P/REFERENCES OF DESIGN

HOW CAN SOCIAL DESIGN FOSTER BETTER EXPERIENCES FOR PATIENTS IN THE FORM OF SERVICES, PRODUCTS AND SPACES?: THREE CASE STUDIES FROM HEALTHCARE FOR/WITH CHILDREN IN DENMARK.

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ABSTRACT | Social designers' involvement in healthcare and well-being has been steadily growing. Their roles have expanded to encompass various facets well beyond products and services towards seeking to make an impact on a holistic level aiming to enhance the overall patient experience. However, there is a lack of research into overarching objectives and qualities that social design can add to healthcare. As a response to this gap, the study aims to delve into and explore potential areas where social design can make contributions within healthcare for/with children. As a response to this gap, this study explores three case studies from a master's programme focusing on social design and participatory design in Denmark. The three case studies cover various aspects of healthcare involving the creation of environments and experiences that promote healing, comfort, and a sense of safety for patients. The analysis of these three case studies point out to four qualities that were added by social design: encouraging patients' and parents' agency, increasing engagement, fostering a sense of wellbeing and enhancing patient satisfaction. These provide insights that can guide future initiatives, strategies, and collaborations aimed at integrating social design principles to enhance healthcare delivery and improve outcomes for patients and communities. This paper suggests that a social design-led approach to healthcare for children working closely and continuously with patients throughout the project, could assist in creating value-driven services and thus increase the overall quality of care.

1. Introduction

This paper's overall perspective is social design which inherently bases its work on participatory and co-design methods to ensure a people-centric approach throughout a project.

Social design contributes to the concepts that inform the creation and organization of social systems, structures, and interactions to achieve positive outcomes for individuals and communities (Armstrong et al, 2014). These concepts are often applied in fields such as urban planning, technology design, community development, organizational management, health, and social care. While specific points may vary depending on the context, social design consists of the following fundamental aspects: a) inclusivity and diversity, b) participation and co-creation, c) empathy and equity, d) accessibility, e) resilience f) cultural sensitivity, g) continuous feedback and iteration, g) transparency and accountability (Nold et al.,2022). Markussen (2017) argues that social design is created out of a collaborative design process where designers involve a specific group of citizens, public and private partners to achieve social change, with the aim to improve life conditions for a disadvantaged and confined social group or community. Markussen sees micro-scale effects that may reach a meso-level, but stresses that these effects rarely break out of their limited frame, meaning that the social value is conceived of as a small, but decisive qualitative change in the form of a re-distribution of identities or interpersonal relations. (Markussen, 2017:169).

Studies show an increasing focus on children's psychosocial well-being in healthcare environments (Lambert et al., 2013; Bishop, 2014), in healthcare technology design (Iversen and Brodersen, 2007; Sims 2018), and in healthcare services (Miettinen and Alhonsuo, 2019; Russell et al., 2014). This increasing focus resonates with social design referring to the intentional and collaborative process of creating, shaping, or improving healthcare services, products, and spaces with a primary focus on enhancing the well-being and experiences of individuals and communities within the broader social context. Focusing on patients - in this scope, children's - experiences in the design of healthcare services, products, and spaces is of paramount importance for several compelling reasons. This does not only enhance the quality of care but also contributes to improved health outcomes, increased patient satisfaction, and gradually a more efficient and effective healthcare system (Harris et al., 2015).

This paper aims at bringing up what future social designers should be cautious about when designing healthcare with/for children as well as showing and discussing why social design is especially suited to contribute to the healthcare design with/for children.

Unlike traditional design approaches that may prioritize aesthetics and functionality, social design in healthcare places a strong emphasis on understanding and addressing the social, cultural, economic, and emotional aspects of patients' lives as well as the aesthetics and functionality. In this domain, social design emphasizes a people-centric approach, fostering collaboration, empathy, and inclusivity to create services, products, and spaces that contribute to the overall patient experience by following an empathic, co-creative, inclusive approach with continuous feedback and iteration. However, there is a lack of research into overarching objectives and qualities that social design can add to healthcare. As a response to this gap, this study aims to delve into and explore potential areas where social design can make contributions within healthcare by presenting three case studies from a master's programme focusing on social design and co-design in Denmark. The three case studies cover various aspects of healthcare involving the creation of environments and experiences that promote calmness, comfort, and a sense of safety for patients.

