient kaldet stopper herefter.

8.50 Anden patient har brug for hjælp til bækken i sengen. Dette udføres på stuen af to SPLer. UT går ikke med ind (etisk vurdering). Imens UT venter uden for stuen kommer en SPLstuderende gående forbi med patient i talerstol. (PATIENTEN BLIVER MOBILISERET). SPL1 kommer ud fra stuen og går hen til en række skabe på gangen. Her tager hun håndklæde og Hospitals underbukser. Disse lægges frem til patient på stuen som selv kan klare øvre personlig pleje. SPL ”jeg kan ligeså godt være på forkant og give ham de ting han har behov for at klare øvre pleje selv.” Herefter tilser SPL1 den anden patient på stuen. Dette sker uden at der har været patientkald.

9.00 Der er patientkald på stuen ved siden af (UT ser dette da lampen i loftet bliver rød) Der går dog et lille stykke tid inden at dette bliver registreret på personale telefonen og der kommer lyd der signalerer at der er kald. PT. må vente i næsten 5 minutter før han modtager hjælp.

Det er sekundær SPL der tager imod kaldet da SPL1 er optaget. (DET VIRKER TIL AT VED PATIENT KALD BLIVER ALT IKKE SMIDT FOR AT HJÆLPE, MEN TROR/STOLER PÅ AT EN ANDEN SPL KAN HJÆLPE HVIS MAN SELV ER I GANG MED NOGET. UT SÅ IKKE OM SPL TRYKKEDE AFVIS PÅ SIN TELEFON) (DER ER EN AFSLAPPET HOLDNING TIL PATIENT KALD. ER IKKE FØRSTE PRIORITET IFT. HVIS MAN ER I GANG MED EN ANDEN OPGAVE).

9.10 UT bliver kontaktet af SPL3 der har fået ”go” fra afd. 22 til at UT og JH kan komme ned og besøge den afdeling da de har et patientkald der er ældre en det der hidtil er blevet undersøgt. Vi går med SPL3 ned på afdeling 22.

Patientkaldet på afdeling 22 er opdelt i 6 grupper. Gruppe A, B, C, D, E, F.

Gruppe A, B, C er vest fløjen, hvor gruppe D, E, F er øst fløjen. Kaldet er placeret på gangene og er derfor ikke tilkoblet personalets telefoner. Dette gør at personalet må gå/løbe ud på gangen for at orientere sig om det er deres gruppe der er patient kald. ”Det skaber en del unødige skridt”. ”Vi render meget for at se om det er vores kald”.

Patientkaldet på afdeling 22 har kun en lyd, så det er ikke muligt for personalet at vide hvilket kald det er. Personalet på 22 har heller ikke et assistance kald og ved ikke hvad dette går ud på. Der imod er det aftalt internt at der skal ringes tre gange hvis det er personalet der har brug for hjælp. Det sker dog at deres patienter også ringer tre gange og dette kan skabe forvirring.

På afdelingen er der heller ikke automatisk ”hjertestop” knap, i stedet skal personalet ringe 2222 for at få fat i hjertestopholdet.

På stuerne er det som på afdeling 23 også en nærværs knap. Dette er dog noget mere simple sat op en på afdeling 23. Dog skal man huske at slå nærværs knappen fra igen når man som personale forlader stuen ellers kan der ikke sættes et patientkald i gang fra den stue. Det sker både at personale glemmer at slå den fra, men også at patienterne slå den til fordi de tror det også er et kald.

SPL5 ”Det virker som om at det simple system giver patienterne tryghed”.

I modsætning til afdeling 23 er der ikke knapper som patienterne skal trykke på for at igangsætte patientkald, det er en rød snor de skal trække i. Det er her at de sommetider kan komme til at sidde og trække i den flere gange.

Efter fremvisning af det patientkald der bliver brugt på afdeling 22 sætter UT, JH og SPL5 og snakker omkring dette kald og en fremtidig løsning. Vi fortæller mere i dybden hvorfor vi observere på afdeling 23 og SPL5 bliver meget interesseret og begynder at fortæller om hendes erfaringer og syn på en evt. udvikling af det nuværende kald.

Hun fortæller at inden sundhedsplatformen blev i gang sat var der tre forskellige firmaer i udbud omkring platformen. Bl.a. et irsk firma hvis system byggede på en brugerflade der også var tilgængelig på ipads og applikationer der passer til denne. SPL5 fandt dette rigtig brugbart og mener selv at det ville have været et bedre alternativ til den nuværende sundhedsplatform. Her kunne patienterne bl.a. skrive mindre ønsker til personalet inden de lavede et kald.

Dog fandt hun også ulemper ved dette system, bl.a. at patienterne selv havde muligheden for at afkrydse fx om de havde haft afføring, hvilket for nogle kunne være svært at huske og havde store konsekvenser hvis der ikke blev holdt skarpt øje med dette.

Hun kunne se at distancen mellem patient og personale ville mindskes og dette ville ikke være godt.

Hun forsætter og fortæller at hun synes ideen med en patient kalds app er en god ide og at op imod 70% af alle de patienter der er på afdelingen er bruger af smartphones. Hun nævner dog at man skal tage hensyn til det svagere borger og der burde være låsefunktion på evt. ekstra funktioner i appen. Eller at app'en kunne være et tilvalg til den nuværende patientkald.

Hun nævner ligeledes at det er vigtigt at både personale og patienter får grundig undervisning i hvordan sådan en app skal benyttes når de er på hospitalet. "Der skal være ordentlig undervisning og afklaring omkring app'en". "Dem der udvikler produktet kommer ikke ud og undersøger grundigt hvordan vi arbejder og hvilke arbejdsopgaver vi har".

## Appendix 5

Transcription: "Interview to the double". Date 21.02.2017

X: Interviewee, A: Jacob Heiden, B: Kim Berggreen

0.00 X: Jeg hedder ..... jeg er nuværende assisterende afd. Sygeplejerske på urologisk afd. Og har været siden 2009. Dagen starter med at vi møder, vi møder alle sammen kl. 7 om morgen for at afløse nattevagten som afslutter på det tidspunkt. Og i den forbindelse så samles vi lidt og holder et morgenmøde hvor at alle sørger for at tage en telefon hvor man så logger ind på og er klar til at modtage de kald der så kommer efter kl. 7 og de evt. rest kald fra nattevagterne som de ikke når at tage. Så holder vi som sagt et morgenmøde, hvor vi altid kan blive afbrudt af forskellige ting fordi, det er mennesker vi har med at gøre, men hvor der så måske er lidt behov at komme ud og hjælpe. Vi har nogen operations patienter, vi skal gøre klar og så starter vi som regel 7.15 med at gå ud i de respektive grupper og få fordelt patienterne, det gør vi så via en tavle vi har, ikke en elektronisk, men en tavle hvor vi har skrevet patienter ned så vi får fordelt dem så lige som muligt.

1.21 X: Så sidder vi så lige og orientere os i patient journalerne, hvad der er foregået som min. det sidste døgn og selvfølgelig hvorfor de er her og i den forbindelse er der også afbrydelser i form at der er nogen der har behov for hjælp inden på stuerne, det kan der sagtens være.

1.35 A: Er det så reelle patient kald? X: reelle patientkald ja, ja der er jo som regel altid nogen der skal på toilettet eller har behov for hjælp til et eller andet, der kan jo også være i den forbindelse kan der jo sagtens være nødkald inde på stuerne, hvis der er nogen der tilfældigvis er gået forbi ude på gangen og set at der er nogen der er faldet eller et eller andet. Assistance kald, nødkald og hvad der nu er. Så man kan sige at morgenrutinen er også forbundet med en del afbrydelser når vi sidder og forbereder os. Når vi så er orienteret i journalen så er der som regel en der går, vi er delt op i nogle små grupper på to i hver gruppe og den ene af dem går så ud og siger hej til dem der er inden på stuerne og tager sig af nogle små problemer og hjælper lidt med nogle småting og forbereder dem på morgenmaden også for at ligesom at få bremset nogle af de kald der er der for der kommer mange der om morgen for folk der skal hjælpe op og som har behov for at komme på toilettet og som måske har smerter eller andet. Nr. to går så ud og forbereder medicinen og får udleveret den og ham eller hende der er ude på gulvet tager sig så af morgenmaden og sørger for at de alle sammen bliver mobiliseret kommer ud og finder noget selv. Efter morgenmaden og efter medicinen der går vi så stille og roligt i gang med den personlige pleje hvis der er behov for det. Hvis der er behov for nogen småsamtaler eller andet så tager vi den. Så kommer stuegangen, og ellers så tager vi jo de opkald der nu kommer, dem tager vi jo lidt ad hoc som de jo kommer. Prøver at se om vi kan imødekomme nogen af dem, eller ikke imødekomme, men komme før de, eller tage nogle problemer før de evt opstår.

3.30 A: Når du så siger at i hjælper med sådan nogen små opgaver, det så sådan nogen som at tage tøj på eller er det også medicin eller. X: altså det kan jo være alt. Det kan være lige fra spørgsmål til, altså jeg har tabt mine briller på gulvet til ja lidt større opgaver med at, vi har jo patienter der bløder ud af urinvejene og der kan jo godt opstå situation hvor de, hvor der er blod ud over det hele og dermed behov for hjælp til det., eller får smerter for vi har jo også kræftpatienter. Så det kan jo være alt. Nogen af dem er selvhjulpne andre er ikke.

4.09 A: Så det er både sådan hvad kan man sige... kliniske opgaver og praktiske opgaver. X: Ja meget af det er det. Og en del har også nogle spørgsmål til noget af det der skal foregå i løbet af dagen. Sådan nogle ting er der også. Og så går dagen stille og roligt med hjælp til det de ellers har behov for og stuegang hvor lægen kommer og informere dem om hvor langt de er i deres forløb. Og så er der også altid efter stuegang er der også altid nogle kald for mange de har behov for lidt ekstra information efter stuegangen og har lige nogle ekstra spørgsmål til noget af det der blevet sagt. Og så begynder vi stille og roligt at forberede os til frokost hvor at vi har samme rutine som om morgen skal hjælpe nogle med at komme ud og nogle skal egentlig bare have at vide at frokosten står der ude, og så frokost medicin.

5.10 A: Er der sådan ting hvor i skal have dem ud og gå eller er det mere, i ordner det i skal ordne med medicin og så kan de selv tusse lidt rundt eller hvordan foregår det. X: Vi mobilisere dem som vidt muligt. Vi har mange operationspatienter der skal op og gå og som har behov for at komme op og blive mobiliseret og der er der behov for at vi er der hos dem. En del skal guides eller vejledes i forbindelse med mobiliseringen, men en del af dem kan klare det selv og kan egentlig bare, går egentlig bare lidt rundt ift. Det de har behov for, det gør de.

5.49 X: Nu kan jeg næste slet ikke huske hvor jeg kom til. B: Frokosten, X: Ja frokosten, når den er overstået, ja, efter frokost afhængig af hvad det er for en type patienter vi har. De ældre tager gerne en lur efter frokosten, andre går nogle går ture rundt omkring på afsnittet, andre går ned og køber lidt i kiosken. Så er der selvfølgelig dem der ikke

har det særlig godt, de bliver som regel liggende inde i sengen og bliver observeret lidt oftere og det er som regel også dem vi har flest kald fra. Det er jo dem som har det værst.

6.28 B: Er de så prioriteret efter frokost eller bliver de prioriteret gennem hele dagen?

X: De bliver prioriteret gennem hele dagen Det gør de. B: Vil det så sige at hvis du... Kan du have kald fra to stuer af gangen og så kender du dine patienter godt nok til at du ved at Hr. Hansen er den der har det værst og derfor har han formentlig behov for at det patient kald bliver prioriteret.

X: Altså vi tager jo patientkaldende efter hvornår de kommer, men det er klart at hvis vi har en der ligger og har det knap så godt og vi ser at det kald kommer lige efter at jeg ikke har nået at tage det første, så vil jeg gå derind først. Man kan evt. lige stikke hovedet ind og sige jeg kommer lige om lidt., Sådan plejer det er foregå. Vi prioritere hele døgnet og vi ved der er nogen der ikke har det særlig godt. Vi har jo også nogle med faste vagter på som til tider ikke har det særlig godt, som vi ved vi skal prioritere hvis der kommer et kald derinde fra. Der bruger vi ofte det der hedder assistance kaldet som den funktion.

7.36 A: Er det så noget i planlægger på morgenmødet, sådan at Hr. Hansen og Fru. Olsen de skal prioriteres i dag eller hvordan? X: Nej det er ikke noget vi. Det er noget der ligesom er indforstået. Og selvfølgelig i isolations stuer så ved vi også at assistance kald er fordi der er nogen derinde der har behov for noget som de (personale) ikke selv kan komme ud og hente fordi de er indført i en dragt som de ellers skal at tage fuldstændig af for at hente ting, og det ved vi også at hvis det ringer fra den stue der er isoleret, og det er et assistance kald. Så er det personalet der har behov for hjælp til at finde nogle ting.

8.17 B: Og det er forskellen... Assistance kald er personale til personale og patient kald er patient til personale? X: Ja, sådan plejer det at være, der er så en del der ikke helt kan finde ud af hvilke knapper de skal trykke på og hvor længe de skal holde dem inde. Også modtager vi også... det er som regel nødkald at der er nogle patienter der kommer til at trykke. Så det hænder. Og så har vi også en del, men det er som regel pårørende, som kommer til at trykke hjertestop knappen ved et uheld.

8.45 B: Er det så noget i oplever tit (hjertestop knappen). X: Jeg tror at siden den hjertestop knap er kommet har vi oplevet det to eller tre gange. Der er en plastik kappe udover som du egentlig skal tage op og så trykke på kaldet, men det er der nogen som ikke helt kan forstå og det er jo ikke så smart at trykke på, men men...

9.05 B: Hvordan er rutinen ved hjertestop knap. X: Der sker jo det at vi alle få et kald på den telefon som vi render rundt med. Vi er tilknyttet en telefon hver især, med hver vores nummer. Så det begynder at bimle og bamle alle vegne fra de her telefoner og så er det ret tydeligt at se på det blå lys der kommer i lampen op over stuen som også blinker. Så vi løber alle sammen den vej når det sker og så kommer hjertestop holdet inden for et par minutter, så hvis det er et uheld, skal vi rimelig hurtigt reagere og ringe ned til dem og sige at det altså ikke er et hjertestop. Det er sådan det foregår.

