The delivery of patient-centred healthcare: A plan evaluation assessed from a sociotechnical perspective

A qualitative study on the extent to which the proposed organizational structure enables the delivery of patient-centred healthcare at the Amalia kinderziekenhuis.

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Preface

I would like to take this opportunity to express my gratitude to those who supported me throughout the period of writing my master thesis.

Firstly, I would like to thank my supervisor Jan Achterbergh for his guidance and feedback throughout the thesis trajectory. Secondly, I would like to thank Jessica Vogel for the opportunity to execute this research at the Amalia kinderziekenhuis. In addition, I am grateful for the employees of the Amalia kinderziekenhuis who were willing to participate in the interviews.

Finally, I would like to thank family and friends for their support and patience during this thesis trajectory. Moreover, I would like to thank my fellow OD&D students, Julie and Lara, for their peer reviews and many coffee breaks at the university.

I hope you enjoy reading my master thesis.

Esmee Heerlien
Nijmegen, October 2019
Abstract
This research provides a plan evaluation of the proposed organizational structure of a child hospital which aims to enable the delivery of patient-centred healthcare. In order to execute the plan evaluation, two gaps were investigated: 1) the gap between the interpretation of patient-centred healthcare according to literature and the desired interpretation of patient-centred healthcare according to the plan of the child hospital and 2) the gap between structural characteristics based on literature and the structural characteristics of the proposed organizational structure according to the plan of the child hospital.

In this study, patient-centred healthcare is described by means of seven topics with a corresponding norm value. Moreover, four structural characteristics with a corresponding norm value were developed which were based on the Sociotechnical Design Theory of de Sitter (1994). This theory was complemented by theories which focus on organizational design in the healthcare context. The substantiation how the structural characteristics enable the delivery of the indicated topics of patient-centred healthcare and the structural characteristics was outlined in this research.

Document analysis and interviews were executed to collect data in order to obtain a comprehensive insight about the proposed plan of the child hospital. The data was interpreted to develop a value for every topic of patient-centred healthcare according to the plan and the four structural characteristics as intended in the plan. Subsequently, the discrepancy between the norm values and the corresponding values of the plan were obtained. Moreover, the gap between patient-centred healthcare and the organizational structure was indicated.

It can be concluded that the interpretation of patient-centred healthcare according to literature and the plan corresponds. Therefore, the structural characteristics were appropriate to enable the delivery of patient-centred healthcare. Three structural characteristics indicated a discrepancy between the norm value and the corresponding value of the plan. Therefore, the proposed organizational structure inhibits the potential to enable the delivery of patient-centred healthcare. In order to improve the proposed organizational structure, five recommendations were provided: increase the degree of utilization capacity of flows, allocation of health professionals to flows, division of facilities into dedicated teams, develop a control structure based on the proposed production structure and focus on regulatory potential of key positions.

Keywords:
Patient-centred healthcare, organizational structure, plan evaluation
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Chapter 1- Introduction
This research concerns a plan evaluation of the proposed organizational structure of the Amalia kinderziekenhuis which aims to enable the delivery of patient-centred healthcare.

Patient-centred healthcare has received increased attention for over two decades and the recognition of the importance of patient-centred healthcare has become widely embraced by different involved organizations in the healthcare delivery, such as governments and patient- and health policy organizations (Kitson, Marshall, Bassett, & Zeitz, 2012). It is considered as an essential aspect of high quality healthcare since it is argued that it improves healthcare processes and health outcomes including survival (Greene, Tuzzio, & Cherkin, 2012). Moreover, it has been shown that patient-centred healthcare leads to a better use of resources and decreased costs (Gluyas, 2015).

The Institute of Medicine has defined patient-centred healthcare as: “care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring the patient values guide all clinical decisions” (Institute of Medicine, 2001, Chapter 2, Improving the 21st-century Healthcare System, para. 2). The literature concerning patient-centred healthcare agrees about the overarching philosophy: placing the needs of the individual patient at the centre of healthcare. However, involved stakeholders like patients, health professionals and policy makers viewed the delivery of patient-centred healthcare differently and developed several descriptions and aspects of this perspective. Nevertheless, the different views show consistencies across the literature (Frank, Forsythe, Ellis, Schrandt, Sheridan, Gerson, Konopa, & Daugherty, 2015; Kitson, Marshall, Basset, & Zeitz, 2012). A narrative review executed by Kitson, Marshall, Basset & Zeitz (2012) regarding patient-centred healthcare identified the commons of this perspective across the different literature and constructed three main themes. These three main themes of patient-centred healthcare will be used to further elaborate on, since they seem to be embedded in an appropriate and widely accepted interpretation of patient-centred healthcare.

The first theme ‘the relationship between the patient and the health professional’ concerns a cooperation based on partnership: they exchange information, tell their preferences and subsequently decide on options together (Smith, Dixon, Trevena, Nutbeam, & McCaffery, 2009). Furthermore, it entails that the health professional understands the patient as a unique human being in order to form an ‘overall diagnosis’ rather than merely trying to discover a localizable illness (Kaba & Sooriakumaran, 2007). The second theme ‘patient participation and involvement’ addresses the respect for patients’ values, preferences and physical and emotional needs (Kitson, Marshall, Bassett, & Zeitz, 2012). Moreover, it includes that the
patient is treated as an autonomous individual who has the possibility to participate in the care process. The patient is being involved in the decision-making process and has the possibility to express his or her view on different treatments (Eldh, Ekman, & Ehnfors, 2006). The third theme ‘the context where care is delivered’ emphasizes different aspects of the healthcare environment needed to deliver patient-centred healthcare. It entails supportive organizational systems to facilitate health professionals, such as information systems or decision-support systems. Another aspect contains the culture of the workplace. Moreover, it addresses the policies regarding patients’ rights and responsibilities, evidence-based care and patient safety issues (Kitson, Marshall, Bassett & Zeitz, 2012; McCormack & McCance, 2006).

It is argued that the organizational structure of a hospital is of high interest in order to enable the delivery of high quality healthcare (Christensen, Grossman, & Hwang, 2009; Porter & Teisberg, 2006; Christis, 2011). Patient-centred healthcare is considered as an essential aspect of high quality healthcare and therefore, the organizational structure of a hospital is of importance to enable the delivery of patient-centred healthcare (Greene, Tuzzio, & Cherkin, 2012; Patel, Buchanan, Hui, Patel, Gupta, Kinder, & Thomas, 2018). It should place the patients at the centre of the delivery of care in order to create value for the patients. The created value for patients in a well-functioning hospital should provide favourable outcomes for other aspects of the hospital, such as economic sustainability (Porter, 2010).

This research will evaluate the proposed organizational structure of the Amalia kinderziekenhuis which aims to enable the delivery of patient-centred healthcare. Therefore, the scope of this research will only include the themes of patient-centred healthcare for which their delivery is affected by the organizational structure. The influence of the organizational structure on the outlined themes of patient-centred healthcare, ‘the relationship between the patient and the health professional’ and ‘patient participation and involvement’ seems a reasonable hypothesis. A suitable organizational structure can empower health professionals to work in ways that are most responsive to patient needs and contributes to the collaboration between health professionals. Moreover, it can enable ways to involve the patient and provides the possibility for patient participation (Pelzang, 2010). However, the theme ‘the context where care is delivered’ addresses context-related components of patient-centred healthcare, which includes the organizational structure as well. Consequently, the delivery of this theme cannot be enabled by the organizational structure and is therefore out of scope regarding this research.
Literature regarding organization design theories is necessary to execute this research which focuses on a Dutch hospital, the Amalia kinderziekenhuis. However, healthcare systems differ among countries and therefore, awareness concerning the differences among countries is important to have regarding the interpretation of the literature. A main difference among Western countries is the extent to which primary care plays a formal role in the delivery of care. Another remarkable difference is that Western countries have diverse insurance systems (Schoen, Doty, Osborn, & Bishop, 2007). However, this study only takes the hospital into account, and therefore, the role of primary care is excluded. Moreover, the influence of the insurance system is out of scope regarding this research. The literature crucial for this research concerns prescriptive design related knowledge about hospitals that enable the delivery of patient-centred healthcare. Western countries have the recognition on what constitutes high quality healthcare in common, which includes the perspective of patient-centred healthcare (Coulter & Cleary, 2001). Therefore, the influence of the differences among Western countries is limited regarding the aim of this research, and so, literature regarding the design of hospitals in Western countries are considered usable with respect to this study.

**Problem context**

The Amalia kinderziekenhuis started a reorganization in 2017 in order to improve the delivery of patient-centred healthcare and be leading in the provision of excellent patient-centred healthcare (Amalia kinderziekenhuis, 2019c). In order to achieve this purpose, they aimed for an explicit focus on the involvement and participation of the patient during the care process and a suitable person-oriented interaction between patient and health professional (Amalia kinderziekenhuis, 2019a). They believed the current organizational structure inhibits the potential to enable the delivery of patient-centred healthcare since it is not able to organize the care around the patient and therefore cannot involve the patient in the desired way. Moreover, the autonomy of the health professional regarding the care processes is not considered as sufficient which can affect the delivery of person-centred care in a negative way (Amalia kinderziekenhuis, 2019c). Therefore, the transition team of the Amalia kinderziekenhuis proposed an organizational structure which should deal with the shortcomings of the current organizational structure and enable the delivery of patient-centred healthcare (Amalia kinderziekenhuis, 2019b).

However, it seems hard to develop a suitable organizational structure as result of the complex environment of a hospital because the organizational structure should be able to handle different kind of treatments with limited capacity relating to facilities and health professionals.
In addition, the implementation of the new organizational structure is a big shift, which has a lot of consequences for different aspects of the organization, such as the planning of certain activities and the division of jobs (Amalia kinderziekenhuis, 2019b). Therefore, it is crucial that the proposed organizational structure is well-deliberated before it will be implemented. Hence, this research shall execute a plan evaluation to examine to what extent the proposed organizational structure of the Amalia kinderziekenhuis enables the delivery of patient-centred healthcare. Since the organizational structure of the Amalia kinderziekenhuis in its entirety seems too comprehensive to investigate, the focus of the plan evaluation concerns the childcare domain and its required interactions with the facilities and medical department.

1.1 Plan evaluation
This research provides a plan evaluation which means that it will evaluate the proposed organizational structure which aims to enable the delivery of patient-centred healthcare before implementation. It enables the possibility to adjust the proposed organizational structure before the implementation has been carried out (Verschuren & Hartog, 2005).

In order to execute this plan evaluation, two gaps are relevant to investigate. Firstly, the gap between the interpretation of patient-centred healthcare according to the literature and the desired interpretation of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis should be investigated. It is of importance to reveal this gap because the proposed organizational structure is affected by the way patient-centred healthcare is interpreted. Differences in the interpretation could result into different requirements regarding the organizational structure to enable the delivery of patient-centred healthcare.

Secondly, the gap between structural characteristics based on literature and the structural characteristics of the proposed organizational structure according to the plan of the Amalia kinderziekenhuis should be examined. The structural characteristics of the organizational structure based on literature enables the delivery of patient-centred healthcare. Therefore, the gap indicates the extent to which the proposed organizational structure at the Amalia kinderziekenhuis enables the delivery of patient-centred healthcare. Figure 1.1 provides a visualization of the indicated gaps.