Existing research in healthcare with a focus on children reveals three main areas that are covered: (1) healthcare technology design with children and its respective methods, (2) interior design of hospitals with an eye on children's needs and (3) the service design of healthcare and children's needs.

In the following sections, first, a portrait of existing relevant research is presented; this is followed by elaborating on the three case studies via going deeper into the approaches taken and methods used. With

these in mind, a set of values that social design practice brings into the domain of healthcare are proposed towards the end of the paper.

2. Healthcare Technology Design with Children and its Respective Methods

Traditionally technology design with children focused on human–computer interaction (HCI), emphasizing on acquiring information from mediators such as teachers and parents, with scarce involvement of children themselves (Druin 2002). It seems to be common ground that working with children in a technology design process is more challenging than working with adults for several reasons: Hanna et al (1999) argue that children have more difficulty in vocalizing their thoughts, so techniques such as thinking aloud tend to be more challenging to use. The interval during which children can concentrate, as on a single object, idea, or activity is more limited (Markopoulos and Bekker 2003). And finally, methods need to address and acknowledge the power relation between children and adults (Punch 2002).

However, suggestions and frameworks for children's involvement that address these challenges have been made (Druin 1999; Harvard and Løvind 2002; Isomursu et al.2004). These focus on analysing children's joint interactions with a particular design proposal- ideally with a 'fun' factor - rather than focusing on solicitating direct feedback. Methods like peer tutoring following these suggestions: children form a peer group for testing and rehearsing a design. A researcher introduces the first child to the design solution and shows the child how to use it. After a few minutes of practice, the child becomes a tutor to the second child; again after 15 minutes the second child, the tutee, becomes a tutor to a third child and so forth. Observations of the interaction between design proposal and children's up-take of it can be used for design iterations (Druin 2002). The BRIDGE method, developed by Iversen and Brodersen, stresses that it is the designer's and design researcher's duty to enable equal contribution to design from children and adults by adapting language, materials and environment accordingly rather than focussing on children being considered as cognitively incomplete (Iversen and Brodersen, 2007).

Those projects that do engage in healthcare technology design typically include informal and formal user-centred design methods. As an example, Weightman et al (2010) worked with children with cerebral palsy to design engaging, playful hardware and software devices for upper limb rehabilitation. The methods they used in their iterative design include questionnaires, interviews, peer tutoring inspired by Druin (2002) and a comparative method. Studies highlighting methods available for children with special needs include Allsop et al (2010). They analyse available methods such as co-inquiry, cooperative evaluation or the above-described peer tutoring and their potential barriers for children with special needs and call for an inclusive adoption of methods to give a voice to these children. Sims (2018) involved kids in co-designing children's upper limb prostheses by applying the conversational BRIDGE method (see above). The researcher also stresses children's "opportunities to develop social, academic and design skills and to develop autonomy, which can be further enhanced by ensuring children are afforded equal rights as adults when deciding whether to participate in research." (Sims, 2018:25).

Thabrew et al (2018) offer an interesting review of eHealth interventions that were developed via co-design with children and young people. A computer game for treating anxiety in children with long-term physical conditions, a self-monitoring app for use during treatment of depression in young people, and HABITS, the development of an emotional health and substance use app, and eHealth platform for young people, are used to discuss the value and challenges of co-design processes. (see Thabrew et al, 2018:1) Projects used probing, toolkits and workshops adapted to their specific contexts and authors concluded: "Co-design can successfully be undertaken with children and young people. However, additional thought needs to be given to settings and techniques to ensure meaningful engagement and participation from these groups." (Thabrew et al, 2018:5).

3. Interior Design of Hospitals with an Eye on Children's Needs

Hospitals are usually seen as environments that provoke the feeling of fear, sadness, anger, anxiety, loneliness, and homesickness for children; studies show that all these emotions have an impact on children's physical and psychosocial well-being (Lambert et al., 2013; Bishop, 2014) while some additionally point out to how those also impact parents' stress levels (Cartland et al., 2018). To overcome these emotions and create child-friendly healthcare environments, literature emphasizes the importance of involving children directly or children's parents in the design and development of such spaces (Coad and Coad, 2008; Lambert et al., 2013). Among those, Li et al (2016) emphasized the importance of play in reducing anxiety and negative emotions in hospitalized children.