9.46 B: Og jeres telefoner, hvis du nu i morgen står for stue 10 og 11 er din telefon så kodet til at det kun er for 10 og 11. X: Ja det har jeg slet ikke sagt, men det foregår således at vores sygepleje sekretær ser på den oversigt vi har lavet om morgen og set hvilke stuer vi er tilknyttet, så fordeler hun os i systemet, hvor man kan være primær, sekundær eller tredje person til at assistere de her stuer. Vi plejer at bruge primær og sekundær til de stuer. Den prioritering bliver lavet af vores sygepleje sekretær om morgen. Så går hun ind og fordeler os, og vi skal selvfølgelig sørge for at logge os på telefonen. Og så bruger vi også de her telefoner til vores store tavle hvor lægerne også har mulighed for, hvor vi også har mulighed for at ringe til hinanden. Der er tilknyttet et telefonnummer til hver telefon.

10.44 A: Hvordan er det om morgen når i har vagtskifte. Nogle af de der overleveringer af de der informationer, fx at Hr. Hansen skal i være opmærksomme. X: Det er sådan at vi har prioriteret ikke at have nogle overleveringer mundtligt. Det foregår skriftligt det hele. Så hvis der er noget at give videre så skal du skrive det. Det skal det. Du skal skrive det i patientens journal, hvis der har været nogle afvigelse. Du har mulighed for at lave det der hedder sticky notes i det ny system som vi har fået til overleveringer og oplysninger, så det foregår der.

11.22 A: hvordan prioritere i fordelingen om morgen? Er det tilfældigt? X: Nej det er det ikke, altså der er nogen der har været der før og kender stuer og patienter. Dem prioriterer vi gerne og så gerne ud fra de kompetencer der er i afd. Vi er nogen der har været her lidt længere og nogen der har været her lidt kortere. Så har vi nogle assistenter. Nogen har medicin kompetencer, andre har ikke. Så afhængig af hvilken type patienter det er så prøver vi at prioritere at dem der er tunge altså dem der er har det dårligst, de kommer hos dem der har mest erfaring.

12.01 X: og så har vi jo også vores nyansatte som skal have en backup på. Det er prøver også at prioritere så vidt muligt.

12.12 B: Vi nåede til efter frokost. Ja det var mere for at holde den i en råd tråd. A: Måske du kan fortælle noget om, når lægerne går stuegang hvad er jeres rolle så på det tidspunkt. Hvad er din rolle? X: Hvis jeg er den der går stuegang så har jeg jo altid en som vil tage de kald der er imens jeg er på stuegang. Vi er som regel to i en gruppe. Så den der er ude på gulvet tager som regel de kald der kommer. Hvis der er et nødkald eller andet så stopper stuegang for mit vedkommende og så går jeg ind og hjælper ved nødkaldet.

12.58 B: Så går du fx rundt sammen med en læge og laver stuegang. X: JA. B: Kan du fortælle hvad gør lægen og hvad gør du? X: Vi forbereder os som regel sammen (læge&syge) på en patient af gangen, hvor jeg kommer med de observationer jeg har haft igennem af dagen og de observationer mine kollegaer har haft. Vi snakker jo sammen i løbet af dagen om hvad der ellers er foregået. OG så sidder lægen og orienterer sig i journalen og bliver ajour hvorfor patienten er her og hvad der er foregået indtil nu. OG så går vi selvfølgelig ind og snakker med patienten når vi ved hvad der er sket og hvor vi er henne i forløbet og om der skal flere undersøgelser eller andet. Det får patienter at vide ved stuegangen. Efterfølgende går vi ind på kontoret igen og hvis der er nogle ting han/hun mener jeg skal have bestilt så gør jeg det under stuegang vha. en computer jeg har ved siden af. Og så sørger han eller hun for at få skrevet i journal eller får bestilt nogle af de andre undersøgelser. Og så går vi videre til næste.

14.10 A: Altså det der med medicinen, er det noget der kommer op til jer eller skal i ned og hente den? X: Vi har et medicin rum hvor vi har det vi egentlig har behov for. Der er vi et aflåst medicinrum med en farmakonom tilknyttet der kommer og fylder op med det vi mangler. Så det sker helt automatisk. Hvis vi har behov for noget vi ikke lige har liggende så kan vi altid henvende os til hende også kan hun fortælle os hvor i huset det så ligger. Det sker nogen gangen, på andre tidspunkter af døgnnet at vi må få det fragtet ind fra centralapoteket.

14.47 A: Om morgen henter i det eller... og går ud med det? X: Vi går ud og hælder det op i et medicin bæger som vi så går ud med. Og der har vi simpelthen en vogn, for vi har gerne en hel gruppe af gangen på 6-8 patienter. A: Så du får faktisk tildelt 6-8 patienter på morgenmødet. X: Ja, A: Er det så alle 8 der er tilknyttet dit patient kald. X: Yes, og det er selvfølgelig og tilknyttet til den der går med mig. B: Så i er 2 om 6-8 patienter. X: Ja det er vi. B: Hvis der opstår to kald på samme tid, splitter i jer så op eller er i altid to inde til det samme patientkald. X: Nej vi går ikke to ind til det samme patientkald, så splitter vi os op og tager et kald hver. Tyngden af hjælp kan selvfølgelig variere, men så hjælper vi selvfølgelig hinanden. Fx hvis en patient har behov vand og en anden har behov for kæmpe bundskift, så hjælper vi hinanden. B: I skal være to til at lifte? X: jo det skal vi. Vi har et par stuer med loftlift hvor vi stadig skal være to om det. Så det hjælpes vi om. Det hænder jo at vi har sygdom, det sker jo, så... og du er alene i en gruppe, så er der nogen fra de andre grupper som må træde til. Så hjælper vi hinanden, det er vi nødt til

16.22 A: er det så via telefonener i kalder hinanden? X: Ja så ringer vi til hinanden. Det er ikke altid vi sidder inde på kontoret og er lige til at få fat i. Vi kan være i gang med en stuegang. Vi har jo rum til stuegang. Det kan være vi sidder dernede, eller er i gang med at hente medicin eller er ude og snakke med nogen. Så kan vi ringe til hinanden hvis der er behov for det. Det bruger vi rigtig ofte. Vi har jo andre afd. Der ringer til os med tider til undersøgelser og andre ting. Så er der behov for at vi ringer til hinanden og giver de informationer videre. A: Ringer de så direkte til dig, hvis de er omhandlende dine patient. X: Hvis der er udefra tænker du? A: JA X: Så ringer de til vores central telefonen. Så tager enten vores sygepleje sekretær eller en person der sidder i akut funktion, der tager sig alene af akutte ting kan have en telefon i ny eller næ og han/hun ringer så videre og giver beskeden videre. Man kan sige at det er internt. Det er interne numre vi har til hinanden.

17. B: Har du flere spørgsmål eller skal vi fortsætte fra frokost. A: Ikke lige umiddelbart. X: Så kan vi tage...Vi snakker om efter frokost. Stuegang, stuegang. Der er til tider noget... Det er ikke altid at vi er færdig med stuegang før frokost. Det kan godt fortsætte efter frokost også. Og ellers så begynder vi så småt, hvis der er nogen patienter der skal udskrives. Så starter vi som regel med det efter frokost fordi der er stuegangen ved de første patienter overstået og de kan være blevet informeret om at de skal hjem og så kan vi begynde at forberede det. Vi har et rigtigt stort flow oppe hos os. Der er rigtig mange der skal hjem i løbet af et døgn. På det tidspunkt begynder de gerne at ville hjem. Så begynder vi at forberede hvilken medicin de skal have med hjem og tage kontakt til den kommune de bor i ift. til hvis de får hjælp hjemme eller bor på plejehjem. Der kan være mange ting. Hvis de skal forberedes til udskrivelse dagen efter, gør vi også det. Det er opgaver vi udfører efter frokost, som regel.

18.56 B: Kan du gå mere i detaljer i de forberedelses opgaver i har ift. udskrivelse. Hvilke steps sker det i overordnet. X: når lægen har besluttet at patienten skal udskrives så starter vi med... det afhænger meget af hvilken type patient det er. Men hvis vi tager en patient som måske har behov for hjælp hjemme og får hjælp hjemme og ikke har andet

behov, så skulle vi meget gerne have varslet kommune. Hvis ikke vi har så ringer vi gerne til dem eller sender en elektronisk attest til dem om at patienten skal hjem og at de har behov for den hjælp de har fået indtil da og så får patienten udleveret medicin evt. og en medicin liste og afholder vi gerne en lille udskrives samtale hvor de får at vide at de har mulighed for at komme igen inden for de næste 24 timer. Der er som regel også nogle pårørende der kommer og har behov for ekstra informationer. Så tager vi også gerne det. Vi holder gerne en lille udskrives samtale med dem hvor de får nogle informationer. Det plejer at være den som er gruppelederen, den som tager sig af medicinen og stuegangen. Den anden tager sig mere af de lidt mere praktiske ting. Det kører lidt rundt hvem der er hvad og hvem der har lyst til hvad. Der er nogle der er rigtig gerne ved at være på gulvet og nogen der er ikke har noget imod at tage sig lidt af det administrative.

20.31 A: Så fx kunne det være dig der afholder samtale imens de makker henter medicin. X: Nej så tager jeg mig af hele udskrivelse kan man sige, hvori mod min makker vil tage kaldene fra de andre stuer formentlig. Det er svært at fokusere udelukkende på en patient, uden at der er nogen andre der har behov for noget. Så der vil altid være nogle andre ting. Så jeg ville tage mig af selve udskrives samtalen og pakke det medicin der er behov og udlevere medicin listen, så det ligesom er mig der tager mig af alt det.

20.07: A: Er det så noget du gør inden du går ind til patienten. X: Jeg plejer gerne at forberede alt det der skal med ind til patienten så vi kan tage det hele sammen. Medicinen også er der som regel også spørgsmål og noget ekstra information til det. Vi kan lige så godt tage det hele på en gang. Så er der selvfølgelig snak omkring hvordan kommer du hjem. Der er der sådan noget med at henvende sig til pårørende ift. hvem der kan komme og hjælpe og så bliver patienten som regel hentet om bliver kørt hjem.

21.43 A: Hvordan rent registreringsmæssigt når du udskriver en patient. Tager du computeren med ind eller? X: Jeg gør det bagefter. Det starter med at lægen laver en udskrives ordination. Sådan foregår det i det nye system vi har fået. Så de laver det der hedder en "best ord" på en udskrivelse og så kan vi se i form af vores oversigt at der er en bil på og det betyder patienten er klar til at komme hjem. OG at lægen nu har afstemt det fælles medicinkort som der også er en del af deres opgaver når patienten skal udskrives. Det er også den vi printer ud. Det er den medicin liste de får. Så det er der vi starter og så ved jeg at patienten rent papirmæssigt er ved at være klar til at kunne forlade afd. Og at jeg egentlig kan starte på mine opgaver.

22.38 A: Men sku du så ind og så taste patienten ud?

X: patienten skal jo så. Vi skal bla. ind og printe den medicinliste der ligger og så ligger der...vi har førhen printet det der hed patient sammendrag, men det er vi gået væk fra fordi der står rigtig mange mærkelige ting som patienterne som regel ikke har behov for. Det er så egentlig bare et irritationsmoment. Den er vi gået væk fra, men jeg skal så ind rent administrativt og udskrive og lukke patienten inde i systemet og udskrive dem til hvad de ellers skal.

A: Gør du det sådan løbende mens du er inde til samtalen?

X: Nej det foregår efterfølgende fordi de går som regel ikke før et stykke tid efter den her samtale. Så venter de på en hustru eller de venter på en søn eller datter som skal komme og hente dem. Så der går som regel gerne en...ja det er jo forskelligt, der er nogen der er klar når jeg kommer ind, men der går jo en times tid eller to før de kommer hjem mange af dem.

A: Går de så forbi kontoret og siger nu går de eller?

X: Når de så går, går de forbi vores sygepleje sekretær hvis ikke hun har fået fri men ellers går de lige forbi skranken og siger farvel så vi ved de går.

A: Er det så typisk der du går ind og registrerer dem?

X: Det er først der vi må udskrive dem, når de forlader afdelingen. Så de bliver ikke udskrevet før de går ud af afdelingen. Ja så går dagen ellers med lidt oprydningen, der skal altid ryddes op når en patient udskrives, så er der en seng der skal pakkes sammen. Der er noget udstyr der lige skal tjekkes. Et sengebord der lige skal ryddes op på. Så går dagen meget med det og de øvrige patienter der skal serviseres eller hvad de skal – udskrives.

Og så har vi så vagtskifte kl.15 hvor aftenvagten så træder ind.

A: Og der sker overleveringen også? Skriftligt?

X: Ja, vi har en stor tavle hvor vi har alle vores patienter stående på. Vi venter jo lidt på at vi får en elektronisk tavle som lige nu er noget projekt på nogle af de andre afdelinger. Hvor vi ved hjælp af noget sundhedsplatform får alle oplysninger på den her tavle, Men så langt er vi ikke endnu, lige nu er det med tusch på tavlen, så der har vi mange af de der nødvendige oplysninger som vi kan få vha. de her sticky notes. Men på tavlen kan du skrive rigtig mange af de her ting som er blevet glemt eller som du ikke har nået til den næste vagt og om patienterne er urolige eller dårlige kan man også se ud fra denne her tavle. Det er sådan vagtskiftet det foregår ved at de møder ind og får et overblik over tavlen. Og dagvagten lige tager og får rundet af og får forladt afdelingen.

B: Kan du fortælle noget mere om når i modtager patienter. Er det på typiske tidspunkter eller er det løbende?

X Akut patienter eller operationspatienter? Vi modtager mange slags?

A: Hvis du har en relativ normal dag, kan du så risikere der pludselig kommer en patient ind ad døren?

X: Nu sagde jeg lige vi har en sygeplejerske der sidder i en akut funktion som tager sig af akut patienterne. Vi får meldt akutte patienter nede fra akut modtagelsen og vi får meldt akut patienter nede fra vores ambulatorie. Og så har vi nogen som ringer direkte inden fordi de der 24 timer som også kan komme i afdelingen lige pludselig. Og dem tager akut sygeplejersken sig af at modtage dem og sørger for at overlevere dem videre til dem der er ude på gulvet. Der er nogen ting som lige skal gennemgås med patienten og sørge for at nogle af de ting der er ordineret det er effektueret inde man giver patienterne videre. Men den akut spl står også for alle operations patienter.