![Figure 1.1 – Visualization indicated gaps](image-url)

<table>
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<tr>
<th>Organizational structure theoretical</th>
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<th>Patient-centred healthcare theoretical</th>
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<td>Organizational structure proposed</td>
<td>→</td>
<td>Patient-centred healthcare desired interpretation</td>
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1.1.1 Three dimensional model
Achterbergh & Vriens (2019) developed the three dimensional model (3D-model) for episodic interventions which can help to understand and flexibly design an organizational structure. An episodic intervention is appropriate when organizations have lost their capacity for ‘normal’ structural development because the current structure disables its own improvement. An episodic intervention may help to regain the capacity for structural development (Achterbergh & Vriens, 2019). As mentioned previously, the current organizational structure at the Amalia kinderziekenhuis inhibits the potential to enable the delivery of patient-centred healthcare. Moreover, the current organizational structure is unable to adapt its organization design. They started a reorganization to intervene in the organization and proposed an organizational structure (Amalia kinderziekenhuis, 2019b). Hence, an episodic intervention seems valuable to support this reorganization, and therefore, the 3D-model will be used to provide this plan evaluation.

The three dimensional model consists of the functional dimension, social dimension and the infrastructural dimension. The functional dimension specifies goals related to the organizational structure of the organization aiming to increase the probability of a ‘well-designed’ structure of the organization. It consists of four sub-goals: diagnosis, design, implementation and evaluation. This research focuses on the sub-goal evaluation, which concerns the plan evaluation of the proposed organizational structure which aims to enable the delivery of patient-centred healthcare. The social dimension indicates the goals which should be realized in order to change the interaction premises and interaction of organizational members regarding to the intervention. Goals related to this dimension entail the consciousness of the involved employees of the reorganization about the way they have interpreted patient-centred healthcare. Moreover, it aims to develop awareness regarding the involved employees about the possible effects the proposed organizational structure might have. This might foster to consider new angles of approach aiming to improve the proposed organizational structure. The infrastructural dimension consists of factors which are needed in order to realize the goals of the intervention which are the intervention structure, intervention technology and human resources involved in the intervention. Concerning this research, the researcher will conduct interviews to collect information about the points of interest which will be reported afterwards. Additionally, the researcher will develop a theoretical framework to have the ‘right’ knowledge available in order to be able to execute this intervention (Achterbergh & Vriens, 2019).
The 3D-model developed three steps in order to evaluate an organizational structure. It is used to evaluate an implemented organizational structure, although it can also be carried out to evaluate an organizational structure which has not been implemented yet (Achterbergh & Vriens, 2019). Therefore, the steps are adjusted to suit this plan evaluation in order to reveal the indicated gaps. A brief outline of the steps of the plan evaluation:

1. Determine the prescriptive situation:
   - Patient-centred healthcare: topics and related norms will be described which have emerged from literature concerning patient-centred healthcare.
   - Organizational structure: structural characteristics which enable the delivery of patient-centred healthcare and related norms will be outlined which are based on literature.

2. Determine the plan of the Amalia kinderziekenhuis:
   - Patient-centred healthcare: the desired interpretation of patient-centred healthcare according to the plan will be assessed by indicating the values of the topics.
   - Organizational structure: assess what the proposed organizational structure of the plan looks like by obtaining the values of the structural characteristics.

3. Determine the gap between the plan and the prescriptive situation:
   - Patient-centred healthcare: the difference between the values of the topics of the desired interpretation of the plan at the Amalia kinderziekenhuis and the norm values of the topics of patient-centred healthcare will be recorded.
   - Organizational structure: the difference between the obtained values of the plan and norm values of the structural characteristics will be noticed.

   It can be concluded whether the implementation of the organizational structure should be successful, or adjustments should be made in order to improve the proposed organizational structure to enable the delivery of patient-centred healthcare.

1.2 Objective and research question

1.2.1 Objective of the research

The objective of this research is: to deliver a contribution to the reorganization of the Amalia kinderziekenhuis which aims to enable the delivery of patient-centred healthcare through providing a plan evaluation of the proposed organizational structure.
The provisional conceptual model is illustrated in figure 1.2. The independent variable is ‘Organizational structure’ and the dependent variable is ‘Patient-centred healthcare’. The dependent variable is divided into ‘relationship between patient and health professional’ and ‘patient participation and involvement’.

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<tr>
<th>Organizational structure</th>
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<td>o Patient participation and involvement</td>
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Figure 1.2 – Provisional conceptual model

1.2.2 Research question
The main question of this research is as followed: To what extent does the proposed organizational structure enable the delivery of patient-centred healthcare at the Amalia kinderziekenhuis?

Some sub-questions are formulated in order to answer the main question. These questions are derived from the steps of the plan evaluation of the 3D-model, aiming to be able to reveal the two indicated gaps of the plan evaluation.

<table>
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<th>Theoretical questions</th>
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<tr>
<td>- Which topics describe patient-centred healthcare and which norms are related to it?</td>
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<tr>
<td>- What are relevant structural characteristics of organizational structure of a hospital and which norms are related to it?</td>
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<td>- What is the relationship between the topics of patient-centred healthcare and the structural characteristics of the organizational structure?</td>
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<th>Empirical questions</th>
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<td>- What are the values of the topics of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis?</td>
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<tr>
<td>- What are the values of the structural characteristics of the proposed organizational structure according to the plan of the Amalia kinderziekenhuis?</td>
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<th>Analytical questions</th>
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<td>- What is the gap between the values of the topics of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis and the norm values of the topics of patient-centred healthcare according to literature?</td>
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- What is the gap between the values of the structural characteristics of the organizational structure according to the plan of the Amalia kinderziekenhuis and the norm values of the structural characteristics based on literature?
- In what way does the proposed organizational structure contribute or inhibit the potential to enable the delivery of patient-centred healthcare?

Table 1.1 – overview sub-questions

1.3 Relevance of the problem

1.3.1 Practical relevance
This research provides a plan evaluation of the proposed organizational structure of the Amalia kinderziekenhuis which aims to enable the delivery of patient-centred healthcare. An advantage of a plan evaluation is the possibility to improve the design of a certain part of an organization that achieves some desired impacts at a minimum cost. Moreover, it assesses the range of impacts the implementation might have and it can be judged whether these outcomes are desired (Todd & Wolpin, 2008). This research will provide insight to what extent the proposed organizational structure enables the delivery of patient-centred healthcare at the Amalia kinderziekenhuis. Moreover, it provides recommendations on how to adapt the proposed organizational structure in order to improve the enabling of the delivery of patient-centred healthcare. This can contribute to the successful implementation of the proposed organizational structure at the Amalia kinderziekenhuis at a minimum cost.

Furthermore, the Amalia kinderziekenhuis is part of the Radboudumc. At the Radboudumc, they are dealing with a comparable reorganization (Radboudumc, 2018). The outcomes of this research can be used during the reorganization of the Radboudumc as well.

1.3.2 Scientific relevance
Patient-centred healthcare has become an essential aspect of high quality healthcare and the organizational structure is considered important in order to enable the delivery of patient-centred healthcare (Greene, Tuzzio, & Cherkin, 2012; Patel et al., 2018). Literature offers several insights into the design of hospitals in order to deliver high quality healthcare. Moreover, numerous studies are published about patient-centred healthcare (Kitson, Marshall, Bassett, & Zeitz, 2012). However, theory about how to make patient-centred healthcare a reality, including the function of the organizational structure, is limited. Therefore, a focus on conceptualizing how to implement patient-centred healthcare into the design of hospitals is considered as a gap in literature (Fix, Van Deusen Lukas, Bolton, Hill, Mueller, LaVela, & Bokhour, 2018; Patel et al., 2018). This research provides insights in what organizational
structure can enable the delivery of patient-centred healthcare. This obtained knowledge could be helpful to enrich the literature regarding the indicated gap in literature.

1.3.3 Societal relevance
Organizations can provide a rich contribution to society which can be supported through the organizational structure of organizations. This is called rich survival and could be described as “organisations contributing to the creation of societal conditions, enabling human beings to live a fulfilled life” (Achterbergh & Vriens, 2010, p. 351). The Amalia kinderziekenhuis aims to deliver patient-centred healthcare to provide high quality healthcare. The train of thought of patient-centred healthcare corresponds to the meaning of rich survival since it focuses on creating the best circumstances in order to deliver an excellent patient experience (Kitson, Marshall, Bassett, & Zeitz, 2012). The Amalia kinderziekenhuis has proposed an organizational structure which aims to enable the delivery of patient-centred healthcare. This research will provide a plan evaluation of this proposed organizational structure and might therefore support the societal condition of healthcare.

1.4 Research outline
This research consists of five chapters. In chapter two, the topics of the outlined themes of patient-centred healthcare will be described. Also, the theoretical framework will be developed regarding organization design theories to describe the relevant structural characteristics. Moreover, the relationship between the topics of the outlined themes of patient-centred healthcare and the structural characteristics will be discussed to substantiate how the indicated structural characteristics can enable the delivery of patient-centred healthcare. Chapter three concerns the methodology of the research which will address the research design, data collection, quality criteria and ethical considerations. In chapter four, the results of the empirical investigation will be presented. Lastly, chapter five will provide a conclusion aiming to answer the research question and recommendations will be presented. Besides this, a reflection will be provided. Finally, possibilities for further research will be discussed.
Chapter 2 – Theoretical background

2.1 Introduction

As outlined before, this study contains a plan evaluation. In order to execute the plan evaluation, two gaps were indicated. In this chapter, the theoretical framework will be developed in order to be able to reveal the indicated gaps and consequently answer the main question of this research.

Section 2.2 will further elaborate on the outlined themes of patient-centred healthcare to obtain a clear description of this concept and answers the first theoretical related sub-question: “Which topics describe patient-centred healthcare and which norms are related to it?” Subsequently, an answer to the second theoretical related sub-question will be provided: “What are relevant structural characteristics of organizational structure of a hospital and which norms are related to it?”. In order to answer this sub-question, section 2.3 will elaborate on different design theories to choose an appropriate one and section 2.4 will address structural characteristics which are of importance regarding the aim of this research. In section 2.5, the relation between the themes of patient-centred healthcare and the structural characteristics will be outlined to substantiate how an organizational structure can enable the delivery of patient-centred healthcare. The corresponding theoretical related sub-question is: “What is the relationship between the topics of patient-centred healthcare and the structural characteristics of the organizational structure?”

2.2 Patient-centred healthcare

As explained in the introduction, this study will focus on two themes of patient-centred healthcare: ‘the relationship between the patient and health professional’ and ‘patient participation and involvement’. The article of Kitson, Marshall, Bassett & Zeitz (2012) contains a narrative review of the literature of patient-centred healthcare which divided the themes further into sub-themes, or topics. These topics will be used to give a description of patient-centred healthcare. Subsequently, the norm of every topic will be provided to obtain an overview about the desired situation of patient-centred healthcare.

Relationship between the patient and health professional

As described previously, the relationship between the patient and health professional should be based on cooperation in which the health professional must understand the patient as a unique human being (Smith, Dixon, Trevena, Nutbeam, & McCaffery, 2009). The importance of the relationship between the patient and health professional cannot be overstated because an
accurate diagnosis or effective treatment relies directly on the quality of this relationship (Kaba & Sooriakumaran, 2007).

This theme can be divided into four sub-themes. The first one concerns the genuine health professional-patient relationship (Kitson, Marshall, Bassett, & Zeitz, 2012). Although a health professional has a duty towards the treatment of a patient, it tends to be true that humans are more morally committed to people whom they are in a personal relationship with. This kind of relationship arises if a patient and health professional have the possibility to get to know each other. This is morally desirable since a high involvement of the health professional towards the patient is beneficial to generate the interest and investment the health professional must possess in order to serve the patient. As result, such a relationship contributes to the recovery of a patient (Beach & Inui, 2006).