Studies that were presented in literature mostly use observations and interviews with children (accompanied by parents) or sometimes only with children's parents, while a few uses art-based activities to actively engage with children. For instance, Coad and Coad (2008) investigated the viewpoints of young children regarding social spaces within hospitals to guide the design of the built environment of a new children's hospital through one-to-one semi-structured interviews and workshops accompanied by art-based activities. They found that children desire a variety of age-appropriate entertainment options that are easily accessible throughout the hospital. These activities not only combat boredom but also empower children with choices and reduce feelings of isolation by fostering social connections within the hospital community and beyond. Belver and Ullan (2011) presented a case study from a children's hospital in Spain focusing also on using art to improve the hospital environment as well as the emotional experiences of children; they conducted interviews with parents and other relevant healthcare professionals working in the hospital; however, no children were engaged in this one.

In another example by Lambert et al (2016) about social spaces for young children in hospital, the importance of using art to positively impact the children's emotional status was emphasized; additional to that, the authors brought up that technology can assist in expanding children's social connectivity during their hospital stay, bridging connections to home, school, and the larger world.

In respect to comparative studies, Cartland et al (2018) conducted research about the experiences of children (aged 3-17) admitted to a recently established facility tailored to promote child-centred care and equipped with family-friendly amenities, and those admitted to a prior facility lacking such accommodations through interviews. The newly constructed facility served as a replacement for the older establishment. In this example, the findings show that children in the new facility experienced less anxiety than in the old one; parents and children identified distinct aspects of the hospital that they deemed restorative.

4. The Service Design of Healthcare and Children's Needs

In the past ten years, there has been a growing focus on encouraging children and young individuals to actively engage and participate in decision-making processes and services that impact them regarding their health (Cartland et al., 2018; Coad et al., 2008). Even though literature points to the importance of involving children in the development such processes and services, practices vary. For instance, in a rehabilitation examination study by Miettinen and Alhansuo (2019), the participants of the study were mainly children's parents and healthcare professionals. In another study, Alhansuo et al (2023) discuss how children can be engaged in shaping hospital services through creative storytelling, how service design can be used to create innovative materials; data from these creative processes were analyzed to develop a fiction-based storytelling approach and visual service journey mapping tool for children's service design process in Finnish hospitals. Aldiss et al (2009) wrote about exploring children's experiences and views of cancer care services by using play and puppets for collecting data rather than interviews or observations. Using play and puppets could be connected to using storytelling as a method as in Alhansuo et al (2023).

What this literature research shows is, that in healthcare projects addressing children, parents are often still the main collaborators and if children are involved interviews are used more often than co-design activities, however there are increasing efforts specifically in service design projects, that emphasize play and storytelling as promising participatory design approaches. There is a lack of research into overarching objectives and qualities that social design can add to healthcare for and with children. As a response to this gap, the following research questions are explored in this study: What are the specific qualities and what is the value that social design can add to healthcare for and with children?

5. Research Methodology

This study uses case study as the methodological approach. Case study research entails a thorough and focused examination of a specific event, situation, organization, or social group (Yin, 2014).

Case study research offers the advantage of providing detailed data from various sources. However, opinions vary on the generalizability of case study outputs across different settings (George et al., 2005). By employing a qualitative case study approach, George et al (2005) emphasize the potential for a thorough examination of specific cases. From a design research perspective, Breslin and Buchanan (2008) describe case studies as exploratory and descriptive tools that not only construct phenomena but also contextualize them within relevant literature and discourse.

In this study three cases from healthcare design with and for children, developed in a social design master programme, MA Design for People, at Design School Kolding in Denmark are presented. The empirical data was acquired through various methods in each three cases: a) closely monitoring, and guiding student projects over five months, b) MA project reports, c) scrutinizing final presentations and design proposals of the student projects. The MA project reports consist of a relevant literature review, research methodology and methods used, as well as the final presentations which encompass both design proposals/solutions and comprehensive process mapping, highlighting different types of engagements, tools used, and findings for each project.