A: Så kan du godt sådan få allokateret nye patienter i løbet af dagen udover de der 6-8 patienter?

X: Ja det kan jeg sagtens, en travl dag så kan man godt, men så ved jeg når jeg patienten bliver overleveret til mig, mange af de der opgaver der skal foregå ifm. En akut modtagelse så er der styr på det.

27.12 A: Hvordan får du besked at der kommer en ny patient til dig? X: Telefonisk. Vi har en sygeplejerske som sidder herover og modtager opklad fra ambulatoriet og akutmodtagelse og sørger for at få prioriteret patienterne. Vi er jo to afsnit, 22 og 23 etage. Og afhængig af hvad det er for en patient kategori skal vi finde ud af om de skal hos os eller nedenunder. Så dem sidder hun med og sørger for at få dem placeret rigtigt. Afhængig af hvor mange patienter vi har kan vi også risikere at få nogle flere for vi er færre end dem nedenunder. Så dem sidder hun og prioritere.

27.52 B: Og du er altid på afsnit 23? X: Jeg er altid på 23 ja. Vi kan godt hjælpe hinanden, men vi er tilknyttet hver vores afsnit. Dem der er her er tilknyttet os og det samme med ambulatoriet, de er også tilknyttet der og kommer ikke herop.

28.11 A: Er der så sådan at du for en opringning af hende (sekretæren fra ambu?) X: Ja, hun siger som regel "Hej jeg har den her patient som er her pga. det og det og det og kommer nedefra der og der. A: Så skal du ind og læse journal og sådan noget? X: Det sker når patienten kommer på afdelingen. Jeg får nogle oplysninger på hvorfor... hvad er diagnosen på patienten, hvorfor er patienten her. Jeg får grundoplysninger når patienten bliver meldt. Når patienten så kommer så skal man fysisk flytte dem fra forventet indlæggelse over til vores afsnit og så kan vi begynde at læse og effektuerer de ting der skal effektueres. Det er sådan at det er svært at arbejde i journalerne når de endnu ikke er i vores afsnit. Så er journalerne lidt mere lukket.

29.00A: Du skal egentlig gentage nogle af de rutiner der ligger om morgenen, når der kommer patienter ind f.eks. kl.11? Så skal du gå in på kontoret igen og læse journaler, så skal du lave ting på tavlen også så andre kan se du har lavet noget?

X: Patienten skal selvfølgelig på tavlen, lige nu har vi to oversigtstavler. Den ene er med cpr nr og den anden er uden cpr. Den uden cpr der står alle oplysningerne. Den anden er egentlig bare hjemmeadresse og cpr. Så der er to tavler der skal opdateres, plus der er det elektroniske tavle som også skal opdateres.

A: Er det så noget du skal sidde med din makker og koordinere, eller er det noget man gør ad-hoc?

X: Nej, hvis du er akut sygeplejerske er du alene. Så har du ingen makker.

A: så makkerne kan aldrig få nye kald i løbet af dagen?

X: Jo jo sagtens, men det er akut sygeplejersken der sørger for at give patienten vider, så er alt det der med tavlen opdateret og alt det andet. Så du får patienten ude i grupperne, så er alt det her ordnet og du er allerede tildelt de her stuer som patienten kommer ind på, så du vil altid kunne modtage kaldene på den her nye patient.



A: Jo ok så du kan se de kommer ind på stue 4 og D er tilknyttet stue 4 så er det dig der får den?

X: Ja vi er jo tilknyttet via inde i ... systemet, der er vi tilknyttet stue 4, så hvis der kommer en ny patient derind så vil vi stadig modtage kaldet fra den patient. Vi skriver ikke navnet og cpr nr inde i ....

A: Får i en eller anden information om morgenen omkring at dig og din makker har 2 løse stuer? Der er potentiale for at i får ekstra pt. Kald

X: Det kan vi ikke forudse, det ved vi ikke.

B: Så det er ikke noget med at det her team får 8 fyldte stuer og det her får 6 plus 2 løse?

X: Den akutte patient vil under alle omstændigheder prøve at blive lagt ind under en gruppe der har færrest arbejdsopgave, så vil man altid prøve at prioritere at få dem lagt derind. Så du kan ikke risikere at have 8 patienter og så får 9 og 10 og så er der nogen der render rundt ovre på den anden side som kun har 4.

31.40 B: Måske du kan sige noget mere om den der oprydning når i har udskrevet patienter? Så skal i gøre stuerne klar?

X: Ja selve rengøringen står vi ikke får, der har vi rengøringspersonalet der sørger for det. Men sengen skal pakkes sammen, der er som regel noget vasketøj der skal lægges til vask. Sengen skal have plastik udover og køres ud på gangen så vores portører de har nogle runder hvor de kommer og fjerner dem og kører dem ned til sengevask. Og så er der som regel sådan noget som opvask på sengebordene eller noget der skal smides ud. Det ligger der altid. Og skraldespandene de skal så tømmes og sættes et urent skilt på, så vores rengøring kan komme og gøre dem rene.

Så er der hvis ilten har været anvendt, så er der en ilt brille tilknyttet hver ilt aggregat, der skal en ny steril på. Så er der noget sug inde på stuen, som skal kontrolleres om det fungerer hvis det har været i brug skal det også udskiftes. Men hver stue har hver sine arbejdsopgave, der er jo nogle ekstra opgaver i forbindelse med isolationsstuer.

A: Du siger noget sug der skal kontrolleres? Jeg forestiller mig det er en eller anden maskine. Kan du fortælle hvad det er?

X: Ja det foregår ved at vi har noget der hedder en kanister, som er en suge glas med en lille pose nede i. Så danner den et undertryk som sørger for at dem der har voldsom meget sekretion, så kan man suge det op. Det havner så nede i en pose med noget koagulerende stof som sørger for det bliver en geleholdig masse. Så det er egentlig mulighed for at kunne suge blod op og slim eller andet fra patienterne. De kan jo godt have nogle obstruerende ting i luftvejene.

A: Hvordan kontrollerer du sådan et sug?

X: Hvis det har været i brug, så skrifter jeg det hele. Men hvis ikke det har været anbrudt så pakker jeg det op og tænder for det og tester det virker. Det handler om at der skal ligge det der skal ligge ned i posen.

A: Er det noget med at skifte pose og noget mundstykke af plastic?

X: Ja der er både rør og det hele som skal skiftes, det er hele sættet der skal skiftes med suge glas og det hele. Så skal det selvfølgelig også kontrolleres at det virker.

B: Hvor meget skal du dokumentere ift. De arbejdsopgaver du laver hver dag?

X: Snakker vi oprydning eller hvad?

B: Nej jeg tænker generelt. I princippet det hele? Skal du dokumentere hver gang du har været til patientkald eller er det noget du kan gøre til sidst på dagen?

X: Patientkald, dem dokumenterer vi ikke, de bliver jo registreret et sted det ved jeg godt – inde i systemet, men det er ikke noget vi skal dokumentere. Når en patienten ringer så ser vi det på tlf vi accepterer det på tlf. Vi går ind på stuen og trykker kaldet fra inde over sengen. Hvert kald og hver seng har sit kald, så vi skal ind og markere det fra inde over sengen og det dokumenterer vi ingen steder. Vi kan godt skrive til hinanden at denne patient har ringet rigtig meget og har brug for meget samvær. Det kan vi sagtens dokumentere og skrive til hinanden, men det er ikke noget der bliver skrevet i journalen som sådan.

Rengøringsopgaverne har vi nogle log-bøger vi fører hvor vi skriver under på at vi har kontrolleret det her sug på den her stue. Alle de andre rengøringsopgaver er ikke noget vi skal dokumentere nogen steder andet end vi har en afsnitsoversigt, hvor vi kan se om sengen eller stuen er ren eller uren. Som vi så skal ind og redigere på når vi har gjort stuen ren og der så er klar til at komme en ny patient ind.

Den daglige dokumentation hos patienten, den kan man selv vælge hvordan man har lyst til at gøre det. Man kan gøre det ad-hoc eller gøre det i slutningen af dagen. Det bestemmer man selv, der har vi ikke nogen regler for det. Medicinen den bliver dokumenteret når det gives. Der dokumenterer du at du hælder medicinen op med det samme og at du giver den ved hjælp af en rover, så det bliver dok. Med det samme. Det er også det der er meningen med den rover at man dokumenterer alt det andet man laver ved hjælp af den også. Men det er ikke altid at alle er så gode til at bruge den endnu.

A: Det er et nyt system i har fået?

X: Ja det er jo sundhedsplatformen, som giver nogle nye muligheder som vi ikke helt har fået på plads endnu.

A: Hvad er det for en slags system?

X: Ja det er en ipod, som vi så bruger til at dokumentere på med en scanner i, så den kan scanne QR koder på armbåndet.

B: Er det også den i bruger til at skrive til hinanden?

X: Nej, det er det ikke. Det skal du gøre på computeren. Men du kan dokumentere rigtig meget af det. Alt det du skriver ind i journalen kan du som sådan dokumentere på den. Vi kan dok. Alt det vi laver som bare skal tjekkes af er gjort kan vi gøre ved hjælp af den, vi skriver ikke fritekst på den, det gør vi ikke. Men det er heller ikke meningen med det nye system at vi skal det.

A: Nu siger du i kan skrive til hinanden at f.eks. en patient har brug for ekstra pleje. Er det så i journalen i skriver det eller i en fælles indbakke på en måde?

X: Det er i patientens journal, men det er noget der ikke bliver gemt i journalen. Det er en form for post it man sætter på patientens journal som forsvinder så snart patienten udskrives. Så det er egentlig arbejdsopgaver vi ikke har noget vi kan skrive til hinanden, det er noget som ikke bliver gemt.

38.24

B: Den der Rover der, det er noget nyt i har fået implementeret?

X: Ja den fik vi den 25 maj ifm. Sundhedsplatformen, det er ikke noget vi har arbejdet med før. Før det havde vi en PDA som vi brugte til medicin administration, som var noget lignende men var ikke en ipod.

38:59 A: Så har den været inde og ændre på dine arbejdsdag eller hvordan har den påvirket arbejdsdagen?

X: Ja, men det giver jo nogle flere muligheder for at dokumentere sammen med patienten kan man sige, ude hos patienten. Ift til de observationer du laver og gør at vi kan dok. Mere tidstro. Så mulighederne er der for dem der har lyst til at bruge dem. Så det vil sagtens kunne gøre dagligdagen nemmere, det ville den. Jeg er også selv med til at se om vi kunne få udviklet nogle af de her ting og bruger til afdelingen og vi vil kunne få tilrettet det vores afdeling så vi bliver mere, bedre og har mere lyst til at bruge dem. For meget af det som er nu er meget generisk til hele hospitalet.

A: Hvordan er stemningen på afdelingen omkring nye tiltag?

X: Meget blandet, men det kommer også helt an på om du er vant til at bruge den her form for device. Vi er rigtig mange som er vant til at bruge apple produkter ikke, så for os er det meget nemt at bruge en ipod. Men for andre som er vant til at bruge telefoner med store taster, som ikke er vant til at bruge smartphones, så kan det godt være besværligt. Nogle mener de har for store fingre og har fået anskaffet sig nogle af de der med en pegepind til at taste med. For nogle har det været en hjælp for andre har det jo aldrig været naturligt at bruge den her slags ting, det er det ikke. For andre der kan du jo sidde og finde oplysninger om præperater inde på stuen mens du snakker med patienten, fordi du kan gå på medicin dk inde på stuen samtidig med du er ved at informere patienten. Så for rigtig mange giver det god mening at bruge de her fordi de er vant til at kunne finde oplysninger nu og her på det de har i hånden. Så det giver rigtig god mening for mange.

A: Skal vi til sidst høre om arbejdsgangen omkring et patientkald fra start til slut? Fra der bliver ringet til dig? Til der er udført til der er opfulgt med patienten?

42.03 X: Helt traditionelt kald fra en patient. Altså patienten ligger som regel i sengen, der har vi udleveret kaldet det gør man jo, det skal man ifm. De kommer i afdeling så får de udleveret det kald som hører til og det er en lille fjernbetjening med en rød knap på hvor der er en gammeldags sygeplejerske med hat på som billede. De bliver instrueret i at det er portøren der sørger for de får den her knap tilgængelig når de kommer og bliver informeret om at de trykker på den her knap så kommer der nogen ind til dig. Så trykker de på knappen og vi modtager så kaldet på vores telefon, i hvert fald den primære på stuen modtager kaldet. De sekundære, kan ikke huske hvor mange omgange der går hvis du ikke tager kaldet før de modtager den. Men du kan så også afvise kaldet, så får den sekundære også kaldet. Men hvis den primære starter med at få kaldet og accepterer kaldet, så går man ind på stuen. Så slår man kaldet fra og snakker med patienten om hvad patienten har brug for af hjælp. Så det er egentlig arbejdsprocessen og når opgaven er udført så går man så ud fra stuen og så lægger der ikke så meget andet i det med mindre der er nogen andre opgaver som du skal afhjælpe. Der er som regel nogen der efterspørger nogen blodprøve resultater eller andet, så får du ud og finder dem og kommer tilbage uden patienten ringer i mellemtiden. Så der kan ligger rigtig mange forskellige arb. Opgaver i de der kald.

B: Hvor meget fylder patientkaldet i løbet af dagen? Rent teoretisk?

X: Puha, det varierer jo. Altså virkelig meget. Det variere hvilken type patient vi har liggende, der er nogen der har rigtig meget behov for at vi kommer ind til dem rigtig ofte fordi de netop har nogle psykiske diagnoser eller andet at de har behov for noget tryghed. Men gennemsnitlig, tjaa det må man næsten ku se inde i systemet, man må næsten kunne slå det op inde i systemet hvor mange kald der kommer i løbet af et døgn.

A: Er det mange af dine arb. Opgaver der omhandler hvad der nu bliver efterspurgt via patientkaldet eller er der mange andre standard opgaver som du SKAL igennem?

X: Jeg vil sige en tredjedel af de arb. Opgaver omhandler patientkald opgaver, ja det passer nok meget godt i løbet af min arbejdsdag på otte timer. En tredjedel, en fjerdedel afhængig af hvem det er vi har liggende.