Secondly, there should be an open communication of knowledge, personal expertise, and clinical expertise between the patient and the health professional (Kitson, Marshall, Bassett, & Zeitz, 2012). This implies that the health professional should be informative, give explanations, show sensitivity to patients’ concerns and offer reassurance, which results in more satisfied patients who have a greater understanding of health issues and are more committed to treatment recommendations (Suarez-Almazor, 2004). At minimum, the health professional should explain treatment activities and outline the potential consequences for the patient in order to obtain informed consent. The input of the patient should be taken seriously, since he or she is dealing with the disorder on a daily basis. They both bring in norms and values during the communication (Beach & Inui, 2006).

Thirdly, health professionals have appropriate skills and knowledge (Kitson, Marshall, Bassett, & Zeitz, 2012). This means that the health professional should be professionally competent to make decisions in order to prioritize care as well as being able to develop interpersonal skills. This enables caregivers to communicate at different levels. Moreover, the health professional should be committed to the job and be able to demonstrate clarity of beliefs and values. In addition, the health professional should be able to reflect on own performance (McCormack & McCance, 2006).

Lastly, a cohesive and cooperative team of health professionals (Kitson, Marshall, Bassett, & Zeitz, 2012). A patient may interact with a lot of health professionals. The discussed critical information must be accurately communicated between health professionals and therefore, team collaboration is essential (O’Daniel & Rosenstein, 2008). The collaboration between health professionals can be defined as follows: ‘healthcare professionals assuming complementary roles and cooperatively working together, sharing responsibility for problem-
solving and making decisions to formulate and carry out plans for patient care’ (O’Daniel & Rosenstein, 2008, p. 1). A well-functioning collaboration between health professionals contributes to view a patient with a multidisciplinary perspective, which offers the possibility to be more responsive to the patient’s needs. Moreover, the provision of information towards the patient is more unambiguous and understandable since the health professionals have a common plan and a complementary insight about the patient’s treatment (Pelzang, 2010).

Patient participation and involvement

The definition of patient participation can vary between people but it might be understood as “being involved in decision making or expressing one’s views on different treatments” (Eldh, Ekman, & Ehnfors, 2006, p. 511). This theme can be further divided into three sub-themes.

Firstly, the participating patient should be treated as a respected autonomous individual (Kitson, Marshall, Bassett, & Zeitz, 2012). This means that the patient should be considered as an individual who carries knowledge about the symptoms or disorder but also about the individual’s daily situation (Eldh, Ekman, & Ehnfors, 2006). The goals of the patient and what level of involvement the patient wants in the decision-making process should be clearly addressed. Moreover, the patient should have the possibility to adapt an active role in the decision-making process of their own treatment (Smith, Dixon, Trevena, Nutbeam & McCaffery, 2009). Moreover, a patient should be informed about his or her own care process which encompasses “communication whereby information is provided not only as a basis for decision making but also because it is an important factor in trust between healthcare professionals and patient” (Eldh, Ekman, & Ehnfors, 2006, p. 511). Therefore, the provision of information towards patients is of importance to enable a patient to be involved and additionally to treat a patient as an autonomous individual (Eldh, Ekman, & Ehnfors, 2006). However, the extent to which a patient can participate in the decision-making process during the care process is limited in some cases. A main cause is the limiting ability a person might have regarding his or her educational level or health literacy. This should be taken into account by health professionals during a consultation with a patient (Smith, Dixon, Trevena, Nutbeam, & McCaffery, 2009).

Secondly, the care plan should be based on the patient’s individual needs (Kitson, Marshall, Bassett, & Zeitz, 2012). The patient should have the possibility to express his or her needs related to the healthcare delivery. Moreover, caregivers should place importance on developing a clear picture of how the patient deals with what is happening and what the patient values about their life. This enables them to take into consideration the individual values of the
patient to form a legitimate basis on to which a customized care plan within the possibilities of the care environment can be developed (McCormack & McCance, 2006).

Thirdly, the patient’s physical and emotional needs should be addressed (Kitson, Marshall, Bassett, & Zeitz, 2012). This means that the provided care should be an appropriate response to cues of the patient, regardless of the personal characteristics of a patient (McCormack & McCance, 2006). The patient should have a feeling of comfort which contains a personal perception of well-being and safety, from a physical as well an emotional perspective (Malinowski & Leeseberg Stamler, 2002; Institute of Medicine, 2001). In order to recognize the physical and emotional needs of a patient and ensure the patient’s well-being, a health professional should develop an engagement with the patient (McCormack & McCance, 2006).

2.2.1 Overview topics and norms of patient-centred healthcare
In order to describe the perspective of patient-centred healthcare, the outlined themes were further divided into seven topics. A short explanation of the topics and related norms will be given in the table below. The related norms concern ‘what the desired situation should be’ according to the described literature of patient-centred healthcare.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Explanation</th>
<th>Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genuine health professional-patient</td>
<td>The extent to which a health professional is morally involved and committed</td>
<td>The health professional feels morally involved with the patient and is highly committed towards the treatment of the patient.</td>
</tr>
<tr>
<td>relationship</td>
<td>towards the treatment of the patient.</td>
<td></td>
</tr>
<tr>
<td>Open communication between patient and</td>
<td>The level of agreement between patient and health professional through direct communication.</td>
<td>There is informed consent of the patient regarding the treatment through open communication between patient and health professional.</td>
</tr>
<tr>
<td>health professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent health professionals</td>
<td>The extent to which health professionals are professionally competent to deliver care.</td>
<td>Health professionals have appropriate skills and knowledge to provide the care.</td>
</tr>
<tr>
<td>Collaboration between health professionals</td>
<td>The extent to which critical information is communicated between health professionals and they fulfil complementary roles.</td>
<td>Critical information is accurately communicated between health professionals and they complement each other in the delivery of care.</td>
</tr>
</tbody>
</table>

Patient participation and involvement

<table>
<thead>
<tr>
<th>Topics</th>
<th>Explanation</th>
<th>Norm</th>
</tr>
</thead>
</table>
## Autonomy of patient

The extent to which a patient is involved to own will and respected as an autonomous individual.  
A patient is treated as respected autonomous individual who is involved in decision-making to own will. However, the ability of a patient and loved ones should be taken into consideration.

<table>
<thead>
<tr>
<th>Customized care plan</th>
<th>The extent to which the care plan is customized according to the patient’s individual needs and values.</th>
<th>Care plan is based on the patient’s individual needs and values.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Addressing physical and emotional needs of patient</strong></td>
<td>The extent to which the patient’s physical and emotional needs are addressed by health professionals.</td>
<td>A patient has a feeling of well-being, both physically and emotionally.</td>
</tr>
</tbody>
</table>

### Table 2.1 – overview topics patient-centred healthcare and related norms

### 2.3 Selection of the design theory

In order to achieve the aim of this research, a design theory should be chosen which suits the concept of patient-centred healthcare. Multiple perspectives of design theories will be discussed to select an appropriate one. Three selection criteria are obtained to determine the usefulness of the different design theories. Firstly, the base of the design theory should be in accordance with the train of thought as formulated by patient-centred healthcare, since the organizational structure should enable the delivery of patient-centred healthcare. Therefore, the desired behaviour of patient-centred healthcare should correspond to the variables (desired behaviour) as formulated by the design theory. Secondly, it should contain structure-related characteristics which can be causes for the desired behaviour as formulated by patient-centred healthcare. Thirdly, if the presence of a relationship between the desired behaviour of patient-centred healthcare and the structural characteristics is indicated, this relationship should be explicitly addressed in order to be useful with respect to this research.

### 2.3.1 Examination of the design theories

The theory of Thompson (2003) describes the relationship between organizational factors and organizational behaviour in order to understand organizational action. Organizations are perceived as open systems that need to adapt but also have to strive for predictability. Coordination costs should be as low as possible. This theory can be used for a variety of organizations. However, the concept of patient-centred healthcare does not have much comparison with the perspective of Thompson. Due to this lack of agreement, it is problematic to explain the desired behaviour of patient-centred healthcare from a structural perspective.
Besides this, the variables which are mentioned in the theory of Thompson are not described explicitly. In addition, the relationship between the variables and the structural characteristics is not truly explicit. Therefore, this design perspective does not seem appropriate for this research.

Mintzberg (1980) provides insight into the configurational approach towards organization design. The theory describes five typologies of organizations: Simple Structure, Machine Bureaucracy, Professional Bureaucracy, Divisionalized Form and Adhocracy. The theory is applicable in a broad variety of organizations and it combines structural characteristics of organizations with other organizational features. The essential variable of this approach is effectiveness of the organization. The elaboration on this variable is less detailed which makes it difficult to explain it in terms of desired behaviour according to patient-centred healthcare. Structural characteristics related to this perspective are given but the description is not very explicit. The relation between the variables and structural characteristics is difficult to address since the lack of a detailed set of variables. Therefore, this theory does not seem to match with the conditions of this research.

Another design theory is Lean management. The aim of this approach is twofold: the eliminating of waste and an increase of customer value. These are considered as the variables of this approach. Five principles constitute the basis of Lean management which are the following: specify value as defined by the customer, identify value streams for each product and eliminate waste, make remaining value creating steps flow, design and provide what customer wants only when the customer wants it and aim for perfection (Womack & Jones, 1996). The principles can be considered as structural characteristics. However, the principles are not solely structural characteristics since it also concerns a ‘way of thinking’. The variables of this approach fit the concept of patient-centred healthcare since the customer or patient should be put in a central position which is in line with the concept of patient-centred healthcare. However, the relationship between the variables and the parameters is not clearly addressed. Therefore, this design perspective is deemed inappropriate for this research.

De Sitter (1994) has developed the theory of Sociotechnical System Design. In its core, it states that the way activities are divided to create task capacities should attenuate the amount of disturbances and amplify the regulatory capacity at individual workstations in order to develop an adequate structure. An adequate structure should have a high value of quality of organization, quality of work and quality of working relations which are considered as the essential variables. De Sitter formulated parameters, which are structural characteristics in order to enable the organization to deal with disturbances and amplify the regulatory potential
The concept of patient-centred healthcare can be related to the essential variables as formulated by de Sitter. Although this design perspective does not explicitly mention to put the customer or patient in a central position, the structural characteristics indicate the same train of thought as formulated by the perspective of patient-centred healthcare. Hence, the desired behaviour as described by patient-centred behaviour can be explained from a structural perspective. Besides this, the design theory clearly provides described parameters which influence the essential variables, so the relation between the variables and the parameters is explicitly addressed. Therefore, this design theory seems appropriate and will be selected for this research.

2.4 Sociotechnical System Design

According to the Sociotechnical System Design theory of de Sitter (1994), an organizational structure can be defined as follows: “the grouping and coupling of transformations into tasks and the resulting relations between these tasks relative to orders” (Achterbergh & Vriens, 2010, p. 240). De Sitter divides the organizational structure into two sub-structures: the production structure and the control structure. The production structure refers to the way performance activities are grouped and coupled into tasks. The (groups of) tasks in the production structure should be regulated in order to deal with disturbances which is assigned to the control structure. The control structure can be described as the way control activities are grouped and coupled into tasks (De Sitter, 1994).

Based on the perspective of cybernetics, as formulated by Achterbergh & Vriens (2019) and de Sitter (1994), a structure should meet two criteria to have an adequate organizational structure:

1. A structure itself is not a source of disturbances. A disturbance can be described as “some event or state of the world that has the potential to negatively influence the relevant organizational criteria” (Achterbergh & Vriens, 2019, p. 65). The probability of disturbances depends on at least two structure-related causes: 1) the number of relations a task has with its environment because every relation introduces a possible source for disturbances. 2) The ‘variability’ of these relations, which refers to the degree to which the content of the relation varies. It is argued that an organizational structure should be designed in such a way that it has as few relations as possible and moreover, as low variability of the content of the relations as possible.