The methodology for analysing the three projects for distinct social design qualities is based on and inspired by Markussen's (2017) framework of social design. The framework defines aim, modus operandi, social value, locus of innovation and effect to clarify social design's main qualities. We use the three aspects modus operandi, social value and effect which we deem relevant for our case analysis. In regards to modus operandi, which translates to tools and methods, the framework states: "Co-design processes and material aesthetic practices take centre stage in the form of infra-structuring contradictory interests and resources"; with respect to social value it states: "Social value is conceived of as a small, but decisive qualitative change in the form of a re-distribution of identities or interpersonal relations."; in relation to effect it states: "Micro-scale effects that may reach a meso-level, but these effects rarely 'break out of their limited frame". (Markussen, 2017:169)

6. The Three Cases

The study explores three case studies from a master's programme focusing on social design and codesign in Denmark. The three case studies are covering various aspects of healthcare involving the creation of environments and experiences that promote healing, comfort, and a sense of safety for children and parents (Table 1). Case study 1 is the design of a set of sensory products to assist parents and nurses/bioanalysts in calming and reassuring their child during a blood test experience and reduce the child's needle phobia. Case study 2 is the design of a safe and playful spacious experience to reduce the level of anxiety in children before having a surgery. Case study 3 is the design of a dialogue tool and a peer-to-peer support service for parents of premature babies.

Table 1. An overview of the projects, analysis lens and the images from the design outcomes.

The case studies	Modus operandi/ Methods	Social value	The design outcome
A set of sensory products for calming children	Observations, sensory ethnography, semi-structured interviews, probes, workshops	More active roles for parents, Expanded roles for healthcare staff, fresh hospital identity	
A safe and playful spacious experience before having a surgery	Semi-structured interviews, digital workshops with children and parents	Advanced interpersonal relations between parents and children, Playful interaction between children in the same situation	
A dialogue tool and a peer-to-peer support service for parents of premature babies	Observations, Interviews Dialogue tools (Timeline, Privacy Mapping, Relationship Activity Chart)	New interpersonal relations between veterans and parents in the same situation	

Case study 1: the design of a set of sensory products to reduce the child's needle phobia for blood test

The first case we explore in this paper focuses on designing a set of sensory products to support parents and nurses/bioanalysts in calming and reducing the child's needle phobia for blood tests. It aims to address the issue of children's fear of needles during blood tests. It begins by observing blood tests in the children's ward of a Danish hospital to understand the child's perspective. Expert insights are gathered from various stakeholders including children, parents, pediatric nurses, bioanalysts, a play therapist, hospital clowns, design specialists, and a healthcare anthropologist. These first-hand experiences inform the project, guiding the development of supportive tools to enhance the pediatric blood test experience. The background of this project is rooted in the fact that needle pro-cedures are among the most feared experiences children have in healthcare (Kortesluoma & Nikkonen, 2004) and the importance of child-centred care as an approach within pediatric medicine that emphasizes the significance of placing the child's experience at the forefront of their care (Ford et al., 2018).

Figure 1. The different elements of the project, which translates to calmness and safety. Image credits: Roseanne Marie Kimber.

The outcome of the project was a set of sensory producs that parents and nurses/bioanalysts to prepare and support children for blood tests. These producst help to communicate psychological care through the senses. The products come in a kit with 3 tools and an infor-mation leaflet with images. The set of products can be used for preparation, sensory comparison, calming or hypnoanalgesia, a recognised technique for relaxation; they can be used in the waiting room in the time before the blood test when the child needs to wait 30minutes for the numbing cream to work as well as in the test room with the nurse/bio-analyst. (see:https://www.roseannekimber.com/work/sensorytoolsforreducingneedlefear).

Case study 2: The design of a safe and playful spacious experience to reduce the level of anxiety in children before having a surgery

The objective of the second case is to enhance the hospital experience for children by infusing with elements of playfulness and relaxation, thereby mitigating pre-operative anxiety. The study context was awaiting room in the children's department at a Danish hospital before children are taken to surgery. This initiative is rooted in the prevalence of perioperative anxiety and physical discomfort among children undergoing surgery, as documented in numerous studies; research indicates that preoperative anxiety can exacerbate postoperative pain, negative behaviours, and complications like delayed wound healing, delirium, and nightmares (Baghele et al, 2019). Factors contributing to this anxiety include fear of surgery,

separation from parents, unfamiliar surroundings, and loss of autonomy; the stress typically begins upon scheduling the operation and peaks upon admission to the hospital (ibid).