46.30 B: Måske en opsummering?

X: Vi har udarbejdet en døgnrytmeplan, fordi vi har oplevet rigtig mange afbrydelser i vores arb. Opgaver som vi har hængt på stuerne, så de har en ide om måltiderne og hvornår vi sidder og orienterer os i journalerne og hvornår vi har vagtskifte. Så har vi prøvet at få bremsede nogen af de kald som lå i vagtskiftet fordi det som regel der hvor der går længst tid før de modtager den hjælp de har behov for. Så for ligesom at kunne få bremsede noget af alt det her, så har vi fået udarbejdet den her døgnrytme plan til dem og til pårørende. For det er jo langt fra kun patienterne der ringer. Det er ofte også pårørende som ringer og har brug for noget information. Så har de også en ide om hvordan arbejder vi.

A: Når nu i har givet dem mere skriftlig information på stuerne, så har i faktisk nedsat antallet af kald fordi folk har kunnet orientere sig?

47.04: Man kan så diskutere hvor meget det har hjulpet, for det er jo ikke alle der ser det der hænger på væggen men det er det der har været hensigten.

## Appendix 6

Semi structured interview d. 27.02.2017

X: Interviewee, A: Jacob Heiden, B: Kim Berggreen

07.5sek. A: Det første vi tænkte på det er ; "Hvad tænker du om at patienterne har mulighed for at kald på en sygeplejersker med sådan et kald?"

X: Jeg synes det er fantastisk. Det er et super godt redskab. Der er mange der mener det bliver misbrugt af patienterne for det er træls at de kalder efter en kande saft. Men i bund og grund så handler det jo om at man ikke har informeret grundigt nok eller man ikke har opfyldt de behov de har. Så jeg synes at patienterne skal ringe efter os.

00.30 A: Går du også ind til patienterne selvom de ikke har kaldt på dig igennem patient kald.

X: Ja, ikke om natten, der går jeg ikke ind, der har jeg kun mine runder hvor jeg går ind og kigger om de er i live eller der er nogle ting jeg skal måle, ellers går jeg ikke og forstyrre dem. Men Jeg har fundet ud af ved at minimere de kald jeg får kan jeg gå en vand runde, en mad runde, en social runde og har ligesom sådan opdelt dem. Nu tænker jeg meget i kasser oppe i mit hoved og har behov for at alle de her kasser ligesom bliver løst. Og det betyder at jeg går de her runder fordi så ringer de sådan set ikke på mig.

1.15min A: Det vi også er interesseret i er... hvad er dit forhold til patienter egentlig? Giver det mening når jeg spørger om det?

X: Mit forhold til??

A: Nu siger du fx at du går runder og du går ind til dem selvom de ikke har kaldt.

X: Jeg er jo bindeled mellem lægen og mellem dem og mit ansvar at fortælle hvad man skal gøre, hvornår man gør det og hvad man ikke må gøre. Det er jo ikke nemt at være patient. Så jeg føler lidt jeg er bindeleddet.

1.46 A: Jeg tror ikke jeg tænker noget specielt... Hvad er grundet til at du går ind til patienten selvom de ikke har kaldt.

X: Det er udelukkende af egen grunde, for jeg har bemærket at de ikke ringer nær så meget hvis de har alle de ting de skal have. Dvs. jeg sørger for de har den væske de skal have og de informationer de skal have. Der er ingen grund til... Hvis jeg er færdig med at dokumentere mit arbejde er der jo ingen grund til at sidde og gemme mig inden på kontoret. Så er det nemmere at give dem den information de mangler. Det gør at jeg har mere tid til at være mere social sammen med de patienter der har behov for det.

2.23 A: Så der er også nogle som måske får noget ud af at du bare kommer og stikker hovedet ind.

X: Det tror jeg helt bestemt. Også fordi så kommer de måske med nogle spørgsmål som de synes måske godt kunne vente eller spørgsmål som de ikke tør ringe om eller noget i den dur. Mange ældre er fra den generation hvor når man ser en hvid kittel så er der ret meget autoritet og det kan nogle gange være svært for dem så at ringe og spørge omkring.. fx jeg har lidt ondt, men jeg har jo ikke meget ondt. Men hvis jeg så kommer ind forbi dem så siger de faktisk at de har lidt ondt. Det hjælper mig en hel del.

2.55 B: Så du oplever at det specielt er ældre som måske ikke bruger kaldet som de faktisk er berettiget til eller burde gøre?

X: Ja, "fordi de ikke vil belemre, fordi det jo kun er et lille problematik", men set i det store billede så er det jo ikke en lille problematik, det er jo noget som gør at hvis de ikke får noget smertestillende nu hvor vi har fat i dem, så bliver det jo meget værre. Det er jo vigtigt at vi får fanget dem og får givet dem det smertestillende på det rigtige tidspunkt, men "uha vi vil jo ikke belemre jer, for i har også så travlt"

3.30 A: Når i så forklarer dem om det der patient kald når de kommer til afd.? Så bliver de forklaret om patientkaldet ikke?

X: Jeg havde en lettere diskussion med minde kollegaer her det sidste personale møde hvor jeg informeret om at.. der var mange der havde en problematik når folk ikke kommer når der er assistance kald. Det synes jeg røvet. Jeg er blevet lært op i at når der er assistance kald så løber man afsted og forhører hvad man kan gøre for at hjælpe ens kollega eller den patient der ligger. Men det kan jo også brugt af patienter der så ligger og bliver ved med at ringe. Nu tabte jeg tråden.

4.05 A: Det var mere når patienterne kommer til afd.?

X: Ja det er rigtigt, det diskuterede vi nemlig. Når jeg modtager en patient så informere jeg dem omkring at her hænger klokken og den fungerer sådan. Hvis du trykker her så er det til min telefon og tager jeg den ikke lige så ryger den videre til min anden samarbejdspartner. Så er det også sådan at hvis du har behov for akut hjælp. Så skal du holde den inde for så er det assistance. Og så kommer vi lidt hurtigere til dig. OG hvis den er helt gal så er der en hjertestopknap. Jeg forklare omkring hvor de er henne. Det gør jeg. Men jeg har fundet ud af at det er der faktisk ikke nogen andre der gør. Og det har jeg... og det var kun ved at I kom tror jeg faktisk at det er blevet taget og vi har diskuteret det. Og det pisser mig af, at man egentlig ikke gør det (informere om kald til patient) for hvor mange gange skal man trykke, blinker den/blinker den ikke. Hvad gør den... Det er jo ikke en snor som i gamle dage. Folk kan have svært nok ved at det ikke er en snor man hiver. Så man bliver nødt til at forklare det for at der er en forståelse for systemet.

5.05 A: Hvad oplever du så når du forklarer om det. Hvad er folks reaktion?

X: De er trygge, men der er også andre der tænker at det ved jeg godt får jeg har været indlagt før. Men det er meget at af få info for det kan være du har blokket det ude efter narkosen. Vi skal nok fortælle dig at nogen gange... det giver en eller anden for for tryghed. For så ved de hvordan de får fat i os ellers kan vi være svære at få fat i.

5.28 A: Oplever du at der er nogen patienter der synes at i kommer for langsomt?

X: Ja, vi har jo også oplevet at klokken ikke har virket et par gange... eller 20. Og det er jo en problematik fordi det kan jo i værste fald være forskelle mellem liv og død, så det er jo ret vigtigt at vi kommer. Der er også nogle klokker... det hedder sig at når man får opkaldet så acceptere man og så går man ned til den der ringer med det sammen. Hvis du ikke kan tage den så må du lade den gå videre så der er nogen andre der tager den. Men der er et eller andet med at folk holder lidt tæt med deres egne patienter, de vil helst ikke blande sig i andres. Og det går altså ikke. Der er en grund til at vi har det her klokken system. hvor vi har mulighed for at tage den eller også skal vi give den videre til de andre, men det bliver ikke altid gjort. Så ja patienterne vil helt klart opleve at det bliver gjort for langsomt.

6.19 A: Er det tit eller er det perifere tilfælde?

X: Det er tit, det er hver dag.

A: Fortæller de det eller?

X: Ja det gør de. Specielt hvis man overtager ved aften vagten "De kom ikke", "Nu har jeg ventet en time". Så ja...

6.44: B: Der kan godt være et misforhold til et behov siger du. Så tænker jeg bare... man skifter vel ikke en ble hvis de har behov for at hører om deres smerter.

X: Nogen gange ser man også lidt praktisk på. Hvis det bare er fordi man har ondt så kommer vi med noget smertestillende. Men ofte har man også brug for at blive informeret om hvorfor har du ondt. "Er det egentlig normalt at jeg har de her smerter efter jeg er blevet strålet?", eller "hvorfor har jeg mere ondt, det burde jo være godt igen. Hvor man måske også kan have lidt mere samtale med patienterne i stedet for bare at give smertestillende med det sammen.

B: Vil det være en af de arbejdsopgaver du påtog dig for at undgå patientkald eller er det primært patientkaldende hvor de efterspørger mere information.

X: Det er nok først når de ringer at de efterspørger mere information, for der har de ventet den tid de synes de kan tillade sig at vente ift. Altså når de ringer der så er det fordi har reelt behov for noget nu. Nu kan de altså ikke vente længere. Vi har at gøre med den ældre gruppe af patienter, der er rigtige gode til at lade sig vente og lade sig nøjes med. Der skal vi altså være bedre, så de ringer kun når det er absolutte nødvendighed. Det er det jeg ofte ser. Der er også nogle der har svært ved at forstå hvad klokken skal bruges til. Det er jo ikke et hotel, altså, men det er de færreste.

B: Så det er også det der gør at det er vigtigt for dig at komme ud og give dem det væske de har behov for den mad de har behov for, fordi du oplever at selvom de har patientkaldet kan de godt vente med ringe fordi de ikke vil belemre.

X: JA, 100 procent. Og du kan nå at fange meget ved at du lige går en runde for det tager altså ikke så lang tid.

8.40 B: Hvis du ikke gjorde det hvordan vil det så kunne påvirke selve din arbejdsgang. Jeg tænker om patientkaldet så gå hen og være en hjælp for dig eller forstyrrende element, eller er det bare noget der er.

X: Det bliver en hjælp, for de gange jeg ikke gør det er fordi der er så sindssygt travlt, så det er en nødvendighed at jeg har patientkaldet. Så hvis de klokker ikke er der så går jeg ikke ind til patienterne, så der bliver man nødt til at have de klokker fordi ellers så er jeg der ikke for dem. Det lyder helt forfærdeligt at sige, men nogle dage er der så vanvittigt

travlt at vi kun når det absolut nødvendige og dem der ikke har ringet eller brokket sig kommer vi stort set ikke ind til. Så det er noget værre noget altså, så de er og skal være der (patientkaldet)

9.33 A: Det her med at man har en telefon der kan bippe på alle tidspunkter, hvordan har du det med det?

X: Jeg synes ikke det er et problem. Jeg ved godt at der er nogen der bliver vanvittig stresset af det og at det er irriterende, men hvis vi er dækket godt nok ind og folk bruger klokkerne korrekt så burde der jo ikke komme nogen af de andres klokker til mig, så burde jeg ikke unødigt forstyrret. Så er det mine patienter, mine opgaver jeg skal tænke på.

10.03 A: Hvad hvis man tænkte i et scenarie at patienterne kun kunne ringe i et bestemt tidsrum. Så du kun skulle forholde dig til kald mellem 10-12 fx Hvad tror du?

X: Vi har det jo lidt når vi går stuegang at vi så ikke tager kald, der har man jo lidt hvor man ved at der er en sekundær på, men der skal alligevel være nogle. Jeg ville ikke bryde mig om at man skulle fortælle sine patienter at nu skal du altså lige være opmærksom på at om 2 minutter så kan du ikke ringe mere. Klokken er slukket i 4 timer. Det ville jeg ikke bryde mig om. Jeg synes det ville være federe hvis man gjorde ligesom i Norge hvor man nærmest har en hel fjernbetjening omkring hvad det er man har behov for, at der er flere forskellige (knapper), det ville være smart hvis man lavede det som en app. I Norge har man bl.a. knapper der hedder tryghed, ble, mad eller hvad det så er. Hvor det så går ind på en skærm hvor personalet bliver informeret hvad kaldet er om. Så kan jeg prioriteret mine opgaver bedre. Fx ved medicin så er det sygeplejersken der går derind, hvis det er i forhold til pleje så er det nogen anden. Det er skide smart da jeg var deroppe, hold kæft det var smart.

11.16 A: det er jo også sådan nogle ting man kan se på at der nogen gange er nogle konsekvenser man ikke er helt klar over. Vi er også kommet til at snakke om at nu er det en lyd på telefonen fx i medicinrummet. Er det ikke uhensigtsmæssigt at det er en lyd på telefonen?

X: Jo teoretisk set så er vi jo blevet, så skal vi skærmes når vi er inden i medicin rummet og der skal være stilhed og vi skal kunne holde koncentration. Jo jeg tror det vil hjælpe på nogen, men jeg tror også bare at man er blevet rustet til at lukke det (lyden) ude. Men alligevel skal du jo kunne komme i kontakt. Om det skal være sådan at man skal lave den lydløs, det kan da godt være. Det kan da godt være det kan gavne nogle mennesker. Det vil ikke gavne mig, jeg er god til at lukke tingene ude, så det ikke genere mig. Der bliver jo snakket for fuld drøn derude.

12.05 A: Nu var det i hvert fald bare et tiltænkt eksempel. X: Ja der er nogen der virkelig der bliver stresset, specielt de nye. Der er larm fra dem der snakker, telefoner der ringe, vi tager opkald derude (medicinrum) selvom vi ikke må. Jeg tror det vil gavne nogle, helt bestemt. Jeg tror det er 50/50.

12.26 A: Ja nu var du jo selv lidt inden på det. Man kunne måske godt lave en eller anden differentieret måde at lave kaldene på.

B: Jeg sidder lige og tænker om du kunne fortælle lidt om dine erfaringer fra Norge.