2. A structure comprises the means to deal with disturbances. Even an ideal designed organizational structure is still affected by disturbances. Therefore, the employees
of the organization should have regulatory potential to deal with these disturbances, which should be built into the tasks of the employees. The regulatory potential consists of removing disturbing events but also dealing with the effect of disturbing events in an active or passive way (Achterbergh & Vriens, 2019).

In order to describe an organizational structure, design parameters are developed which are“specific instantiations of decomposition in parts and aspect” (Achterbergh & Vriens, 2019, p. 54). Every organizational structure can be described by means of these parameters. It can also be described in a normative way, which means that the desired situation in terms of the parameters is explained. In this case, the value of the parameters is low. An organization which has low parameter values is more able to meet the two criteria set by the perspective of cybernetics which results in an adequate structure (Achterbergh & Vriens, 2019).

The parameters regarding the production structure and the parameter which describes the relation between production and control structure will be outlined concerning this research and adjusted to the context of the hospital, which are: the degree of functional concentration, the degree of differentiation of operational tasks, the degree of specialization of operational tasks and the degree of separation (Achterbergh & Vriens, 2019). The parameters of the control structure are not taken into account because the proposed organizational structure did not develop a control structure in its entirety yet and focuses in particular on the development of the production structure (Amalia kinderziekenhuis, 2019b). Therefore, it seems more valuable to solely focus on the parameters which are related to the production structure.

### 2.4.1 Degree of functional concentration

This parameter can be described as “the grouping of operations with respect to orders” (Achterbergh & Vriens, 2010, p. 248). A high level is achieved if all operational tasks of the same type are concentrated into specialized departments, where the employees are responsible for producing all possible orders. A low value means that all operational tasks required for realizing an order are grouped together into a production-flow. An employee only performs a task related to one order type and the operational activities needed to realize the orders are comprised in the production-flow (Achterbergh & Vriens, 2010).

It is of importance to notice that a hospital is bound to shared facilities like operating rooms and complex technology which limit the degree to which the functional concentration can have a low value. Moreover, the degree of capacity utilization per flow, which are the patients with similar disorders in the hospital context, limit the number of independent flows.
Flows with a low degree of capacity utilization leads to inefficiency, so these should be avoided. However, flows can still be built as independent as possible. For instance, flows which are dedicated to a sub-set of orders can be grouped together, but the undividable facility should be shared (Achterbergh & Vriens, 2019).

With respect to a hospital, the organization can be structured in three different ways regarding the functional concentration: functional departments, flows and quasi-flows.

**Functional departments**
A hospital is composed of functional departments if comparable activities (medical specialisms) are grouped together in their own department in which corresponding specialists are executing their job (Christis, 2011). It is compatible with the typology Professional Bureaucracy as defined by Mintzberg (1980). The dominant coordination mechanism of this typology is standardization of skills and therefore the organization design put the medical specialists, who possess the skills, in a central position (Mintzberg, 1980). The design of the organization is structured around the medical specialists which results into functional departments (Porter & Teisberg, 2006). If a patient only needs one type of specialistic care, this organizational structure will work out well because the treatment can take place within a functional department. However, it is showed that patients often need multiple medical specialisms in order to be treated (Christis, 2011; Christensen et. al, 2009). Therefore, different functional departments are involved in order to organize multidisciplinary care.

It can be concluded that the functional concentration is high in functional departments because health professionals of the same medical specialism are concentrated into one department and have to treat patients with varied disorders. The probability of disturbances is high because the number of relations is high between the departments in order to organize multidisciplinary care. Moreover, the variability of the relations is also high since the patients deal with varied disorders (Achterbergh & Vriens, 2010).

**Flows**
A hospital can also be structured based on flows. This means that comparable treatments which can be considered as the same type of orders are grouped together into one treatment flow. The result will be that all related treatments have their own specific set of operational tasks in order to take care of the patients. In addition, health professionals with specific knowledge and skills
work only in the treatment flow of their specialism in order to treat the patients (Bohmer, 2009; Christensen et al. 2009; Porter & Teisberg, 2006).

The identification of different order types in order to develop flows can be based on different criteria. According to Christensen et al. (2009), the division of flows should be made based on the three types of medicine: intuitive medicine, empirical medicine and precision medicine. In intuitive medicine, little insight into the causes of the disorder is available, and the treatment is a process of trial and error. Empirical medicine is the case if the diagnosis is based on symptoms and the corresponding treatment has been established and is therefore more or less routine. In precision medicine, the diagnosis is based on causes and the treatment is a routine procedure to intervene in the causes of the disorder. If the division of the different treatment flows are made based on the type of medicine, it should untangle and simplify the structure of general hospitals because the complexity is reduced (Christensen et al., 2009).

The division should start at the macrolevel of the hospital in order to untangle the different business models related to the type of medicine. The Solution shop is the business model related to intuitive medicine in which unstructured patient problems are tackled. Specialized health professionals are required in order to facilitate this business model. Empirical and precision medicine are related to the business model Value adding process. In this business model, the treatment is standardized and can be considered as a sequential process. Nurses and supporting tools are required to facilitate this business model. However, less expertise is required in comparison with the Solution shop (Christensen et al., 2009).

The perspective of Bohmer (2009) agrees with the identification of order types according to Christensen et al. He states that “there must be a match between the value that an operating system is configured to deliver and the needs and desires of the patient it serves” (Bohmer, 2009, p. 123). In order to have a match between the operating system and the provided value, a distinction should be made between sequential care and iterative care. Sequential care is “a reliable delivery of a well-characterized solution to a well-understood problem in the former” (Bohmer, 2009, p.129) and iterative care can be defined as “the de novo characterization and development of a solution in the latter” (Bohmer, 2009, p.129). A hospital should provide both sequential and iterative care to meet the diverse patients with a wide range of medical problems. In addition, both types of care should be required for the same patient at different points in time in order to deliver a high quality of healthcare (Bohmer, 2009).

The table below shows an overview of the similarity between the approaches of Christensen et al. and Bohmer.
--- | --- | --- | ---
Diagnosis and corresponding treatment are clear | Sequential care | Precision medicine | Value-adding process
Diagnosis is based on symptoms and corresponding treatment is mostly clear | Empirical medicine | Value-adding process |
Diagnosis and treatment are not clear | Iterative care | Intuitive medicine | Solution shop

Table 2.2 – overview division of flows in terms of type of care

The level of functional concentration of an organizational structure based on flows is low because all operations needed to treat a patient are grouped together into one flow. This leads to a limited number of relations with less variability. Therefore, the probability of disturbances is low.

**Quasi-flows**

A hospital can also be structured in terms of quasi-flows. In this case, a flow is structured over the already existing functional departments of the hospital. The specialists of the different department are cooperating to offer multidisciplinary care but are still connected to the functional department of the corresponding medical specialism. Literature is limited about quasi-flows, but the concept of a matrix organization is comparable. In a matrix organization, a multiple command system is used in which a combination of different (human) resources are pulled together in a temporary organization to achieve a purpose (Ford & Randolph, 1992). Related to quasi-flows in a hospital, a combination of health professionals of different functional departments are involved in order to achieve a purpose, namely the treatment of a patient. A quasi-flow can be considered as a temporary organization consisting of the health professionals needed to enable the delivery of a patient’s care.

The functional concentration of quasi-flows is high. Different departments are responsible for the treatment of a patient and therefore, the treatment is not organized within one flow. A multitude of interactions are needed between the involved departments of the quasi-
flow for which the variability of the interactions is high. This leads to a high probability of disturbances (Achterbergh & Vriens, 2010).

<table>
<thead>
<tr>
<th>Functional departments</th>
<th>Flows</th>
<th>Quasi-flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Diagram]</td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
</tbody>
</table>

Table 2.3 – Illustrations different types of functional concentration

2.4.2 Degree of differentiation of operational tasks

An operational task concerns the realization of a desired effect and can be differentiated into ‘making’, the actual direct realization of the output of the tasks, ‘preparing’, providing the necessary conditions for performing the sequence of make-operations and ‘supporting’, which refers to all operational activities that are indirectly tied to realizing the output. The level of this parameter is low if the operational tasks contain make, prepare and support sub-tasks. A high value of this parameter means that the operational tasks are split up into make, prepare and support tasks (Achterbergh & Vriens, 2010).

With reference to the hospital, there should be an understanding of how an operational task creates value and therefore contributes to the care process of the patient. Therefore, understanding of the specific actions that cause the treatment of the patient and the way in which it must be carried out, are essential to develop an effective design to deliver care (Bohmer, 2009).

If the level of differentiation of operational tasks is low, the organizational structure should be developed in such a way that the organization runs multiple separate operational tasks, each specifically configured to meet the needs of a particular treatment and therefore containing make, prepare as well as support tasks. For instance, the planning of the provided care and the provided care itself should be organized within the same task (Bohmer, 2009). It results in a low number of interactions with a less varied content, which leads to a low probability of disturbances.

If the level of differentiation of operational tasks is high, the provided care and the other activities like the planning of the different type of treatments are separated into different departments of the hospital. A multitude of interactions will be needed among the different type
of activities to treat the patient which is involved with a high level of variability. This leads to a high probability of disturbances (Achterbergh & Vriens, 2010).

2.4.3 Degree of specialization of operational tasks
This parameter refers to “how much tasks are split up into short (-cycled) sub-tasks” (Achterbergh & Vriens, 2010, p. 250). The level of this parameter is low if different sub-tasks are integrated into one task, which can be realized by an individual employee instead of working with different employees on the same task. The level of this parameters is high when specialized tasks are separated and realized by an individual worker (Achterbergh & Vriens, 2010).

Concerning the hospital, if the level of specialization of operational tasks is low, it means that a health professional can execute a relatively extensive part of the treatment, because a health professional is allowed to execute different sub-tasks within the qualifications of the function. If a treatment is divided into the diagnosis, preparation of the treatment, treatment itself, the evaluation and eventually aftercare of the treatment, a health professional might be involved in the different stadia of the care process due to the task enlargement. This results in a limited number of health professionals which are involved during the care process of a patient (Achterbergh & Vriens, 2010). In addition, it has the potential to free up specialist time because a specialist is enabled to focus on the treatment of a select number of patients (Bohmer, 2009). This results in a low number of interactions between employees and a less varied content of the interactions, and so, a low probability of disturbances.

If the level of specialization of operational tasks is high, sub-tasks are divided between different health professionals. Hence, a patient interacts with multiple health professionals who all contribute to a relatively small part of the treatment. The health professionals require ample interactions with the patient in order to deliver appropriate care. Additionally, the variability of the interactions will be high as well. This results in a high probability of disturbances.

2.4.4 Degree of separation
The regulatory potential of an employee can be divided into three levels: operational regulation, design regulation and strategic regulation. Operational regulation refers to the possibility to interfere in the primary process in order to deal with disturbances which are quite common. Design regulation refers to the possibility to change ‘the way of working’ to improve the organizational structure if the current one causes reciprocal disturbances. Strategic regulation
discusses the possibility to adapt the organization if the environment has changed. It concerns a more abstract level in comparison to the other levels of regulation (de Sitter, 1994).

This parameter discusses the extent to which the regulatory potential is stripped from the operational task and therefore depends on regulation of separate regulatory tasks. A low level of this parameter leads to a network of tasks, containing both operational and regulatory sub-tasks which makes it possible to regulate (Achterbergh & Vriens, 2010). Organizations with a high level of this parameter “have one set of tasks dedicated to the production structure and a separate set of tasks dedicated to the control structure” (Achterbergh & Vriens, 2019, p.61).