Figure 2. The different elements of the project which translates to playfulness and calmness. Image credits: Christina Sapounidou.

Recognizing the significance of addressing preoperative anxiety, this project seeks to leverage design strategies to create a more soothing and familiar environment for paediatrics patients. By incorporating elements that evoke feelings of calmness, comfort, and control, the aim is to alleviate stress and foster a sense of acceptance and security in an otherwise unfamiliar setting. Techniques such as non-pharmacological interventions, information dissemination, and distraction are explored as potential means to minimize preoperative anxiety and promote a safer and more positive surgical experience for children (Charana et al,2018).

The outcome of the project was an installation for children in a hospital's waiting area, which can be considered as an individual preparation for children; it is supposed to provide bodily physical calmness before children undergo an operation. It can be used by one child, siblings, children waiting for an operation at the same time or children and their parents. This spacious design consists of a seating area, a soft playful wall to lean on, touch or immerse the body into, another seating / laying on piece, and an interactive part to light up the space in different colours (Figure 2).

Case study 3: The design of a dialogue tool and a peer-to-peer support service for parents of premature babies

The third case study we explore in this paper focuses on designing for peer-to-peer support among parents of premature babies. The study context was a Neonatal Intensive Care Unit at a Danish hospital. The background of this project is the fact that in Denmark, around 4000 children are born each year prematurely (Dansk Præmatur Forening, 2020). Clottey and Dillard (2013) assert that these parents often experience a long and hard period of insecurity, not knowing whether their child or children will survive and whether it will be with or without a disability. This emotional distress can lead to parents feeling hopeless and powerless to a larger degree than parents of full-term babies' experience.

Figure 3. The different elements of the kit Samvær, which translates to socialising. Image credits: Marie Kremer.

The outcome of the project was a product-service solution, a kit that works hand in hand with peer-to-peer support led by so called veterans. These parents went through the experience of having a premature baby in the past and could therefore empathize with parents in the same situation. The kit includes a card congratulating the parents on the arrival of their child, activity cards that give the parents the option to choose what they would like to do during the meetings with the veterans, emotion objects, and a map and memory cards, which allow one to document and keep fond memories made in the hospital (see https://www.mariekremer.com/samvaer) (Figure 3). Introducing a kit with various tactile and material objects helps veterans and novices to structure and moderate their meetings and perhaps touch on what is close to the parents' hearts but not so easy to talk about.

7. Analysis

7.1 Modus Operandi/Methods: How the Projects Used a People-Centric/Patient-Centred Approach in the Process

In the first case, the focus was set on child-centred care (Ford et al, 2018) by investigating how to best support children to have less-anxious blood test experiences based on a participatory design approach. The research design consisted of the following steps: visits to the hospital, observations at the children's department in terms of blood test experiences, semi-structured interviews with several healthcare professionals and designers working in healthcare and focusing on children and a play therapist, participant observations as a clown, probes and an online 'Play Doctor Workshop'. The engagements with children (except for observations) were based on different joint actions such as dreaming, performing (dressing up and acting), imagining/dreaming, making, and reflecting (Figure 4).