X: Jamen det kan jeg godt. Det var sådan deroppe at der havde man det meget opdelt i sygeplejersker og SOSU. SOSU var dem der gik på gulvet, der var intet andet. Ingen stuegang, ingen medicin eller noget som helst. Det vil sige du var opdelt i to sektioner. Det sygepleje faglige og SOSU. Og så havde man klokker efter det. Selvfølgelig kunne man godt gå ind og tage en patient. Så kunne man slå en nærmest iPad ting. Det lignede sådan en android ting man rendte rundt med. Så sagde man "Jeg er sygeplejerske i dag og jeg ønsker disse her kald" og så delte man sig ind fra morgenstunden af. Og så havde man så de andre tog alt det andet. Når man så var færdig med stue gang, så skulle man selvfølgelig også hjælpe og så fik man resten af opkaldende. Og det var skide smart for man viste præcis... ja nu her kan jeg jo godt gå forgæves ved stuegang, men har lige 5 min og så ringer det fra stue 5 og siger jeg har skidt i hele sengen. Det er jo ikke en opgave der tager 5 min, der skal man være to om det. Der er det jo træls at jeg har taget det kald. "Ring lige igen" eller "jeg skal lige ud og finde min kollega" eller et eller andet. Det er jo træls. Havde jeg på forhånd vidst det var smerter, så kunne jeg hente smertestillende med det samme og så gå ind og aflevere det. Det var smart,. Det var rigtig smart. Men de ældre mennesker havde lidt svært ved at forstå det. Og det er jo hoveddelen vi har her. De kunne efter et par gange (Norge), de havde været indlagt. Så forstod de konceptet i at hvis du skulle have fat i en sygeplejerske eller en SOSU. Og så var der nogle der tænkte at sygeplejersker var de eneste mennesker man kunne snakke med. Så den kan jo også blive misforstået. Men altså generelt fungerede det altså rigtig godt.

14.15 B: hvordan oplevede du at de ældre havde svært ved det? Var det noget de fortalte.

X: Det var fordi så voldsomt ud. Alle de knapper man kunne trykke på. Altså, Det er for uoverskueligt, fx hvis man ligger med smerter og du ligger og ikke kan koncentreret dig om noget som helst. Så skal du trykke på en knap og så vente på at hjælpen kom. Det kunne man også, men det var åbenbart assistance kald eller nødkald så kom vi jo så

sørme også må man sige. Men det der med at forholde sig til, hvad er det egentlig jeg skal have hjælp til, det så jeg i hvert fald nogen af dem havde svært ved, men det var en minoritet af dem.

14.53 A: Var det så nemmere for jer at prioritere jeres opgaver?

X: 100 procent, jeg blev jo ikke afbrudt af unødvendige opgaver overhovedet. Jeg vidst præcis hvad jeg skulle og hvad de andre skulle. Og vi gik til de kald der var relevante for os. Det hjalp og jeg har snakket mange gange og det er ikke opfundet. Jeg har snakket med programmører og sagt at det må vi opfinde. Det kan vi finde ud af, det er ikke i Danmark, der er ikke nogen der har taget patent på det, der er ikke noget som helst. Men det er ikke noget sundhedsvæsenet skal bruge penge på. B: Hvilken afdeling var det? X: Det var oppe ved Tromsø. Den ligger der ikke mere, det er det lille hospital der brændte ned for 6 år siden. B: Var det lige som her på urologisk afd. X: Ja det var urologisk afd.

15.48 A: Kunne man forstille sig at når i modtager et patientkald nu, er der forskel på hvordan man gør det? Netop hvis man står og har 5 min vil det så nogen gange afholde en fra at gå ind?

X: Ja,

A: Du skal ikke sidde og skamme dig, det var mere jeg tænkte at hvis man har med den der usikkerhed og gøre, gør det så faktisk noget for ens arbejdsgang?

X: Ja, altså vi ved jo godt at der er nogle der hele tiden, fx skider, og det ved vi godt at det tager ret lang tid at gå ind til og der er nogle hvor de bliver sat lidt på hold eller et eller andet. Det kan man jo se.

16.30 A: Hvis man så alligevel fik den besked at det er en der har skidt i sengen?

X: så ved man godt at vi to går ind og ordne det med det samme, for så er det lavet. I stedet for at man tænker vi går ind og gætter, vi tror nok det er det... så må man han sku lige vente, men det kunne jo godt være det var smerter, eller et eller andet i den dur. "han har sku nok haft Afføring" igen. Så bliver vi lige nødt til at vente til jeg har fundet en kammerat i stedet for bare at tage klokken med det samme. Det sker.

17.01 A: Din rolle ift. Patienterne også. Hvordan tænker du egentlig mest den? Der er jo nogle når man snakker med dem så tænke de "sygeplejersker er måske en service person, eller en omsorgs person" Hvad tænker du om det?

X: Jeg er sygeplejerske hvad alt indebærer. Jeg er psykolog, jeg er sygeplejerske, jeg er socialkompetence person, jeg er kommune medarbejder, jeg er minilæge, jeg er alt hvad der overhovedet er. Der er ikke noget som sygeplejersker, ser jeg at du skal indeholde så mange forskellige kompetencer for at kunne være i det her fag og for at du skal være god til dit fag. Du skal være åben for alt og have mulighed for at vide hvor du henter din viden henne, hvor skal du hen og hvad skal du gøre. Så det er ikke det at være sygeplejerske bare en lige ting. Du skal kunne rigtig, rigtig meget hvis du skal være god til patienterne, du kan sagtens bare være ganske almindelig stille og rolig.

17.58 A: Nu tror jeg også at...oplever du at patienterne betragter det på samme måde?

X: Det er også opdelt, der er nogle der betragter os rent som service og der er nogle der betragter os som hjælperne, altså det er af nød man skal være der. Men der er nogle der betragter os som service organer, man tror det er et hotel man er på. Og vi prøver jo så vidt muligt at informere patienterne omkring og der er jo en grund til at vi jager med dem ift. det er deres egen compliance det handler om.

18.30 A: Det har jo også betydning for når man har et kald. Hvad gør jeg inden, hvad gør jeg inden jeg trykker på den her knap ikke.

X: Du skal hente mig en kop kaffe? "Nej vi kan gå sammen ud og hente en. Fordi det handler om at du skal op og du skal blive motiveret. Jamen jeg har så ondt. Har du behov for smertestillende? Nej det har jeg ikke. Godt så gør vi det sammen.... Og det er nogle gange at det tager lidt længere tid hvor man tænker fint så henter jeg den kop kaffe eller et eller andet i den dur. Det går ikke.

19.02 A: Vi snakkede også om ansigt til ansigt kontakt. Var der nogle der nævnte på et eller andet tidspunkt. Hvad betyder det på den her afdeling?

X: Det betyder meget, det betyder du har været her. Hvis du ikke giver dine patienter din opmærksomhed og informeret om hvem du er og hvad du laver og hvad dine intentioner er for dagen, så føler de ikke der har været nogle. Så du skal ind og præsentere dig. Der er nogen der gøre det, at vi er opdelt i rundepleje og vi har tildelt patientpleje, men vi kører så kun rundepleje og det betyder at der er en der går stuegang og der er ude på gulvet. Hvordan skal jeg gå stuegang som person uden at jeg er ude og se på de patienter jeg har med at gøre? Mange bliver forvirret hvis jeg ikke har nået at være ude og hilse, så tænker man (patienten) hvad i alverden er hende der som render rundt og snakker med lægen. Jeg ved ikke hvem hun er, hun kender ikke min problematik. De kan jo ikke se

hvad jeg har læst på computeren og det kan være det er en helt anden problematik. Så ansigt til ansigt det er sindssygt vigtigt. De skal vide hvem det er de har med at gøre. Hvad min plan er for dem.

20.02 A: Er det noget som i også har diskuteret på møder og i dagligdagen?

X: Ja rigtig meget, og vi skal altså, vores leder hun går rigtig meget op i at selvom du er stuegangs gående og lægerne kommer lige om lidt, du skal nå og dele medicin ud så skal du ud og hilse på dine patienter. Du skal ud og være der for dem og fortælle om hvem du er for en person og hvad planer der er i dag. Så det er vigtigt.

20.29 A: Et meget direkte spørgsmål. Er der nogle patienter der ringer for meget?

X: Ja, ja og der også nogen der ringer fordi at, jo mere irriterende du er jo hurtigere kan tingene faktisk gå, fordi man(spl) gerne vil have kørt denne her patient færdig for at komme ud og komme væk og det er der nogle patienter der benytter sig af. Så ja der er nogle der ringer for tit.

A: Bevidst?

X: Bevidst, og det siger de jo også. Prøv og hør her, hvis jeg bliver ved med at ringe og er en pain in the ass patient, så skal jeg love for at i kommer hurtigt og hjælper mig for i gider ikke høre på mig, jeg er sur, jeg er gnaven og er pisseirriterende men jeg får hvad jeg vil have, og så er det sådan jeg gør. Jeg bliver ved med at ringe indtil jeg får min vilje.

21.16 B: For vi har faktisk lidt diskuteret om... lade os sige at hvis man nu udvikler en patient app skal der så være mulighed for man kan sætte lås på så man måske kun kan ringe en gang hvert 5 minut? Hvordan ville det påvirke patienterne

tænker

du?

X: Jeg tror det ville være godt, men du kunne også være farligt, fordi der er jo nogen hvor vi er nødsaget til at skulle ind og kigge til dem hele tiden hvis de er akut dårligt patienter, der kan være rigtig, rigtig bange og de har behov for, men der er vi jo inde hos dem. Der vil vi nødig gå. Men vi har jo nogle med dobbelt diagnoser, det kan være skizofrene eller et eller andet, der er fuldstændige uforstående, demente der ligger og ringer bliver ved med at ringe og ringe. Og det er en belastning for vi går ikke ind og tager de klokker. Du ringer, nej det har jeg ikke, imens de bliver ved med at trykke på knappe. Du ligger og ringer nu... nej det gør jeg ikke. Man kan jo ikke tage klokken fra dem for de skal jo have mulighed for at ringe når det er. Der ville det der være rigtig godt, men skal lige tænkes ind om der er nogle farlige scenarier.

B: Ja, for kunne der være nødkald involveret? men de kan stadig kun kalde på den samme knap ikke sandt? B: De har en fjernbetjening med en rød knap på. X: Ja

22.38 B: Vi ved at nedenunder på 22'eren har de det gamle system som er ældre end jeres og der ringer de tre gange mener jeg; patienterne, er det det samme her at man trykker 3 gange for nødkald?

X: Nej, de holder knappen inde så kommer vi. Eller hvis de bliver ved med at ligge og trykke på den, bliver ved bliver ved

bliver

ved.

B: Så man kan godt ligge og bare blive ved med at trykke. X: Ja og så på et tidspunkt går den på nødkald. B: Så den bliver ved med at bippe på jeres telefon? X: Ja

23.13 A: Sådan noget med når i skal have telefonerne om morgen. Så skal i melde jeres telefonnumre op på en tavle så de kan blive fordelt. Er det ofte at folk glemmer at det. X: Griner... Ja, Ja. Nu har jeg en lillesmule OCD så jeg kan ikke håndtere hvis numrene ikke er der. Så har det med at rende rundt og jagte folk indtil numrene er sat op. Jeg bryder mig ikke om at jeg ikke kan få fat i folk. Så det er vigtigt for mig.

23.35 A: Når de så har glemt det, kan man så mærke det ude på gulvet. Eller er det bare en ting der skal være i orden. Kan man mærke det på arbejdsgangen hvis de har glemt det, hvad sker der så? X: Så bliver vi forsinket. Vores sekretær bruger vores numre 1000 gange på en dag. Hun får jo 100 opkald fra kommuner og hvad det kan være. Så giver hun vores telefonnumre videre eller hun skriver ned og beder os om at ringe eller siger det videre til os. Så hun bruger dem rigtig meget og det gøre jeg faktisk også. Jeg sidder tit som akutfunktion. Det er mig der står for at tage imod alle patienterne, og der er det vigtigt for mig at komme frem med. Jeg gider ikke gå ud og lede blandt en masse mennesker, der har jeg har mange andre ting jeg kan gøre som er meget mere praktisk. Så de skal bare være der

24.15 A: De kald som kommer fra de stuer som du har. De kommer så ikke igennem på telefonen. Altså hvis de ikke har meldt deres telefonnumre på tavlen, modtager de så ikke kaldende på deres telefon. X: Jo jo, det er mig der sidder og sætter kald, eller sekretæren. Det er den ansvarshavende som går ind i ... i patientkald tildeler dem og så kan vi også se samtidig hvad det er for nogle telefonnumre de har. Jeg tager ofte screenshot af det, så har jeg det liggende ved siden af mig, så ved jeg præcis hvem der har hvilken telefon.



24.48 B: SÅ telefonener kan godt modtage kald selvom de ikke er sat op til en person? X: Nej nu taler vi om to ting. Vi har den fysiske tavle derude hvor vi sætter med magnet hvor telefonnumrene står. Det er bare fordi sådan vil jeg gerne have det. Det er fordi sådan vil jeg gerne have det og sådan vil XXX (Sek.) gerne have det. Så har vi inde i systemet, hvis de ikke logger sig på så kan vi ikke tildele dem noget. Og der er nogle enkelte nogen som glemmer at logge sig på når de tager en telefon. Det er en problematik. For så får de ikke nogle opkald overhovedet. Det andet er bare fordi det er bekvemt for at vi kan se numrene. Vi kan altid gå ind i ... patientkald for at se deres telefonnummer hvis det er. Og det er jeg begyndt på fordi at det er nemmere og så tager jeg bare et screenshot af det. Men hvis de ikke har logget sig ind fra om morgenstunden af så modtager de ikke nogle kald. Så løber de rundt med en død telefon.

25.45 A: Det er vel sjældent det sker. X: Nej, nej når jeg sidder og logger folk på at de har fået hudfarve hvis de er logget på og de er grå hvis de ikke er logget på. Og så løber jeg rundt og prikker folk på skulderen og siger, så nu må du gerne lige logge på. A: Så det er også noget folk glemmer relativt tit at logge på telefonen. X: ja det er altid det samme. A: Også går der så et stykke tid før patientkaldene kan blive taget. X: Ja så ryger de ud til os andre fordi de jo ikke kan tage dem.