Applied to the hospital context, health professionals have an important role in helping oversee the tasks that deliver the care and influence the care process in favour of the patient. Therefore, a control system is needed that is adapted to the different kind of functions within the hospital in order to control the care process (Bohmer, 2009).

A low level of separation between operational and regulatory tasks gives health professionals regulatory potential regarding the care process of the patient. If they have control options themselves, it offers possibilities to influence the care process of the patients to a higher extent than without control options. This could be beneficial for the care process of a patient but also for health professionals in executing their task. Therefore, the number of relations is limited as result of little separation between the operational and control tasks. Moreover, the variability of the interactions is low as well, which results in a low probability of disturbances.

If the level of separation between operational and regulatory tasks is high, the health professionals have to deal with a multitude of interactions with the regulatory department before they can execute their task. Moreover, the possibilities to influence the care process of the patients is limited. The probability of disturbances is high, since the number of interactions and variability of these interactions are high.

### 2.4.5 Overview structural characteristics and related norms

Due to the purpose of this research, some structural characteristics and corresponding norms are developed, which are summarized in the table below.

<table>
<thead>
<tr>
<th>Organizational structure</th>
<th>Structural characteristics</th>
<th>Explanation</th>
<th>Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Degree of functional concentration</td>
<td>The extent to which the required operational tasks are</td>
<td>All operational tasks required for realizing an order are grouped together</td>
</tr>
</tbody>
</table>
grouped together with respect to orders. into one production-flow (the degree of functional concentration is low).

| Degree of differentiation of operational tasks | The extent to which an operational task is divided into making, preparing and supporting activities. | The operational tasks contain make, prepare and support sub-tasks (the degree of differentiation of operational tasks is low). |
| Degree of specialization of operational tasks | The extent to which a task is split up into different short (-cycled) sub-tasks. | Different sub-tasks are integrated into one task (the degree of specialization of operational tasks is low). |
| Degree of separation between operational and regulatory tasks | The extent to which the regulatory potential is stripped from the operational task. | All tasks contain both operational and regulatory sub-tasks (the degree of separation is low). |

Table 2.4 – overview structural characteristics and related norms

2.5 The relationship between patient-centred healthcare and organizational structure

In this paragraph, the relationship between the topics of patient-centred healthcare and the structural characteristics will be provided to substantiate how an organizational structure can enable the delivery of patient-centred healthcare. In order to support the clarification of the developed relationship, the outlined perspective of cybernetics will be used. As mentioned previously, the discussed structural characteristics should have a low value which lead to an adequate structure, and hence creating an organization that is better suited to meet the criteria set by the perspective of cybernetics (Achterbergh & Vriens, 2019).

Moreover, de Sitter (1994) developed functional requirements which should be met to have an adequate structure. The functional requirements consist of external and internal ones. The external functional requirements can be translated into one or more internal functional requirements. If the internal functional requirements can be realized in the organization, the external requirements will be achieved as well. To realize the functional requirements, the structural characteristics should have low values (de Sitter, 1994; Achterbergh & Vriens, 2010). Some internal functional requirements share some similarities with the outlined topics of patient-centred healthcare and will therefore be used to substantiate the relationship between patient-centred healthcare and the organizational structure.

To structure the reasoning, the relationship between the topics of patient-centred healthcare and the structural characteristics will be firstly discussed with a high parameter value and subsequently with a low parameter value. It is of importance to highlight that a high or low value of the structural characteristics indicate a relative value, and not an absolute value. Therefore, the comparison between a high or respectively low value of a parameter and how
this relates to the enabling of the delivery of patient-centred healthcare can merely be indicated in a relative way.

2.5.1 Degree of functional concentration

*The relationship between patient and health professional*

If the degree of functional concentration in a hospital is high, the operational tasks of the same type of disorders are concentrated into specialized departments, in which the health professionals are in principle related to produce all possible treatments. A patient needs to switch between departments with different health professionals who provide a small part of the patient’s care in order to be treated. Consequently, a health professional has a high number of relations with a high varied content in order to be able to provide the care for all the treated patients. This can inhibit to facilitate possibilities and chances for the health professional to feel involved and develop a *genuine patient-health professional relationship*. However, such a relationship is beneficial for the recovery of a patient (Beach & Inui, 2006).

Moreover, a *patient has to communicate with several health professionals*. However, if a patient has to interact with several health professionals, the provision of information can be ambiguous and less comprehensible for the patient as result of the numerous relations with a high variability. This can go at the expense of informed consent a patient has regarding its own care process. The other way around, information provided by the patient can be ignored since the probability that the information will not pass along the ‘right’ health professional is high if the number of patients is high and the content of the information vary.

The *collaboration between the health professionals* can be more complicated as result of a high level of functional concentration. Since the care process of a patient can be divided into different departments, the number of relations between the departments is high and the variability is high as well. This can go at the expense of the collaboration between the health professionals because it makes accurate communication more difficult. This topic corresponds to the internal functional requirement ‘shared responsibility participation in communication’ which argues that effective communication is a condition for a well-functioning organization and cannot be executed with a high degree of functional concentration (de Sitter, 1994).

Moreover, the provision of care often requires a complementary insight, so the different *competences of health professionals* are required (O'Daniel & Rosenstein, 2008). However, effective communication is considered essential, which can be disturbed as result of the high degree of functional concentration.
If the degree of functional concentration is low, comparable treatments which can be considered as the same type of orders are grouped together into one treatment flow. Health professionals with specific competences work in the treatment flow of their specialism to offer the care. Consequently, the patient does not have to switch between departments which results in a smaller number of health professionals who are involved in the patient’s care process. Hence, the number of relations between a health professional and patient is limited and the variability is small. Since the same health professional and patient are more engaged with one another, the chance is higher that a health professional feels more involved and has a higher commitment towards the patient which results in a more genuine patient-health professional relationship (Beach & Inui, 2006). In addition, a health professional is more updated about the care process of a patient which makes the communication between the patient and health professional more unambiguous. It leads to a higher probability of informed consent of the patient (Beach & Inui, 2006). Furthermore, the possibility of the health professional to deal with the information from the patient’s side increases.

The collaboration between the health professionals will run smoother if they are grouped together in one flow since the number of relations and variety of the content is low. They can communicate more easily, and the competence of the health professionals can be better used since the probability of disturbances is low which can result into a better provision of care (de Sitter, 1994).

Patient participation and involvement
A high degree of functional concentration can lead to a fragmented decision-making process because several decisions are made in different departments by various health professionals, which results in a high number of relations with a high variability. Consequently, the provision of information can be passed along in a fragmented way towards the patient which can result in an ambiguous or less comprehensible provision of information towards the patient. This makes the possibility to be involved during the decision-making process more complicated. Therefore, it can limit the autonomy of the patient (Eldh, Ekman, & Ehnfors, 2006).

If the care process of a patient takes place in different departments, it is harder for health professionals to develop a clear picture of the patient’s needs and values. Thus, it is more difficult for health professionals to develop a customized care plan as every department is partly responsible for the patient’s treatment. Moreover, the care plan needs to be aligned between the departments which can be complicated as result of the high number of relations with a varied content. This corresponds to the internal functional requirements ‘sufficient
product variations’ and ‘variable mix of products’ which respectively translates to the fact that an organization should have the flexibility to deal with different variations of orders and different order types. In terms of a hospital, a treatment should be adjusted to patients’ needs and values and different types of treatment should be available. These internal functional requirements cannot be achieved by a high level of functional concentration (de Sitter, 1994).

To address the physical and emotional needs of a patient, the health professionals should have the possibility to develop an engagement with the patient to recognize the needs of the patient, which contributes to the satisfaction of the patient’s healthcare experience (McCormack & McCance, 2006). However, if the degree of functional concentration is high, a health professional interacts with numerous patients which naturally limits the chance for a health professional to develop an engagement with the patient.

If the degree of functional concentration is low, the decision-making process takes place in the same department which results in a low number of relations and low variability. The provision of information will be less fragmented and the patient will be more informed, so the possibility for the patient to be more involved in the decision-making is higher which provides the patient autonomy regarding his or her own care process (Eldh, Ekman, & Ehnfors, 2006).

The patient’s care plan can be more customized if the treatment takes place within one department. Due to a low number of relations with a less varied content, a clear picture of the patient’s needs and values can be developed by the health professionals. Moreover, it offers the possibilities to adjust the care plan towards the patient’s needs and values since the health professionals can communicate more easily to align the treatment of the patient (de Sitter, 1994).

If a patient is treated by a limited number of health professionals due to a low level of functional concentration, it offers the possibility to develop an engagement between the patient and health professional to recognize the physical and emotional needs and values that are needed to provide the patient with a satisfying care experience (McCormack & McCance, 2006).

2.5.2 Degree of differentiation of operational tasks

The relationship between patient and health professional

A high value of the differentiation of operational tasks in a hospital entails that the operational tasks, i.e. the treatment of the patients, are split up into ‘make’, ‘prepare’ and ‘support’ tasks. The collaboration between health professionals can be complicated as result of this
differentiation since the preparing tasks and supporting tasks include facilitating tasks such as planning. For instance, in order to organize a meeting between different health professionals, they have to interact with (an)other department(s), which results in a high number of relations and therefore a high probability of disturbances. This topic suits the internal functional requirement ‘shared responsibility participation in communication’ since the communication is not effective, which can be the result of a high degree of the parameter differentiation of operational tasks (de Sitter, 1994). Moreover, if health professionals are dependent on other departments in order to execute their jobs, they are forced to spend relatively much time on the organization of their own job as result of the high number of relations with a high variability. As result, the health professionals’ competences are not optimally used, due to the time wasted in organizing their own jobs.

A low value of the differentiation of operational tasks can be helpful to support the collaboration between health professionals. The facilitating tasks and the treatment of the patients are more grouped together which lead to a limited number of relations with a less varied content (de Sitter, 1994). Furthermore, the competence of the health professionals can be used in a more optimal way since the time wasted in organizing their own jobs is limited due to the smaller number of relations with a less varied content.

Patient participation and involvement

A consequence of a high value of differentiation of operational tasks is that the preparing and supporting tasks related to the care process of a patient are divided over different parts of the hospital, which results in a high number of relations with a varied content. Due to these numerous relations, a patient should be involved into different parts of the hospital to have an influence on the own care process, for instance, in practical cases like the planning of the appointments. The probability that the involvement will not take place in all different parts of the hospital and the patient loses track of his or her own care process can be high as result of the numerous relations. This can result into a lack of autonomy of the patient. Moreover, from the perspective of the health professional, in order to execute the customized care plan, a multitude of interactions are needed between the different parts of the hospital to meet the patient’s needs and values which lead to a high probability of disturbances. Furthermore, to address the physical and emotional needs of the patient, different tasks can be necessary to enable the well-being of the patient. These conditions can be organized in supporting or
preparing tasks. Therefore, a multitude of interactions are needed with a high level of variability in order to provide a satisfying care experience for a patient.

If the degree of differentiation of operational tasks is low, the related tasks to the care process are more grouped together within the care process itself. This leads to a limited number of relations, and so, the patient is more easily involved. This gives the patient more autonomy regarding his or her care process. The customized care plan can be more easily organized if the differentiation between the different tasks is small. Due to the limited relations with a less varied content, the care plan can be better aligned with patients’ needs and values. The same applies to the well-being of the patient; if the conditions to address the physical and emotional needs of the patient are grouped together into a task, the delivery of a satisfying care experience will run smoother.