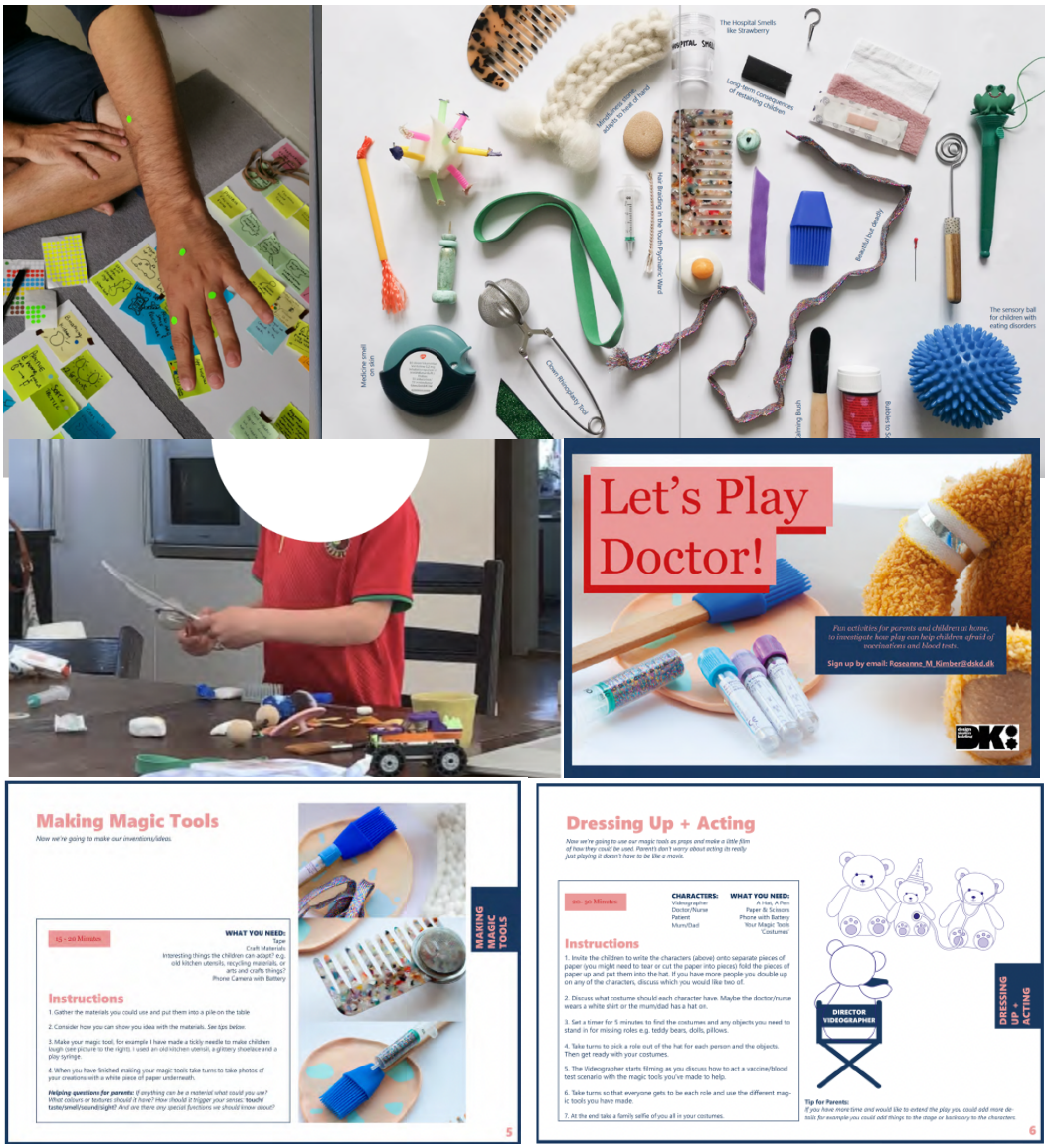

Figure 4. The different elements of the project, which translates to calmness and safety. Image credits: Roseanne Marie Kimber.

In the second case, the focus was on the anxiety levels of children in the pre-operative period at the hospital. The research design consisted of the following steps: visits to the hospital, interviews with nurses working in the children's department in different hospitals, one physical and three online workshops with children (together with a parent if the child was at an age that required adult companionship).

As depicted in the images below, in these workshops the design researcher used drawing as a a means to imagine what children would pack in a fictional suitcase to be as well prepared as possible for their hospital stay and surgery as well as what made them feel calmer and which character lived there among the provided images. In another workshop, different materials were used to involve children (and their parents) in co-designing the actual design proposal.

Figure 5. The different elements of the project which translates to playfulness and codesigning. Image credits: Christina Sapounidou.

In the third case, throughout the project, a focus was set on emotions and feelings of the parents, which shaped the participatory design approach. The research design consisted of the following steps: Observations at the neonatal intensive care unit (NICU), interviews with medical staff that were carried out to draw on the staff's expertise on how to support parents and to help place the individual parents' stories in a broader framework. Interviews with parents explored their challenges and feelings in the NICU and to provide a platform to share their stories. Based on these insights the designer worked with online workshops, using dialogue tools to generate knowledge and insights together.