26.18 B: Og det kunne jo i princippet påvirke, hvis vi tager fat i din kommentar med at det er godt for patienterne at få et kendt ansigt. At de måske bliver mødt af flere forskellige ansigter. X: mmm, B: På hver af de forskellige kald fordi der er nogle der ikke er logget ind. X: Ja og det kan jo være de fleste der ikke har den stue hvis der er en der har ringet tre gange. Så siger man "jeg er ikke din sygeplejerske så jeg kender ikke din situation, men er der noget jeg kan hjælpe med". Det bliver man sku irriteret af, Hvem er min sygeplejerske så. Er der overhovedet der gider være hos mig. Hvorfor er det kun udefrakommende der kommer og tager de her kald. Er der nogle der ved noget om mig overhovedet, Kan i forstille jer hvor frustrerende det kan være hvis jeg kommer ind og siger. Jeg ved faktisk ikke noget om dig men kan jeg gøre noget for dig. Hvis altså man ikke har logget sig på

**27.15 A:** Hvad tænker du ift. at når man ligger der som patient og du ved at personen har brug for tryghed ved bl.a. at vide noget om dig. Er der nogle andre ting du tænker, hvis jeg skulle overtage dit job i morgen, hvad skal jeg så tænke en patient har brug for. X: At du er der og der er forståelse og at man viser at man har lyst til at være der. Mange af dem beklager sig jo. Undskyld jeg er simpelthen så ked af at jeg er nødt til at ringe. Prøv nu at høre det er det jeg får penge for. Jeg er ansat til at være der for dig, så hvis du ikke ringer så har jeg jo ikke noget arbejde. De bliver nødt til at forstå at vi er her for dem. Og det er der mange sygeplejersker der kan give den der fornemmelse følelse af at vi alle sammen er nyttige mennesker der ligesom omkring at jeg gider altså ikke at være her eller har lyst til at hjælpe dig eller noget som helst. Svare det på dit spørgsmål. A: Ja det synes jeg

28.16 A: Vi skal bare ligesom prøve at forstå hvad der sker mellem sygeplejersker og patienter, hvad er det egentlig for nogle usynlige ting sådan er på spil. Det er jo også vigtigt når man implementere ny teknologi. Er i egentlig med i det eller implementere man noget der har nogle konsekvenser man ikke har tænkt over at det måske kan fjerne en eller anden trygheds følelse eller fjerner det en eller anden fornemmelse af omsorg. X: Men man skal ud og sige hej til sige patienter, ansigt til ansigt. Det er er først og fremmest ellers kan man ikke gøre sit arbejde. Jeg kan heller ikke stole på computeren. Den kan give mig en rette snor ift. hvilken patienter jeg har med at gøre. Men jeg skal selv ud og se hvad er det for nogle farver det hele er i. Det bliver jeg nødt til. Altså når han siger det er smerte ti, så må han jo være lige ved at dø, men hvor han så ligger stille og roligt og spiser, så skal vi måske lige forklare ham hvad det betyder at man score ti.

29.15 B: Har I en manual for patientkaldene som I kan udlevere til jeres patienter. X: Nej ikke hvad jeg er bekendt med. Jeg har været her i 5 år og det er jeg ikke bekendt med. B: Nu siger du at du ser at der er nogle patienter der ikke vil belemre og at de måske ikke er så trygge ved hvornår de skal ringe. Ja det var bare en tænke der opstod om man kunne lave sådan en. X: På børne afd. Er der faktisk. Der står der printet på deres sidder eller inde på stuerne. Jeg har selv været dernede med min dreng og der står der omkring at klokkerne må kun anvendes til yderste nød eller hvis der er behov krævende et eller andet. Ellers så vil de gå rundt og komme ind henvende sig. Det står der. Det bliver så ikke efterfulgt, men altså, men det står der. Men det er ligesom den funktion der er der.

30.06 B: Kunne det ikke være en ide på den her afd. At implementere en manuel for hvordan patienterne skulle bruge kaldet, eller er det lidt anderledes fordi at på børne afd. Er der nok som regel forældre eller andre pårørende der kan klare rigtig mange af de serviceopgaver? X: 1. Jeg tror ikke de ville læse det. 2. Det er lidt vores opgave og informere omkring, hvordan klokke systemet fungerer. Jeg er her for dig. Har du nogle spørgsmål? Jeg kommer rundt og henvender mig, ellers må du ringe på mig hvis der er et eller andet der ikke kan vente. Altså det er en meget hurtig smører som oftest er der tre mennesker inde på stuen og præsentere det. De er trygge og de ved hvem det er de skal kontakte. Jeg tror ikke der er behov for det. 1. Jeg tror der er så mange ting de skal læse og sætte sig ind i når man er på sådan en afdeling. Jeg tror det ville være for meget. Personligt. Man kunne prøve at lave det, teste det af, men tror det ikke.

31.20 B: Jeg sidder også og tænker på dine oplevelser og erfaring af hvordan patienterne bruger kaldet?: X: de sygeplejersker der ikke kan lide at kommunikere med deres patienter. De ville sikkert synes det var fantastisk. "jeg

har jo informeret ham om det” Jeg har jo givet ham papiret. Men har han fattet det eller har han læst det eller har du snakket med ham. Har du snakket med dit barn i dag, har du snakket med din patient i dag? Den der reklame der.

31.51 B: Jeg tænker måske at vi også specifikt kan spørge Hvad er dine erfaringer med ... systemet? X: Det går for meget ned. A: Det går for meget ned. X: Om natten, jeg er primært nattevagt og det går for meget ned. Og den måde vi kan lave det på i gåsetegn er at vi har en boks inde i vores lille dårligt kerne som vi sætter og så bipper den så hver gang der er en klokke og den bipper højt og den er også ude på gangene og patienterne skulle meget gerne sove, og vi får sørme også palliationens klokker. Vi får klokker fra mange sider. Og det bipper hele tiden og de sender ikke en mand ud om natten. Vi har telefonsupport. De der er garvet inde i systemet kan lave det inde for et par timer. Dem der ikke er garvet for ikke lavet det. Det er sindssygt irriterende at der er sådan en bip tone og du kan ikke se hvem du skal ind til og de skal rejse dig og er du inde på en stue hvor du er dybt engageret i dit arbejde, fx hvis der er Aff over det hele, så hører du ikke den klokke. Det er farligt. Den siger ikke mere larm hvis det er et assistance kald. Den siger bare en meget høj irriterende lyd.

33.15 A: Det er så ude på gangen, ikke din telefon. X: Nej den er død. Vi har oplevet et par gange hvor alle telefonerne på samme tid bippede og bragede og det oplevede jeg tre gange i træk i en vagt. Natteperiode. Der var jeg til sidst ved at blive sindssyg og kaste alt ud af hvad der overhovedet var. Det var ulideligt. Det var alarm den blev ved med at melde på alle telefoner samtidig. Der måtte jeg pille batterier ud på dem alle sammen og så køre den over på den der boks, ellers havde jeg da slået nogle ihjel. Og det var systemet der var gået i stykker. Og det gør det jævnlige. Det kan godt være at folk siger det ikke gør det, men det gør det. Jeg har inde på min mail, meldt jeg tror hver anden gang har jeg meldt at klokkerne ikke virker. Og det er dokumentation for at jeg har sendt det videre til ledelse. Så det virker ikke. Ikke om natten.

34.11 A: Der kan man snakke om at man kunne lave et mere hensigtsmæssigt system. X: Ja, for det holder patienterne vågen, dem der sensitive i forvejen og det er svært at sove på et hospital så skal det altså ikke bippe ude på gangen, men samtidig skal vi jo også høre klokken når man er inden på stuen, men det kan man alligevel ikke når man selv larmer. Jeg synes tit de går ned Faktisk. Ikke så tit i dagvagter. Jeg har aldrig aftenvagter så det ved jeg ikke. Men i nattevagter.

34.43 B: Hvor mange er i på arbejde om natten. X: to. B: Og det er altid to sygeplejersker. X: Nej det kan også være SOSU

34.57 B: Er der noget... Hvis vi tænker at vi sidder her og snakke om den fysiske udformning af selve ... systemet. For dig og for patienterne... Brugen af den ren praktiske brug, er der noget godt og er der noget skidt. X: Ved selve telefonen eller hvad? B: Nej selve kaldet som patienterne har. Det er rød, gul, grøn. Hvad oplever du fungere for patienterne og er der noget som de kan blive forvirret over. X: Nej for de skal ikke forholde sig til rød, gul, grøn. DE skal forholde sig til den de har. Jeg skal forholde mig til nogle andre ting og jeg synes det på telefonen er dumt, fordi når jeg fx skal ringe så kan jeg finde på at finde på at trykke enten kald eller åben den op. Her skal jeg trykke samme knap som hvor jeg skal acceptere et kald. Skal jeg så gå derind eller skal jeg vente 3,5 min på at andre går derind. Så det er designet dumt ift. at du acceptere kald samme sted som du låser telefonen op eller lave et telefonisk opkald. Det er træls. Man kommer nogle gange til at tage hinandens kald uden at mene det og så går der så lige 2,5 minuts længere tid inden vi kommer ud til den patient der skulle have haft hjælp. Folk går sku ikke ind til klokken hvis det bare er en fejl at man kommer til at acceptere. Så det er designet dumt.

36.18 A: Det er jo ret interessant. X: Så når man låser den op trykker man stjerne og den samme dimsedut som man skal trykke for at acceptere kaldet. B: Hvis vi snakker patient kald app, så er tanken jo at enten skal patienterne have mulighed for at downloade appen på deres egen smartphone eller have udleveret en smartphone af hospitalet. Det jeg hører du siger er at hvis et patientkald app skal fungere så er det også nødvendigt at i får et andet kommunikationsmiddel end i har nu. X: Man kunne bare bruge Roverne. Det er en IPod. Altså man kunne lave det om til en iPhone. Det er et super smart og enkelt design. Næsten alle har en og der er ikke nogle der er forskrækket ved det design. Det er ligetil og enkelt. Så kan man diskutere om det skal være iPod eller android. Det er skide ligegyldigt for det er det samme. Hvis man kunne køre det ind over der og det kan man godt så ville det være smart. \*Det ville folk ikke være forskrækket for OG så ville vi også bruge Roveren ti gange mere hvis det hænger sammen. Så ville vi have den i lomme.

37.35 B: Så det er personalet du snakker om nu? X: JA

37.40 B: er det alle der har smartphone af dem der kommer her? X: Mange, selv helt helt ældre mennesker. Jeg havde en 90-årig der havde en iPhone pro 7. Det synes jeg var lidt snyd så jeg blev nød til at købe den fordi den så så smart ud.

38.00 B: Nu er du selvfølgelig ikke hos dem hele tiden, men oplever du at de forstår at bruge de apps der er på en iPhone. X: Ja det er så nemt. Altså når de først har motivation til at lære det. Så lærer de det også. Så kan de bruge

den. De kan gå på nettet. De ved hvad Wi-Fi er. DE sidder og spiller sudoku, det er da også at bruge telefonen. Så ja jeg oplever de kan bruge den

38.30 B: Så dem der har en smartphone nu, de laver ikke patientkald for at hjælp. Eller det jeg mener er om du oplever at de laver patient kald for at få hjælp til smartphonen? X: Nej, jeg har oplevet et par gange at når vi udlevere den her seddel ift. hvordan man kommer på wi-fi, så kigger de på den og tænker "What the..." Det gør jeg også. Der står 1700 forskellige information, men det er kun lige boksen i midten du skal bruge. Træls.

38.59 B: Så for at patienterne på den her afd. Skal kunne forstå hvad de skal og hvad der ske så skal det være enkelt og konkret. X: Ja, der skal ikke fyldes noget ind. Det skal ikke nødvendigvis være super lækkert at se. Man skal ikke... det skal simpelthen være så nemt som muligt. Lige som de der handicap telefoner, hvor der er de der knapper man kan trykke. De er så enkle. Det kan man altså også lave en app der kan. Nu er jeg i gang med at designe en app til min egen dreng derhjemme. Det er altså ikke særlig svært.

39.39 A: det er jo også en af de ting der har været spørgsmålet. Om patienterne rent kognitivt kan overkomme noget der ser anderledes ud end det som det er i dag. X: Det kan de godt. Og det er jo også det de får at vide af deres børn og børnebørn. Hold nu op morfar, nu skal jeg lige vise dig det her. Åh ja gud ja. Nååår det var der den var. X: Ja det kan de sku godt., tror jeg...

## Appendix 7

### Semi-struktureret Interview 28/2-17

X: Interview, A: Jacob Heiden, B: Kim Berggreen

A: Hvad tænker du om at patienter har mulighed for at kalde på en sygeplejerske?

X: Det tænker jeg er en nødvendighed, for vi kan jo ikke være hos vores patienter hele tiden og de har jo brug for hjælp. Så det skal de have mulighed for. Jeg synes i det hele taget det er et problem dem som ligger på gangen og ikke kan kalde, altså hvis de har brug for hjælp.

A: Okay, det er der simpelthen nogen der ikke har en kalde funktion?

X: Det er ikke noget jeg har oplevet her at de har ligger på gangen, men det har jeg oplevet andre steder hvor de ligger på gangen og ikke har nogen kaldefunktion. Det synes jeg er et stort problem, det er utryghed både for personalet og for patienten.

A: Er det noget patienterne siger, eller er det noget i fornemmer?

X: Ja der er nogen der siger det, at de gerne vil have en klokke og det kan man jo ikke give hvis de ligger på gangen. Så det synes jeg er vigtigt at man har en kalde funktion.

A: I din normale arbejdsgang, går du også ind til patienterne selvom de ikke kalder?

X: Ja, det gør jeg. Jeg går en runde når jeg møder ind i vagter. Ser til patienterne, alle dem jeg passer for at se hvordan har de det. Får en fornemmelse af hvordan kommer den her vagt til at gå, har vi nogen der er dårlige har vi nogen der skal have meget hjælp.

A: Gør det noget for din praksis at du går de her runder, eller er det mere fordi du tænker det skaber tryghed?

X: Det skaber tryghed for patienten, men det skaber også tryghed for mig at vide at når jeg kommer ind om 2 timer til en patient, og opdager der ligger en rigtig dårlig patient derinde, som måske ikke kan kalde efter hjælp. Så det giver tryghed både for patienten og for mig. Det oplever jeg i hvert fald. Jeg har overblik over hvad er det for nogle patienter der ligger og hvad det er for nogle arbejdsopgaver.

A: Hvordan betragter du dit forhold til patienterne, det er jo et åbent spørgsmål og kan måske forstås lidt på den måde; at når du går ind til patienterne, er der så noget du tænker du skal huske at gøre?