2.5.3 Degree of specialization of operational tasks

The relationship between patient and health professional

If the degree of specialization of operational tasks is high, a patient is engaged with multiple health professionals who all contribute to a relatively small part of the treatment since the care process is divided into small sub-tasks. This leads to a high number of relations with a high variability. The commitment of a health professional towards a patient can be restricted as result of the short timeframe in which a patient and health professional interact with each other, which can be the result of a high specialization of operational tasks. The chance to feel involved and develop a genuine patient-health professional relationship, seems less probable since they do not get to know each other which is considered as a prerequisite in developing such a relationship. However, a genuine relationship between a patient and health professional is beneficial for the recovery of the patient (Beach & Inui, 2006).

Open communication between a patient and health professional can be restricted as well as result of a high specialization of operational tasks. A patient interacts with various health professionals who all provide smaller fragments of information, which can result in a lesser understanding of the course of events for the patient. Moreover, the information provided by the patient can be communicated to the ‘wrong’ health professional who is not able to deal with the information. The chance that the information will not pass along to another health professional is high since there is a high probability of disturbances due to the high number of relations with a high variability.
A collaboration between a limited number of employees is more effective in comparison with a collaboration with a high number of employees (Pearce & Herbik, 2004). Therefore, the \textit{collaboration between health professionals} can be complicated if the degree of specialization of operational tasks is high. Again, this topic corresponds to the internal functional requirement ‘shared responsibility participation in communication’ for which a high parameter value can be problematic in order to meet this internal functional requirement (de Sitter, 1994). Moreover, it is possible that the \textit{competence of health professionals} cannot be used optimally if they solely execute a sub-task. Additionally, a sub-task can have the potential to become repetitive which will not mobilize the health professionals to learn and develop themselves, which is of importance to remain competent. This topic corresponds to the internal functional requirement ‘opportunities to (1) be involved, (2) learn and (3) develop’ which cannot be achieved with a high specialization of operational tasks (de Sitter, 1994).

If the level of specialization of operational tasks is low, a limited number of health professionals are involved with the care process of a patient, which results in a low number of relations with a less varied content. The chance to feel involved as health professional with a patient is higher since they interact more often. This can contribute in developing a \textit{genuine patient-health professional relationship} which is beneficial for the recovery of the patient (Beach & Inui, 2006). Moreover, since the health professional is engaged with a limited number of patients, the \textit{communication between the patient and health professional} can be more informative since the health professional is better updated about the care process of the patient. Additionally, the information provided by the patient can be better processed as result of the low number of relations with a less varied content.

The \textit{collaboration between health professionals} is more effective as result of the limited number of health professionals which leads to a limited number of relations with a low variability (Pearce & Herbik, 2004; de Sitter, 1994). Moreover, the \textit{competence of health professionals} is more optimally used as they are involved in a relatively more extensive part of the treatment according to their qualifications. Furthermore, the health professionals have possibilities to be involved, learn and develop themselves which enables them to remain competent (de Sitter, 1994).

\textit{Patient participation and involvement}

If the level of specialization of operational tasks is high, the patient is engaged with several health professionals who are executing a small part of the treatment. The provision of
information can be fragmented due to the high number of relations with a high variability, which can lead to an incomplete or less comprehensible provision of information towards the patient. This can limit the autonomy of the patient since he or she cannot get involved as result of the lack of informed consent (Eldh, Ekman, & Ehnfors, 2006). Due to the division of the treatment into small sub-tasks, ample interactions are needed between health professionals in order to align the treatment with the patient’s needs and values and deliver a customized care plan. Moreover, to address the physical and emotional needs of the patient, a health professional should be able to develop an engagement with the patient to recognize the conditions in order to ensure the well-being of the patient (McCormack & McCance, 2006). This can be complicated if a health professional interacts with a multitude of patients with varied needs and values.

If the level of specialization of operational tasks is low, the care is delivered by a limited number of health professionals within the care process who are executing a relatively more extensive part of the treatment. The potential that the provision of information will be more unambiguous and comprehensible for the patient is higher, which results in an increased probability of informed consent. This enables the possibility to be more involved as patient and increases the autonomy of the patient (Eldh, Ekman, & Ehnfors, 2006). The patient’s needs and values can be more easily aligned between the health professionals due to the low number of relations with a less varied content, which increases the possibility to deliver a customized care plan. Additionally, the physical and emotional needs can be more easily addressed since the health professional is more able the develop an engagement with the patient, and so, the conditions to ensure the well-being of the patient can be better recognized (McCormack & McCance, 2006).

2.5.4 Degree of separation
The relationship between patient and health professional
If the level of separation between operational and regulatory tasks is high, health professionals need to have a high number of relations with a high variability with the control task in order to execute their job. Their regulatory potential is low since they are dependent on other people to enable the delivery of care. In order to develop a genuine patient-health professional relationship, a health professional needs to have the chance to get to know a patient which can result in a higher commitment towards the patient, which is beneficial for the recovery of the patient. However, the ‘way’ in which a health professional develops a relationship with a patient differs (Beach & Inui, 2006). A lack of regulatory potential limits the possibilities to develop
this relationship according to the ‘way’ of a particular health professional, which can consequently restrict the commitment towards the patient. The same applies to the communication between patient and health professional; every health professional has his or her own sets of perspectives and therefore ‘ways’ in which he or she would like to communicate in order to inform and listen to the patient. This could be restricted by a low level of regulatory potential (Beach & Inui, 2006). It is probable that the competence of health professionals cannot be used optimally as result of a lack of regulatory potential. For instance, if a health professional is not allowed to make a certain decision which is within his or her qualifications, they have to report the ‘case’ to someone else who takes the decision. However, the person who has to take the decision, lacks first-hand information, which can be of importance in making the best decision for the patient. Moreover, it results in additional waiting time and stress (Achterbergh & Vriens, 2019). Therefore, a sub-optimal use of the competences of a health professional can possibly lead to disadvantages related to the recovery of a patient.

The collaboration between health professionals will not be supported with a low degree of regulatory potential since a multitude of interactions are needed between health professionals in order to enable the delivery of care. As the internal functional requirement ‘shared responsibility participation in communication’ endorses, effective communication is essential for an organization to be viable, which cannot be achieved by a high level of separation between operational and regulatory tasks (de Sitter, 1994).

A low level of separation implies a high level of regulatory potential of the health professionals. This enables the health professionals to execute their tasks to a greater extent in their own ‘way’. This could be beneficial in developing a genuine patient-health professional relationship. Moreover, an open communication between patient and health professionals can be better enabled as result of a high level of regulatory potential (Beach & Inui, 2006). The competence of health professionals can be used more optimally if the degree of separation is low. It enables health professionals to have a higher level of influence on the care process of the patient, within their qualifications, which can for instance result in less waiting times and stress. Moreover, certain decisions are made based on first-hand information instead of information that has been passed on from health professional to health professional, which can be beneficial for the quality of the decision (Achterbergh & Vriens, 2019). Concerning the collaboration between health professionals, a low level of separation enables the possibility to communicate effectively due to a limited number of relations with lesser variability. An effective
communication is essential for health professionals to be able to cooperate with each other (de Sitter, 1994).

**Patient participation and involvement**

A high level of separation can limit the autonomy of the patient. A health professional should be able to organize the care process and decision-making process in such a manner that it can involve a patient to a desired extent (Smith, Dixon, Trevena, Nutbeam, & McCaffery, 2009). However, due to a lack of regulatory potential, a health professional is not able to adjust the care process according to the desired level of involvement. As result of the lack of regulatory potential, it can be complicated to align the delivery of care with the needs and values of the patient.

In order to develop a customized care plan, a multitude of interactions with a high variability might be needed, which foster a high probability of disturbances. Moreover, the possibilities to deliver a satisfying care experience according to the physical and emotional needs of a patient can be limited as result of the lack of regulatory potential. Again, a multitude of interactions with a high variability might be needed to meet the conditions set by the patients to ensure their well-being.

A low level of separation enables a health professional to influence the care process of a patient as result of a high level of regulatory potential. Regarding the autonomy of a patient, a health professional can organize the care process in such a manner that the involvement of the patient is more in line with the desired extent (Smith, Dixon, Trevena, Nutbeam, & McCaffery, 2009). Moreover, a high regulatory potential enables the health professional to better align the delivery of care according to patients’ needs and values since less interactions are needed with a less varied content, which results in a lesser probability of disturbances. Consequently, the possibilities to develop a customized care plan and address the physical and emotional needs of a patient to ensure the well-being of a patient are higher.

### 2.6 Overview norms

The tables below show an overview of the norm values of the topics of patient-centred healthcare (Table 2.5) and the norm values of the topics of organizational structure (Table 2.6).

<table>
<thead>
<tr>
<th>Topic</th>
<th>Norm value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genuine health professional-patient relationship</td>
<td>The health professional feels morally involved with the patient and is highly committed towards the treatment of the patient.</td>
</tr>
</tbody>
</table>
Open communication between patient and health professional: There is informed consent of the patient regarding the treatment through open communication between patient and health professional.

Competent health professionals: Health professionals have appropriate skills and knowledge to provide the care.

Collaboration between health professionals: Critical information is accurately communicated between health professionals and they complement each other in the delivery of care.

Autonomy of patient: A patient is treated as respected autonomous individual who is involved in decision-making to own will. However, the ability of a patient and loved ones should be taken into consideration.

Customized care plan: Care plan is based on the patient’s individual needs and values.

Addressing physical and emotional needs of patient: A patient has a feeling of well-being, both physically and emotionally.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Norm value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of functional concentration</td>
<td>All operational tasks required for realizing an order are grouped together into one production-flow (the degree of functional concentration is low).</td>
</tr>
<tr>
<td>Degree of differentiation of operational tasks</td>
<td>The operational tasks contain make, prepare and support sub-tasks (the degree of differentiation of operational tasks is low).</td>
</tr>
<tr>
<td>Degree of specialization of operational tasks</td>
<td>Different sub-tasks are integrated into one task (the degree of specialization of operational tasks is low).</td>
</tr>
<tr>
<td>Degree of separation</td>
<td>All tasks contain both operational and regulatory sub-tasks (the degree of separation is low).</td>
</tr>
</tbody>
</table>

Table 2.5 – Overview norms patient-centred healthcare

Table 2.6 – Overview norms organizational structure
Chapter 3 – Methodology

3.1 Introduction
As outlined in the introduction of this research, the 3D-model was used to intervene in the Amalia kinderziekenhuis. The functional dimension concerned a plan evaluation which was executed in order to evaluate the plan of the proposed organizational structure, which aims to enable the delivery of patient-centred healthcare and answers the main question of this research: ‘To what extent does the proposed organizational structure enable the delivery of patient-centred healthcare at the Amalia kinderziekenhuis?’. Two gaps were indicated as relevant to investigate in order to achieve the aim of this research. Firstly, the gap between patient-centred healthcare as formulated by literature and the desired situation of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis. Secondly, the gap between structural characteristics based on literature and the structural characteristics of the plan of the proposed organizational structure of the Amalia kinderziekenhuis. In order to execute the plan evaluation and reveal the indicated gaps, a clear insight about the plan of the Amalia kinderziekenhuis of the proposed organizational structure and the desired situation of patient-centred healthcare was essential. Therefore, two empirical sub-questions related to the gaps were established to collect the relevant data about what the plan looks like: ‘What are the values of the topics of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis?’ and ‘What are the values of the structural characteristics of the proposed organizational structure according to the plan of the Amalia kinderziekenhuis?’.