The three tools (Figure 6) featured timeline (below) in which participants were asked to map out both the timeline of how their friendships developed and the progress of their hospital stay. The goal was to see if there were similarities between the two; a map of the ward where participants were asked to mark to where they felt safe and had privacy and where they did not. And lastly an activity chart in which participants were asked to outline the relationship they have with their friends, their activities, and

conversational topics and opinions that connect them. Here the designer wanted to find out whether there was a difference between friends inside and outside the hospital.

Figure 6. The different elements of the kit Samvær, which translates to socialising. Image credits: Marie Kremer.

7.2 Social Value: How the Projects Fostered a Re-Distribution of Identities or Interpersonal Relations

The set of sensory products for blood tests supports children in going through the pro-cedures that are among the most feared experiences they have in healthcare. Focusing on what is most feared and easing this experience ideally has dripple-down effects on the overall feelings that children have towards healthcare and thus can change the identity of the hospital as such. The set of tools also offer chances for a circulation of roles: parents can become a more active character when using the tool and thus support the healthcare staff in performing their procedures they have to do. Healthcare staff on the other hand can shift their role from a purely technical, medical one to a more child-centred caretaker act. In that way parents and healthcare form a new team and new interpersonal relations.

The playful installation introduced in case study two, suggests an alternative to common pre-operative waiting areas, not designed for children's needs in mind. By offering convivial, joyful materials, tactile structures and elements that spark curiosity, interpersonal relations between different parties are advanced. First and foremost, between parents and their children, which are given autonomy and choices between relaxation, withdrawal, or physical activity; and second it gives room for playful interactions between children in the same situation. Finally, also here, the hospital gains new options for a child-centred care identity.

Shared experience and an understanding of what others encounter are the foundation of peer-to-peer support (Hall et al. 2015). The suggested Veteran Parent System from case study 3 builds upon this finding and uses the principle of sharing for common good. New interpersonal relations can grow between those who went through the often-traumatizing process of being at the NICU with a premature baby and those in

the same situation. The reciprocal nature of the service implies that parents can take on different roles and thus re-distribute their identities – recipients of the service can become veterans with the possibility to give back and pass on their experience.

The system introduced in case study 3 creates a protected space for parents with the hospital as the distributor of the new service. In this sense also the hospital changes its identity by offering a service that goes beyond the purely medical one, acknowledging that feeling safe and understood supports the wellbeing of the parents and thus in return their premature baby.

8. Discussion and Conclusion

Based on the analysis of the modus operandi of the case studies and their social values we would like to discuss the specific qualities and values that social design can add to healthcare for and with children. What future social designers should be cautious about when designing healthcare with/for children are the following points:

Encourage young patients' and their parents' agency: Designers endeavour to encourage young patients' and their parents' agency by designing experiences that foster engagement, education, and pro-active participation in their own well-being. This includes creating tools, interfaces, and environments that facilitate a better understanding of health information and encourage proactive health management with a special eye on the needs of children and their parents. Social designers work in this way by working with tactile qualities, understanding through bodily experiences and performances, through touch, sound, and different materiality.

Increased engagement: The analysis of the cases suggests that social design leads to engaging young patients actively in their own care by designing experiences that encourage and educate them. This might involve user-friendly interfaces for medical devices, clear communication of health information, and tools that encourage participation in treatment plans as well as spacious experiences and overall services. Having an empathic approach, working closely and continuously with patients throughout a project process increases engagement, tends to create commitment and ownership for patients and their parents as well as related healthcare professionals.

Foster a sense of well-being: Social designers aim to create environments that promote a sense of calm, comfort, and well-being for young patients and their parents. Factors like lighting, colours, furniture, and overall spatial design can significantly impact the emotional state of patients during their healthcare journey.

Enhance patient satisfaction: Social designers aim to elevate patient satisfaction by addressing not just the medical treatment but the entire journey within healthcare facilities. This includes considering aspects such as waiting times, ease of navigation, and emotional support during the healthcare process.

For social designers and healthcare designers, this paper contributes a set of three examples, detailing four design objectives that might enhance the agency of children when navigating through healthcare systems. To conclude, this paper suggests that a social design-led approach to healthcare for children working closely and continuously with patients throughout the project, could assist in creating value-driven services and thus increase the overall quality of care.

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