(2:26) X: Ja, jeg betragter jo min funktion, det er jo at bistå patienten med de problemer de er indlagt med og så er jeg deres talerør i forbindelse med stuegang. Det ser jeg mig selv som, fordi mange patienter er jo stadigvæk autoritetstro i dag, man tør ikke helt sige det til lægen. Der ser jeg det som min rolle at tage snakken med lægen omkring nogle ting, hvis man ikke helt selv kan få det sagt og det er ikke alle der kan. Nogen kan selvfølgelig alt efter alder, men der er stadigvæk mange som ikke bare spørger lægen om alt mulig, fordi så bruger vi også lægens tid. Men man ER her jo pga. et givent problem som vi skal prøve på at løse. Så det ser jeg helt klart er min rolle at hjælpe patienten med de problemer der nu er og være talerør.

A: kan du give et eksempel på det?

X: Ja, der er nogen så vil de ikke spørge om noget med hjemmeforhold, fordi det har lægen ikke rigtig noget at gøre med; jo men det har lægen alligevel noget at gøre med, fordi de skal ordinere videre frem hvad er det vi skal med den her patient. Der ser man det somme tider at de ikke helt får spurgt.

A: Så de er bange for at spørge om ting, fordi de tror det ikke er relevant sådan rent klinisk?

X: Ja, det skal vi ikke forstyrre lægen med, han skal jo tage sig at det helt lægefaglige ikke, kigger på blodprøver, fortæller dig om at nu har vi skåret i dig og det ser rigtig godt ud. Så de der måske lidt bløde værdier bruger de ikke lægen til.

A: tror du de er i tvivl om hvem de skal spørge?

X: Det tror jeg der er nogen af dem der er. Og det er jo sådan aldersmæssigt, jo ældre man er jo mindre spørger man og man vil ikke ulejlige. Patienter vil heller ikke ulejlige personalet. Nogen vil helst ikke.

A: Der kunne jeg forestille mig der var forskel på?

X: Ja, det er der stor forskel på

(5.00) B: Nu nævner du det med at man ikke vil ulejlige lægen. Hvordan oplever du den problematik ift. Patientkald, oplever du de samme ting?

X: Man oplever somme tider at der er nogen der siger til os hvis man kommer rundt om morgenen; Hvordan har du sovet i nat har det været en god nat? Nej jeg har haft så forfærdelig ondt hele natten... (telefon brummer og bipper på bordet) – det bare min...så siger man; jamen vi sidder jo herinde. Jamen jeg vil ikke forstyrre. Nej men vi sidder her jo og venter på at der er nogen der kalder på os der har brug for hjælp, så det må man gerne. Men der er nogen som er; det er jo nat – så vil jeg ikke ulejlige jer eller i har også så travlt. Men uanset om det er nat eller vi har travlt, så skal man jo have den behandling man skal have.

A: Oplever du også nogen som synes i kommer for langsomt?

(5:32) X: Ja Og somme tider så kommer vi jo ikke når klokken ringer fordi man står i noget andet, så er det jo ikke altid at man kan komme. Så det er der nogen der oplever. Det ikke fordi vi sidder på kontoret og drikker kaffe, det ikke derfor vi kommer langsomt det er det ikke, det simpelthen fordi man er optaget af nogle andre ting som man ikke kan gå fra.

(6:13) B: Når du nu oplever en situation hvor der er nogen der synes det er gået for langsomt. Hvordan håndterer du sådan en situation?

X: Det kommer lidt an på hvordan de præsenterer det for mig. Hvis de siger jeg har ringet og ringet og ringet efter dig. Så siger jeg; jamen jeg har skyndet mig alt det jeg kunne og det må jeg beklage de har måttet vente, men sådan er virkeligheden. Vi kan ikke være en til en. Og i perioder kan man have en fuld afdeling og de ringer næsten ikke, patienterne og andre gange så skal der måske ligge tre eller fire patienter og de ringer nærmest hele tiden. Man kan ikke sige at fordi der er fuldt hus er der mange klokker.

A: Kan du sige noget om når de kommer ind på afdelingen om hvordan du forklarer dem om hvordan de skal bruge klokken?

X: Jeg forklarer dem...tager klokken ned til dem og sætter den fast på sengehesten fordi, så ved man hvor den er og så forsvinder den ikke, ligger på gulvet eller noget. Og så siger jeg, man skal bare trykke en enkelt gang på klokken og så ringer den, men der er jo så stadigvæk...når man trykker meget på den så er det jo så assistance kald. Det er der nogen der tror at hvis de trykker mange gange, så går det meget hurtigere. Det er ikke altid de kan regne med det. Men jeg forklarer dem hvordan man bruger klokken.

B: Nu siger du i sætter den fast på sengehesten, er det fordi i oplever at der er nogen der ikke kan holde styr på den?

X: Ja fordi, det gør jeg sådan set med alle uanset alder, fordi normalt så hænger den oppe bagved. Så når patienten kommer ned så hænger den jo i den der ledning. Det der med at lægge den i sengen, jamen så får du jo drejet og vendt dig og sådan noget og så lige pludselig så er den røget ned bagved et eller andet sted og så kan man ikke finde den. Så hvis man sætter den der, så ved alle så har patienterne set den sidder der og det gør vi næsten alle sammen – sætter den i sengehesten.

B: oplever du at der er nogen patienter der ringer ifm. At de ikke kan finde deres telefon eller ipad som er forsvundet?

X: ja ja, alt muligt ringer de efter.

B: Men sker det ofte at den forsvinder – telefonen?

(8:38) X: Nej, det gør det sådan set ikke. Det plejer de at have ret godt styr på, den og fjernbetjeningen.

B: Ja, fordi nu siger du at i sætter klokken fast, er det så fordi de har tendens til at smide tingene væk?

X: Nej, det tror jeg ikke jeg tror simpelthen bare det er fordi det er upraktisk med den ledning.

A: Nu apropos din telefon ringer nu, hvordan har du det med du kan modtage kald på alle tidspunkter?

X: Det synes jeg er rart, og jeg synes det er rart jeg kan se hvem det er. Kaldene går jo...det er mine kald, de fleste af dem og det er kun hvis mine kollegaer ikke tager dem at det går videre på. Men det synes jeg er rart og jeg er rigtig rigtig glad for den.

A: Hvis man nu skulle udfordre det koncept og lad og sige man kun kunne modtage kald lad os sige; mellem 10 og 12. Hvad tror du det ville gøre? Og du så vidste det er kun der jeg skal forholde mig til kald?

X: Det ved jeg ikke hvordan jeg vil tænke, for det har været så stor en del af mit liv, at når jeg er på arbejde så kan man få fat i mig døgnet rundt. Jeg ser det som et af mine arbejdsområder, det der med at have en klokke, det er ligesom at skrive alt muligt andet.

A: Ja for det er vel noget med nogen behov man har vurderet er så vigtige at man skal kunne få fat i jer med det samme. Men det kunne også være man vurderede det på en anden måde?

X: Det tror jeg der ville gå lang tid før jeg ville vænne mig til hvis patienterne kun kunne ringe indenfor et bestemt tidsrum.

A: Ja, for det kan man jo også diskutere at der er nogen der synes det er stressende at man egentlig ikke ved hvornår der sker ting? Og det er jo forskelligt hvordan man har det med det.

X: Jeg tror jeg ville have svært ved at arbejde med at vide mine patienter ikke kunne få fat på mig.

B: Hvordan tror du dine patienter ville have det med det, set fra deres synsvinkel, sådan rent erfaringsmæssigt?

X: Hvis man nu skal ud på WC'et og det skal du klokken halv otte og du først kan ringe efter sygeplejersken klokken otte og du har lidt brug for det, hvad så? Så er en halv time lang tid at vente...det tror jeg ikke jeg bryder mig om den tanke.

A: Hvad med den fysiske udformning med telefonen, at det er en lyd, hvad betyder det?

X: Kunne jeg ændre lyden så gjorde jeg det, men det kan jeg ikke finde ud af. Irriterende lyd ikke?

A: Ja det er der vel nogen der synes, så har i f.eks. et medicin rum hvor der står man skal være stille, er det så ikke lidt en problematik at hvis man står og får en lyd besked der?

X: Jo, men vi har dem jo med hele tiden og hvis det er aften nat timer så har vi jo også vores telefon med så man kan ringe udefra hertil og alle kan ringe hertil hvor det ikke kun er internt...vores ude nummer går vi rundt med. Der kan du stå alle steder hvor de ringer.

A: Er der nogle uhensigtsmæssige konsekvenser ved at det er en telefon og der er lyd? Oplever du noget hvor du tænker det er lidt uheldigt?

(12.10) X: Ja hvis jeg sidder til en alvorlig samtale, man burde måske ligge den det er vi måske ikke så gode til. Altså jeg burde heller ikke have haft den med herud, jeg har bare glemt at lægge den derinde.

B: fordi den sidder i lommen?

X: Den sidder i lommen, men det stresser mig ikke at den ringer for jeg ved jeg har to kollegaer derinde der passer min patienter, så de stresser mig ikke. Det ville stresser mig hvis jeg sad med telefonen og jeg vidste det er kun mig der passer de der patienter, så ville det stresser mig. Men nu ved jeg der er to derinde som passer dem.

A: Ja for der er man måske også forskellige at nogen synes det er stressende at der er lyd og nogen synes det er rart at de får den reminder?

X: Ja, men jeg kan ikke finde ud af at ændre på lyden

A: Er der noget hvor du tænker, det kunne man gøre smartere på den måde i arbejder på?

X: Med kalde systemerne?

A: Præcis

13.01X: Nej, jeg synes det er lidt smart. Altså jeg har ikke været her så længe, jeg har arbejdet her i 11 måneder og jeg har ikke haft sådan nogle telefoner før, der havde vi bare sådan et almindeligt kalde system hvor det ringede i hele afdelingen. Jeg synes det har givet mig noget ro at det er personligt koblet op på mig ift. Hvis der ringer klokker i hele afdelingen man skal høre på. Så skal man først lige ud og finde ud af hvem er det der ringer, det skal alle. Her er det kun til os. Og vi sætter det op så det passer. Nogenlunde, det har udfordret os i dag.

A: hvordan det?

X: Den har ringet rigtig, rigtig mange gange på stue 3-2...der lå bare ikke nogen på 3-2.

A: Okay, så den ringer faktisk uden der er nogen der aktiverer den? Er det tit i oplever der er problemer i systemet?

(14.05) X: Indimellem, men jeg synes ikke det er tit. Jeg ved godt der er nogen der siger det er rigtig tit om natten.

A: Vi så noget med at man skal melde sit telefonnummer på en tavle, hvilken funktion har det egentlig?

X: Jamen det har den funktion at hvis jeg nu skal snakke med en af mine kollegaer; i stedet for at gå rundt i afdelingen og lede efter hende så ringer jeg bare til hende. Det er jo lidt smart, for mange kan jo være alle steder og lægerne kan ringe til os. Jeg sætter mit telefonnummer derinde og så ringer de til mig når det er stuegang og siger nu er vi klar til stuegang. Så man ikke hele tiden skal rende og hvornår er de klar og sådan. Så er der en aftale om at når de er klar så ringer de til os, så de heller ikke skal lede efter os.

A: er det tit at det bliver glemt at få sat telefonnumrene derop?

X: Nej, for XXXX står derinde hver morgen og fortæller os at det skal vi huske, men ellers ville de blive det.

B: Nu har vi snakket meget om telefonen. Hvis man nu tager udgangspunkt i de arbejdsredskaber du har. Hvor vigtig er telefonen ift. De arbejdsredskaber? Hvis du skulle prioritere dine arbejdsredskaber, hvor højt på skalaen ville telefonen så ligge?

X: Den vil ligge rimelig højt, det ville den fordi at den sparer mig for nogle skridt ift. At lede efter kollegaer i hvert fald og man er ikke altid nødt til at gå på kontoret når man skal ringe, men kan også bare gøre det ude i skyllerummet hvis man lukker døren. Det er jo lidt smart. Så den er rimelig høj, men den er ikke den højeste, men den er høj.

B: Jeg var bare interesseret i hvor meget den betyder for dine arbejdsrutiner?

X: Jamen den betyder meget, det gør den. Man kan slet ikke undvære en telefon ikke i dag, det ringer jo rundt med alt muligt hele tiden.

B: Kan du fortælle noget mere om dine erfaringer fra det tidligere sted hvor i havde klokkerne i stedet for hvor i nu har telefonen?

X: For det første så giver det ro, det har givet ro for mig at jeg ikke hele tiden skal være opmærksom på at når de der klokker ringe, er det mine patienter eller hvem er det der ringer. Og der var det kun klokke systemet som man kun kunne se et sted på kontoret og i personale rummet. Så når du stod i medicinrummet og kunne høre klokkerne ringe, så var du nødt til at gå ud af medicin rummet for at finde ud af hvor er det på gangen det ringer, så kunne man finde ud af: nå det er ikke en af mine og så kan man gå tilbage igen. Men det var jo en afbrydelse, hvor man sådan set står og hælder medicin op. Hvor det her, der kan man lige kigge ned: Okay, det er ikke min. Så man skal ikke ud og lede efter, hvor er det det ringer i afdelingen. Så det har givet meget mere ro i min verden selvom den siger lyd i lommen, men det kan jeg godt abstrahere fra.

(17.30) B: ka du slå lyden fra på telefon når du går ind til en patient? Så den f.eks. er lydløs men stadig kan brumme?

X: Altså det ved jeg ikke om man kan, det tror jeg man kan men jeg ved det ikke jeg er ikke særlig teknisk anlagt.

B: hvis det var mig der var patient tror jeg måske jeg kunne finde det frustrerende?

X: Der er somme tider nogen der kommenterer det: der er noget der ringer hele tiden. Ja, det er min telefon i lommen. Det er tit i aftenvagten hvor vi ikke er så mange, hvor man siger; det er en af mine kollegaer det ringer på, det er ikke til mig, så skal vi ikke stå og være stressede over det her.

B: Hvad betyder det for dig at du har tid til ansigt til ansigt kontakt med dine patienter, ikke kun når der er personlig pleje og praktiske opgaver.

18:24 X: Det synes jeg betyder meget. Det der med at man kommer ind og snakker med patienter det er en stor del af det og når man er der, så får man noget fortrolighed at patienterne også fortæller en nogen ting som de ikke ville have fortalt hvis man ikke var der. Og jo mere ro der er, jo mere fortæller patienter.

B: Så det er den måde de reagerer overfor dig?