This chapter will elaborate on the collection of data in order to answer the empirical sub-questions of this research. Therefore, section 3.2 will give a description of the investigated organization, the Amalia kinderziekenhuis. Section 3.3 will further elaborate on the plan evaluation and the chosen research method and section 3.4 will discuss the research design. Section 3.5 will outline the operationalization of the theoretical framework. Section 3.6 and 3.7 will elaborate on the data collection. Section 3.8 will discuss the data analysis. Section 3.9 will outline four criteria in order to analyse the quality of the research. Section 3.10 will discuss the research limitations and section 3.11 will elaborate on the research ethics.

3.2 Case description
The Amalia kinderziekenhuis is part of the hospital Radboudumc, located in Nijmegen. Annually, 22,000 children between 0-18 years old are treated in the Amalia kinderziekenhuis. This is 18% of all the patients of the Radboudumc. The Amalia kinderziekenhuis has three focus areas: birth care (obstetrics, neonatology, extreme premature birth and fetal therapy),
trauma care and hereditary and congenital disorders. The Amalia kinderziekenhuis connects the different specialisms of the Radboudumc to offer child healthcare. It aimed to actively involve children and parents during the care process in order to provide a safe environment in which the importance of the individuality of every child is respected (Radboudumc, 2019). The mission and vision of the Amalia kinderziekenhuis is as follows: ‘We are leading in excellent and patient-centred childcare with congenital disorders. We translate academic knowledge into evidence based third line regional healthcare and focus on transmural cooperation actively. Our “boundless childcare” focuses on patient and family. Via motivated, vital and sustainable employability we attain the highest quality of healthcare’ (Amalia kinderziekenhuis, 2019a, p. 1).

The Amalia kinderziekenhuis started a reorganization in 2017 in order to improve the delivery of patient-centred healthcare. As mentioned previously, the current organizational structure inhibits the possibility to adapt the organization. The board of directors of Radboudumc decided in October 2017 that the childcare, which was organized from 23 departments, should be united into one department, the Amalia kinderziekenhuis, which will be completely responsible for the childcare. According to their opinion, this should contribute to the improvement of the delivery of patient-centred healthcare. Employees of the Amalia kinderziekenhuis set up a team to manage the reorganization and they organized different sessions to brainstorm about possible organizational structures. In December 2018, they proposed a final organizational structure. Medio 2019 a trajectory will be developed which should guide the realization of the proposed organizational structure (Amalia kinderziekenhuis, 2018b).

The proposed organizational structure of the Amalia kinderziekenhuis will consist of an organization with two parallel healthcare domains: perinatology and childcare. However, there is common use of the indivisible units. The proposed organizational structure divides the organization into different facilities like the policlinic, clinic and medical departments, which facilitates the provided care. An illustration of this proposed organizational structure is provided in figure 3.1. The healthcare domains have to ‘buy’ capacity of the medical department and facilities based on the actual care demand. The train of thought is that the medical department and facilities are serving the care demand. In the current organizational structure, the medical department and facilities are leading. According to the plan, the healthcare domains will be divided into patient areas which are subsequently divided into multiple care paths. A patient area represents a group of disorders and a care path is considered as a detailed care plan. The
patients will be allocated to a care path in which all the required care will be provided and facilitated by the different facilities and departments (Amalia kinderziekenhuis, 2018b).

As mentioned previously, the scope of this research only contains the childcare domain and its required interactions with the facilities and medical department. The childcare domain was chosen because more information was available of this domain as opposed to the perinatology domain.

3.3 Research method
This study was practice-oriented since it aimed at the solution of practical problems (Bleijenbergh, Korzilius, & Verschuren, 2010). A practical problem can be defined as: “a problem that calls for an intervention or a new artifact, in order to change reality in a desired direction” (Bleijenbergh, Korzilius, & Verschuren, 2010, p. 146). In terms of this research, the practical problem concerned the delivery of patient-centred healthcare, which should be enabled by the organizational structure. Research aiming to solve practical or construction problems in order to improve a certain artefact, is called design-oriented research. An important aspect of this type of research is evaluation, which allows designers to be critical about the artefact designed in order to satisfy a set of design criteria when it is implemented into an organization. Evaluation should not only take place after the implementation but during the whole design process, to draw conclusions about the extent to which the artefact is satisfying the criteria set during different stages (Verschuren & Hartog, 2005).

Since the Amalia kinderziekenhuis proposed an organizational structure on paper, a plan evaluation was executed in order to evaluate the proposed organizational structure which aims to enable the delivery of patient-centred healthcare. A plan evaluation “implies an assessment of the quality of the design on paper […] it involves mainly a separate test of the adequacy of (1) the goal, (2) the means and (3) the relationship between the goal and the means”
In order to assess the goal, the means, and the relationship between the goal and the means, some evaluation criteria were developed which were used to compare a plan to (Verschuren & Hartog, 2005). These evaluation criteria will be outlined with respect to this plan evaluation in order to substantiate what information was needed to obtain a clear insight about what the plan looks like. They were used to guide the data collection to collect the relevant information in order to enable the plan evaluation.

1. The goal should be clear and therefore unravelled into several constituting parts and aspects in order to be made operational. Moreover, the norm values of the different aspects should be concrete, to draw a conclusion about which aspect(s) of the goal a designer should focus on, in order to improve the designed artefact (Verschuren & Hartog, 2005). With respect to the researched plan of this study, the goal is the delivery of patient-centred healthcare. In order to obtain a clear description of patient-centred healthcare, the theoretical framework that has been developed in chapter two of this study, offered insights related to literature of patient-centred healthcare. Patient-centred healthcare was divided into several topics and for each of these topics, corresponding norm values were established. These topics, which were considered as evaluation criteria, aimed to guide the data collection of the plan related to patient-centred healthcare. This was done in order to obtain the information needed and provide an answer to the related empirical sub-question of the first gap: ‘What are the values of the topics of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis?’

2. The means that are necessary in order to achieve the goal are described in terms of specifications. These should be described and have their own separate (norm) value (Verschuren & Hartog, 2005). Concerning this research, the specifications consists of characteristics of an organizational structure. The structural characteristics and corresponding norm values, which enable the delivery of patient-centred healthcare, were derived from the literature and described in the theoretical framework of this study. These structural characteristics were considered as evaluation criteria in order to assess the proposed organizational structure as described in the plan of the Amalia kinderziekenhuis. Therefore, it aimed to provide an answer to the empirical related sub-question of the second gap: ‘What are the values of the structural characteristics of the proposed structure according to the plan of the Amalia kinderziekenhuis?’

3. The relationship between the goal and the means should be addressed as well as the way they ‘fit’ in order to achieve the goal (Verschuren & Hartog, 2005). Related to this research, the relationship between patient-centred healthcare and the structural characteristics were
outlined in the theoretical framework of this study in order to substantiate how the proposed organizational structure can enable the delivery of patient-centred healthcare.

In order to collect relevant data and obtain a clear insight about the plan of the Amalia kinderziekenhuis to achieve the aim of this research, an enriched understanding of the desired situation of patient-centred healthcare and the proposed organizational structure of the Amalia kinderziekenhuis was required. Qualitative research seemed suitable to attain these insights since it has an emphasis on “processes and meanings that are rigorously examined, but not measured in terms of quantity, amount or frequency” (Labuschagne, 2003, p.100). It aims to gather detailed, rich in-depth data about the experience of people in own terms and to provide a careful description of situations, events, interactions and observed behaviours (Labuschagne, 2003). Regarding this research, qualitative research method aimed to secure rich descriptions and capture individuals’ perspectives regarding the desired situation of patient-centred healthcare according to employees of the Amalia kinderziekenhuis. Furthermore, by means of qualitative research, it was intended to require thorough documentation about what the proposed organizational structure looks like by gathering detailed descriptions of the plan.

3.4 Research design

A singular case study was conducted at the Amalia kinderziekenhuis. A case study is described as: ‘an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context may not be clearly evident’ (Yin, 2013, p. 16). A case study tries to describe and explain the phenomenon in-depth through collecting different types of data. It can be used for intervention-oriented goals (Swanborn, 2013). It suited this research because it enabled the execution of the plan evaluation which is part of an intervention. Moreover, it enabled to evaluate the phenomenon studied, which concerned the plan about the proposed organizational structure which aims to enable the delivery of patient-centred healthcare at the Amalia kinderziekenhuis.

As mentioned previously, an important characteristic of a case study is that it should provide the possibility to collect data about the investigated phenomenon, based on different data sources (Yin, 2013). The Amalia kinderziekenhuis possesses a variety of documents concerning the investigated phenomenon, which were shared to achieve the aim of this research. Moreover, some employees of the Amalia kinderziekenhuis were willing to participate in an interview to provide the required information about the plan.
3.5 Operationalization

In order to compare the data and literature, the main concepts were operationalized, which aimed to translate the concepts of the theoretical background into measurable indicators (Symon & Cassell, 2012). As mentioned above, the main concepts of this research, patient-centred healthcare and organizational structure, were outlined in the theoretical framework of this research. They were divided into several dimensions and subsequently, in order to describe the dimensions, split up into different topics, which were considered as evaluation criteria. These topics, or evaluation criteria, aimed to guide the data collection. Information about the evaluation criteria related to the plan was required in order to execute the plan evaluation.

The topics of the main concepts were conceptualized in order to develop an understanding of the topics derived from literature for the purpose of this research (Babbie, 2013). The conceptualization of the topics of both concepts are outlined in Table 2.1 and Table 2.4. The topics were further divided into indicators. An indicator is considered as a reflection of a topic, which helps to give meaning to the investigated topic (Babbie, 2013). The indicators were derived from the outlined literature related to the topics. The corresponding items of the indicators represent the questions in the interview guide, as will be further explained later on. The operationalization of both main concepts is given below.

Patient-centred healthcare

Theoretical definition patient-centred healthcare: “Care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring the patient values guide all clinical decisions” (Institute of Medicine, 2001, Chapter 2, Improving the 21st-century Healthcare System, para. 2).

Stipulative definition patient-centred healthcare: Care that is provided in a respectful way by the involved health professionals who respond to the individual patient preferences, needs and values at the Amalia kinderziekenhuis.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Dimension</th>
<th>Topic</th>
<th>Indicator</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genuine health professional-patient relationship</td>
<td>Commitment health professional</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 3.1 - Operationalization scheme patient-centred healthcare

| Patient-centred healthcare | The relationship between patient and health professional | Open communication between patient and health professional | Informed consent patient | 2 |
|----------------------------|--------------------------------------------------------|----------------------------------------------------------|----------------------------|
|                            | Competent health professionals                        | Appropriate knowledge and (Inter)personal skills         | 3 |
|                            | Collaboration between health professionals             | Accurate communication                                   | 4 |
|                            |                                                        | Complementary insight                                      | 5 |
|                            |                                                        | Common plan about treatment patient                        | 6 |
| Patient participation and involvement | Autonomy of patient | Involvement of patient                                     | 7 |
|                            |                                                        | Comprehensible provision of information                    | 8 |
|                            |                                                        | Participation in decision-making                           | 9 |
|                            | Customized care plan                                  | Adjustment care plan with patient’s needs                  | 10 |
|                            | Addressing physical and emotional needs of patient    | Recognize personal perception of well-being                | 11 |
|                            |                                                        |                                                           | 12 |

**Organizational structure**

Theoretical definition organizational structure: "The grouping and coupling of transformations into tasks and the resulting relations between these tasks relative to orders" (Achterbergh & Vriens, 2010, p. 240).
Stipulative definition organizational structure: The grouping and coupling of treatments into tasks and the resulting relations between these tasks relative to the care process at the Amalia kinderziekenhuis.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Dimensions</th>
<th>Topics</th>
<th>Indicator</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational structure</td>
<td>Parameters production structure</td>
<td>Degree of functional concentration</td>
<td>Grouping of tasks</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Division of treatment</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantity/variability of interactions</td>
<td>15,16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree of differentiation of operational transformations</td>
<td>Type of activities</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Content operational transformation</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantity/variability of interactions</td>
<td>19,20</td>
</tr>
<tr>
<td></td>
<td>Parameter relation between production structure and control structure</td>
<td>Degree of specialization of operational transformations</td>
<td>Content of task</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dependency between involved employees</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantity/variability of interactions</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree of separation between operational and regulatory transformations</td>
<td>Operational regulation</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Design regulation</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Strategic regulation</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quantity/variability of interactions</td>
<td>27</td>
</tr>
</tbody>
</table>

Table 3.2 - Operationalization scheme organizational structure

3.6 Documents
In order to collect the relevant data, several documents were used as a source of data. Documents can be described as mute evidence which endures physically and thus can be separated across space and time from its author, producer and user. Documents play an important role in organizational life and contain detailed information about, among other things,
plans of the organization (Symon & Cassell, 2012). During the reorganization of the Amalia kinderziekenhuis, documents were used to outline the plan of the proposed organizational structure and elaborate on their vision and goals related to patient-centred healthcare. Moreover, the outcomes of meetings and brainstorm sessions regarding the reorganization were documented. An overview of all documents including additional information is provided in Appendix I.