X: Ja når jeg er der og vi snakker, så fortæller de nogle flere ting som måske hjemme situationen, hvad er det nu der er relevant: det går ikke så godt eller jeg har også en rigtig syg kone derhjemme. Så kommer de der ting som de måske ikke har fortalt, som også er vigtige tit i forbindelse med udskrivelse i hvert fald.

A: er der egentlig nogle patienter der ringer for meget?

X: Ja det er der, men ikke hvis du spørger patienten, men det er der. Og der er nogen der ringer med: jeg har tabt min kam på gulvet, ja..så samler man kammen op fra gulvet og går ud. Og så ringer de igen; jeg ville for resten gerne have

en kop kaffe. Nå ok, og så kommer man ind igen, kan jeg også få noget koldt at drikke. Det er sådan nogle småting hvor man kunne have samlet det sammen og så er der dem som er lidt små demente og så har fundet ud af at man kan trykke på knappen. Men der er ikke hele tiden hvor vi har nogen der ringer for meget, men ind imellem så tænker man: det ville være dejligt hvis klokke systemet det gik ned lige nu.

A: har det noget at gøre med at de bare betragter jer som nogle service personer.

(20.44) X: Ja så er vi rent og skær service personer, så skal vi servicere dem på alle planer og når man er indlagt i dag på hospitalet skal man jo kunne mest muligt selv, det jo det vi gerne vil. Vi vil gerne hjælpe hvis man ikke kan, men de må rigtig gerne selv gøre det. Men der er nogen der ringer for meget. Man må ikke sige det højt men det er der.

B: så tænker jeg, får man nogen gange følelsen af den der: ulven kommer, når de ringer?

X: Ja

B: hvordan reagerer du overfor det?

X: Jeg kan godt finde på at sige til dem at de skal lade være med at ringe så meget. Så kan jeg sige, at du ringer hele tiden og du vil sådan set ikke andet end småting, så det er ikke altid vi får dig prioriteret hurtigt hvis man hele tiden ringer og hvis du så er dårlig, så kan det være vi er for længe om at komme. Det kan jeg godt finde på at sige til patienter, hvis jeg synes det bliver for meget og de kan forstå det mentalt. Hvis man er dement kan man jo ikke forstå det, men nogen kan godt forstå okay, det var nok lige i overkanten med at ringe. Men det er for det meste dem der ikke helt er med der ringer meget. Men det sådan lidt: nu ringer de igen og man skal jo gå derind, sæt nu der kan være sket et eller andet. Nogen steder kan man slå klokken fra, det ved jeg ikke om man kan her, det tror jeg ikke at man kan. Der kan man slå system fra på kontoret, så hvis man har ringet ind, det kunne man i hvert fald i gamle dage, så kunne man simpelthen slå den fra så man var fri for at gå ned til patienten. Men jeg tror ikke det findes mere, man er nødt til at skulle ind på stuen for at slå det fra.

Vi er sådan set nødt til at gå helt hen til sengen, vi kan ikke engang stå i døren og gøre det. Man skal gøre det hvor der er trykket på knappen.

(22.22)B: Vi har set der hænger både den fysiske knap lige ved døren, over sengen og så lige ved lænestolen.

X: Ja, så man skal hen der hvor de har trykket på knappen og slå den fra, man kan ikke slå den fra henne ved døren.

B: Medmindre de har trykket ved døren.

X: Ja præcis. Så man kan ikke bare stå i døren og snakke med patienten som ligger henne ved vinduet.

A: Er der nogen funktioner i patientkaldet som du tænker kunne være godt, er der noget du tænker: Det kunne lige være smart hvis det kunne DET eller IKKE kunne det?

X: Nej det tror jeg ikke jeg har tænkt på, jeg er stadig lidt begejstret for det her.

A: Jamen det er jo vigtigt, at det er sådan du oplever det.

B: Er det dine generelle erfaringer med ... systemet?

X: Det der irriterer mig ved ... systemet det er når man skal tildele patienter, eller personale. Det tager sindsygt lang tid, det bruger man i hvert fald 20 minutter på i hver vagt. Det er så længe om at gå ind og registrere det, det er rigtig længe om at tænke det igennem.

B: Er det sekretæren eller er det akut sygeplejersken der gør det?

X: I dagtimerne er det akut sygeplejersken og i aftenvagten er det den ansvarshavende i aftenvagten der gør det og ligesådan i nattevagten.

B: og har det indflydelse på om patienterne kan ringe til jer eller ej?

X: Ja for eller så går den ikke ind, altså så er de ikke logget på nogen telefoner. Somme tider så ringer de, så er de ikke tildelt patienter på ens telefon, så ringer det bare på alle telefonerne.

B: Så er det lidt ligesom samme funktion du havde på dit tidligere arbejde.

X: Ja, men jeg synes det tager alt for lang tid, 20 minutter af en vagt og sidde og vente på at EDB systemet det skal være klar det er for meget.



24.30 B: Har du gjort dig nogen tanker om hvordan det kunne blive gjort lettere?

X: Jeg har kommenteret det flere gange, men så får vi at vide at sådan har det været altid. Jeg ved ikke hvem der skulle løse det. Og jeg ved heller ikke hvem der skulle gå ind og ordne det der EDB system for det tager jo ikke lang tid og gå ind og klikke af, det jo ventetiden mellem de forskellige processer der tager tid. Det simpelthen alt for langsomt.

A: Hvordan oplever i at jeres patienter kan bruge smartphones og tablets, er de gode til det?

X: Altså det fleste har det jo, mange af dem har i hvert fald smartphones og det er sjældent at der er nogen der bliver indlagt som ikke har en telefon med, det er godt nok sjældent at de ikke har en eller anden form for telefon med.

A: For det er jo sådan set lidt spørgsmålet her; hvis man skulle udvikle en app, som skal ligge måske på en hospitals telefon, måske deres egen telefon. Ville de være i stand til at kunne bruge sådan en?

X: Jeg er lige ved at tro de fleste af dem kunne, de går ikke ned på udstyr, mange af dem har nærmest det sidste nye.

A: For det er jo sådan nogle tanker der ligger i det, kan man lave en app og vil det være hensigtsmæssigt hvis den kan sige, jeg har brug for en kop kaffe eller jeg har brug for et toiletbesøg.

X: og så kunne man se det på (tlf)...?

A: det er en af grundtankerne at måske var der noget smart i det.

X: Det kunne der godt være noget smart i; at jeg vil gerne lige snakke med dig når du kommer forbi om et kvarter eller nu har jeg brug for at komme på toilettet eller jeg har sidsygt ondt, det er nu og ikke om en halv time. Det kunne da være meget smart hvis man kunne lave sådan noget.

A: For det er jo lidt tanken, vil det være hensigtsmæssigt at kunne differentiere kaldende?

X: Det tror jeg godt de kunne finde ud af de fleste af dem, det tror jeg godt.

B: Og ville bruge?

X: Og ville bruge ja. Altså det første rigtig mange patienter gør, det er jo at stille sig op ude ved sekretæren og bede om en kode til internettet. Det er de fleste der gør det. Der er rigtig mange der har det (Smartphones, tablets).

B: Det er en af de ting man lægger mærke til ved nye patienter der kommer, det er wi-fi koden.

X: Ja, ja det skal de have. De skal ikke ligge på sygehuset og ikke være på. Og det er ikke kun de unge det er også de ældre, alle har nærmest en Ipad.

A: Ja for det er jo også om man kan få systemerne til at snakke sammen, nu har i Roverne og måske man kunne få dem til at snakke sammen.

B: hvordan bruger i egentlig den rover?

X: Jeg bruger den mest i forbindelse med når jeg skal give medicin. Jeg synes den er lidt u-handy at gå rundt med. Man kan jo ikke have den i lommen.

B: i forhold til telefonen?

X: Ja, altså den er for stor til at have i lommen, så skal du gå rundt med den i hånden og det gør man ikke rigtig, det er den for stor til du kan ikke gå rundt med sådan en i hånden. Og så hvis man måler blodtryk og puls og alle de der ting, så kan jeg også have den med hvis jeg decideret går ud for det. Men ellers så bruger jeg den sådan set ikke ret meget.

B: hvilke funktioner har den indbygget i sig?

X: Jamen den kan sådan set næsten alt. Man kan registrere alt mulig på den, men jeg synes at det er bøvlet.

B: bruger dine kollegaer den meget?

X: Nej ikke rigtig. Men vi bruger den til medicin ifm. Medicin ophældning, for så registrerer vi når vi har givet medicinen, så vi er sikre på det er den rigtige patient. Så der bruger vi den, men man kunne godt have fundet på noget mere smart med det der batteri. Det er derfor den er så stor. Det er ligesom en Iphone, men bare så er den så tyk her (demonstrerer tykkelsen med hånden ca. 7-8 cm).

B: og det gør simpelthen at den er for u-handy?

X: Jeg synes den er for u-handy, det synes jeg. Men ja den kan det, og så scanner man patienten, så kommer man ind på den rigtige patient, så kan man trykke ind på hvor meget de har drukket og man kan registrere det, men jeg synes det er nemmere at gøre på computeren og have den med.

B: Hvad siger patienterne til den store computer?

X: Nogen synes det er lidt interessant. Jeg er meget i aftenvagt og når man så går rundt og siger godnat og giver medicin sidste gang og man logger ind: Så, kan du se mine sidste blodprøver og kan du se det? – og man kan jo se det hele og hvis man siger til dem; hvad skal jeg skrive om dig for i aften er der noget interessant? Så synes de i det hele taget det er lidt sjovt at være med til og skrive, altså det er mig der skriver, men at bestemme hvad er det der skal stå; har du haft en god eller dårlig aften, det kan patienterne sådan set godt lide.

B: Så man kan sige, du bruger den også lidt som et redskab til at interagere med patienten?

X: Ja

B: men man kunne også sagtens forestille sig at den kunne distancere dig?

X: Det kunne den sagtens hvis jeg stillede mig hen den anden vej og kiggede, men hvis man stiller sig op og siger; nu skal vi lige skrive ind her hvor meget urin har vi tømt ud, det går vi meget op i, og så er der eller noget vi skal skrive om dig, er der noget interessant og sådan, så kommer det stille og roligt.

31.00 B: Tror du det kunne fungere hvis de selv i en patientapp kunne skrive den rapport om aftenen?

X: Ja nogen ting kunne de selv skrive.

B: f.eks. hvor mange toilet besøg de har?

X: Ja, eller hvor meget de har drukket. Det gør vi jo sådan set lidt i papir form til nogen der selv kan, det er ikke dem alle sammen der kan. Du skal registrere hver gang du har drukket så og så meget, eller et glas vand og så skal de sætte kryds. Det kunne man da godt gøre på telefonen. Det tror jeg nogen vil synes er sjovt.

B: Så måske lidt motiverende?

X: Ja, revisorer og ingeniører og sådan som ser alt i kasser.

## Appendix 8

| <b>Forskningsspørgsmål</b>                                                         | <b>Interviewspørgsmål</b>                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Værdier relateret til patientkontakt fra sygeplejerskernes perspektiv?             | <p>Hvad tænker du egentlig om at patienterne har mulighed for at kalde på en sygeplejerske?</p> <p>Går du ind til dine patienter selvom de ikke har kaldt eller ikke har en bestemt opgave du skal løse derinde?</p> <p>Hvordan betragter du dit forhold til patienterne?</p>                   |
| Hvordan betragter en patient muligheden for at kunne ringe efter en sygeplejerske? | <p>Oplever du patienter der giver udtryk for at de synes i kommer for langsomt til patientkald?</p> <p>Hvad siger patienterne når i forklarer dem hvordan de bruger kalde funktionen?</p>                                                                                                       |
| Hvordan påvirker et patientkald sygeplejerskernes arbejdspraksis?                  | <p>Hvad synes du om at du kan modtage kald på alle tidspunkter?</p> <p>Hvad ville der ske hvis patienterne f.eks. kun kunne kalde i et bestemt tidsrum?</p>                                                                                                                                     |
| Hvordan vil sygeplejerskerne helst modtage et patientkald?                         | <p>Hvordan synes du om at du får patientkald som en lyd på en telefon? Synes du det har nogle u hensigtsmæssige konsekvenser som det er nu? (eks. Larm i medicin rummet)</p> <p>Kunne du forestille dig at det kunne gøres op en måde der passer bedre til den måde i arbejder på?</p>          |
| Hvordan er relationen mellem sygeplejerske og patient                              | <p>Hvordan oplever du dine rolle ift. Patienterne, service person, omsorgsperson eller andet? (hvad giver pt udtryk for?)</p> <p>Hvad betyder ansigt til ansigt kontakt her på afdelingen? (Hvordan påvirker patientkaldet det forhold)</p> <p>Er der nogen patienter der ringer for meget?</p> |
| Hvordan fungerer den tekniske brug af patientkaldet i dag                          | <p>Hvordan er dine erfaringer med ... systemet?</p> <p>Er det ofte at folk glemmer at melde deres tlf nr på tavlen?</p> <p>Betyder det noget for arbejdsgangen at der er nogle der ikke har meldt nr. På?</p> <p>Synes du der er nogle funktioner i patientkaldet der mangler i dag?</p>        |

# Samtykkeerklæring

Jeg erklærer hermed, at jeg giver mit samtykke til at deltage i et interview i forbindelse med Jacob Heiden & Kim Berggreens undersøgelse omkring udvikling af digital patient kald applikation.

Jeg er informeret om og indforstået med:

1. at jeg til enhver tid kan trække mit samtykke tilbage og udgå af projektet
2. at interviewet er anonymt, og det betyder at jeg ikke nævnes ved navn eller på anden måde kan genkendes i interviewet eller specialet
3. at alle oplysninger jeg måtte give, som enten kan føre til genkendelse af mig eller andre personer ikke vil kunne genkendes i specialet
4. at alt materiale udover selve specialet og transskriberinger brugt som bilag, destrueres efter anvendelse
5. at jeg får mulighed for endelig at godkende interviewets indhold før anvendelse, ved at jeg modtager det transskriberede materiale. Og først efter min endelige godkendelse vil materialet blive brugt i specialet.
6. at materialet indgå i en analyse i Jacob Heiden og Kim Berggreens speciale

Jeg har modtaget både skriftlig og mundtlig information om undersøgelsen

Dato: \_\_\_\_\_

Underskrift: \_\_\_\_\_