3.6.1 Document analysis

Patient-centred healthcare

In order to answer the empirical sub-question related to patient-centred healthcare, several documents were provided by the supervisor of the Amalia kinderziekenhuis which contain information about the desired situation of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis. Two documents were selected that provide a clear oversight about the desired situation of patient-centred healthcare and thereby contribute the data collection.

<table>
<thead>
<tr>
<th>Patient-centred healthcare</th>
</tr>
</thead>
<tbody>
<tr>
<td>- (D1) Strategy paper 2019: This paper explains the strategy for 2019 which elaborates on the vision and related goals of the delivery of patient-centred healthcare.</td>
</tr>
<tr>
<td>- (D2) Report consequences strategic decisions: This report describes the consequences of the strategic decisions taken by the board of the directors, which includes information about how they consider patient-centred healthcare at the Amalia kinderziekenhuis within their strategy.</td>
</tr>
</tbody>
</table>

Table 3.3- Overview documents patient-centred healthcare

Organizational structure

In order to collect data about the plan related to the proposed organizational structure, the supervisor of the hospital provided some documents related to the proposed organizational structure. Moreover, a few respondents of the conducted interviews sent some documents of the proposed organizational structure by email, which were discussed during the interviews. A selection was made of the collected documents. The selected documents provided information about the final proposed organizational structure and the argumentation regarding the decisions made concerning the organizational structure.
Organizational structure

- (D1) Strategy paper 2019: This paper explains the strategy for 2019 which includes information about the proposed organizational structure.
- (D3) Presentation proposed model (November 2018): This document shows the final proposed organizational structure.
- (D4) Practical concept organizational structure: This document discusses different probable organizational structures including the final one, substantiated with pros and cons.
- (D5) Presentation proposed organization model towards Board of Directors (May 2019): Presentation of the proposed organizational structure added with additional information.

Table 3.4- Overview documents organizational structure

3.7 Interviewees
The second data source were employees of the Amalia kinderziekenhuis. In total, nine respondents were interviewed in order to collect the relevant information. The sample selection was based on a non-probability sample technique since the interviewees were approached as result of judgement of the supervisor of the hospital or researcher (Symon & Cassell, 2012). Firstly, five interviews were conducted with (care) managers and employees of the Amalia kinderziekenhuis. The respondents were approached in consultation with the supervisor of the hospital who was updated about the aim of this research. Moreover, the researcher has informed whether the interviewees may know a colleague who could add a contribution to the research by means of knowledge or experience, he or she may possess. This resulted in more interviews.

After five interviews, it was noticed, as described in the research diary of the conducted interviews (Appendix III), that it would be relevant to invite solely employees who have a job position as health professional for an interview. They are more aware of what the desired situation of patient-centred healthcare should look like since they are more directly involved with the patient. Moreover, regarding the proposed organizational structure, it was noticed that it would be relevant to conduct interviews with health professionals (who are aware of the plan) because they might have more practical insights about the proposed organizational structure. This could be valuable in order to obtain a comprehensive representation of the proposed organizational structure. Until then, the respondents which were interviewed were operating in the organizational processes of the hospital which gave predominantly theoretical insights about
the proposed organizational structure. Therefore, another four interviews were conducted with health professionals.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Job position</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1</td>
<td>(Care) manager</td>
<td>52:53</td>
</tr>
<tr>
<td>Respondent 2</td>
<td>Policy advisor</td>
<td>53:13</td>
</tr>
<tr>
<td>Respondent 3</td>
<td>(Care) manager</td>
<td>1:01:34</td>
</tr>
<tr>
<td>Respondent 4</td>
<td>(Care) manager</td>
<td>1:07:52</td>
</tr>
<tr>
<td>Respondent 5</td>
<td>(Care) manager</td>
<td>1:01:01</td>
</tr>
<tr>
<td>Respondent 6</td>
<td>Nurse specialist</td>
<td>1:10:28</td>
</tr>
<tr>
<td>Respondent 7</td>
<td>Medical specialist</td>
<td>1:04:02</td>
</tr>
<tr>
<td>Respondent 8</td>
<td>Nurse specialist</td>
<td>1:12:48</td>
</tr>
<tr>
<td>Respondent 9</td>
<td>Medical specialist</td>
<td>56:07</td>
</tr>
</tbody>
</table>

Table 3.5 – Overview respondents

3.7.1 Interviews

The use of interviews is a data collection method which is seen as a way of seeking knowledge about all kinds of phenomena. It is considered as a reliable way to gather information about what goes on in organizations (Symon & Cassell, 2012). The interviews were aimed at gathering insights about the desired situation of patient-centred healthcare at the Amalia kinderziekenhuis and the way the proposed organizational structure was designed. In-depth interviews were used which aim to have open-ended discussions of what is happening in the research setting. This was suitable for collecting the relevant data and thereby achieving the aim of this research (Symon & Cassell, 2012).

Patient-centred healthcare

The interview guide of this part of the interview consists of an open-ended question about what the desired situation of patient-centred healthcare should be in order to gather ‘rich information’ about the investigated concept. Open-ended questions “consist of direct quotations from people about their experiences, opinions, feelings and knowledge” (Labuschagne, 2003, p.101). It was therefore considered as a starting point to obtain a comprehensive insight about the desired situation of patient-centred healthcare at the Amalia kinderziekenhuis. The open character also aimed to collect data about topics of patient-centred healthcare which were not indicated yet in the theoretical framework. These topics can be relevant in obtaining a clear insight about the plan related to the desired situation of patient-centred healthcare (Doorewaard, Kil, & Van de
Organizational structure

The questions related to proposed organizational structure aimed to provide an answer to the corresponding empirical question. This part of the interview was semi-structured, so the questions were formulated beforehand in order to guide the researcher. The questions were derived from the theoretical framework of this study and were based on the indicators of the operationalization scheme in order to collect information of the evaluation criteria to enable the plan evaluation (Section 3.5). The items represent the corresponding questions in the interview guide (Appendix II). The sequence of the questions was not fixed but was determined as the interviews progressed. The questions were open to enable the interviewees to elaborate on the discussed topics. Moreover, the researcher aimed to be aware of ‘unexpected things’ and ask further questions if that seemed necessary, to obtain a comprehensive overview of the plan related to the organizational structure (Bleijenbergh, 2015).

3.8 Data analysis

The analysis of data is a process of interpreting texts by labelling parts of the texts with appropriate terms to give it meaning in the context of the research (Bleijenbergh, 2015).

Content analysis was used in order to analyse the documents and the transcripts of the interviews of both the desired situation of patient-centred healthcare and the proposed organizational structure to obtain an overview about what the plan of the Amalia kinderziekenhuis looks like. Content analysis is a research technique for the objective, systematic description of the content of communication. It requires the development of a framework to code and help translate the evidence from documents into answers to specified research questions (Symon & Cassell, 2012). The operationalisation scheme, which has been developed in Section 3.5 of this chapter, was used to code the different data sources. Regarding the interviews, permission was asked to record them to be able to transcribe the interviews and have complete files to code.
The several topics were added to text fragments of the selected documents and the transcripts of the interviews. Since not all relevant information could be represented by the already indicated topics, a new topic was added. This topic was added to some text fragments in order to make sure that all relevant information was taken into consideration. An overview of the coded data was given in a data-matrix which bundled the text fragments of every topic. The added topic which represent information which could not be allocated to already indicated topics, was outlined as well. As result of the coded data sources, an overview of the data of the different sources were combined for the desired situation of patient-centred healthcare and the proposed organizational structure in order to answer the empirical sub-questions (Bleijenbergh, 2015; Doorewaard, Kil, & Van de Ven, 2015).

Patient-centred healthcare
The collected data of the plan related to the desired situation of patient-centred healthcare was combined into a data-matrix (Appendix V). This data was analysed in order to obtain a value of the topics regarding the plan of the Amalia kinderziekenhuis. Moreover, it was complemented by the topic ‘case manager’ which was not indicated yet in the theoretical framework, but provided a more comprehensive representation of the desired situation of patient-centred healthcare. This was outlined in chapter four of this research. Additionally, this analysis was used to reveal the first gap as indicated in the introduction of this research by comparing it to the norm value of the indicated topics of patient-centred healthcare in the literature. Furthermore, this analysis contributed to explaining in what way the proposed organizational structure contributes or inhibits the potential to enable the delivery of patient-centred healthcare.

Organizational structure
The collected data about the proposed organizational structure of the plan of the Amalia kinderziekenhuis was combined in a data-matrix as well (Appendix V). This data was analysed in order to add a value to the topics to explain the proposed organizational structure, which will be outlined in chapter four of this research. Subsequently, the analysis of the proposed organizational structure in terms of the structural characteristics was used to compare it to the norm value of the structural characteristics. These structural characteristics and corresponding norm values were indicated in the theoretical framework in order to reveal the second gap of the plan evaluation. Moreover, it was used to explain in what way the proposed organizational
structure contributes or inhibits the potential to enable the delivery of patient-centred healthcare.

3.9 Quality criteria
In order to analyse the quality of this research, the quality criteria of Guba and Lincoln (1989) were used. These criteria are: credibility, transferability, dependability and confirmability.

**Credibility** is met if there is a good fit between constructed realities of respondents and the reconstructions attributed to them. It should be questioned whether the collected data provides an authentic representation of the case. It is parallel to internal validity (Symon & Cassell, 2012). With respect to this particular case, credibility is supported through peer debriefing and member checking. Peer debriefing mostly took place with the supervisor of the university and the supervisor of the hospital. Both acted as a sounding board for the development of the research. The supervisor of the university supported with feedback on the theories and ideas about the thesis itself. The supervisor of the hospital gave explanations and practical insight about the hospital, relevant for understanding and interpreting the collected data, like the professional language used or the hierarchy of a hospital. Moreover, a few meetings took place with other students who were writing their thesis as well. Insights and relevant information were shared in order to inform each other. Member checking was executed by discussing the interpretation of the data with the participants of the interviews. Additionally, during the research it was checked regularly with the supervisor of the hospital whether the information of the particular case was captured accurately. For instance, after five interviews, the researcher and the supervisor of the hospital discussed the gained insights about the proposed organizational structure to make sure the corresponding information was interpreted correctly by the researcher.

**Transferability** discusses if the researcher provides enough detail about the specific case that the reader can judge what other similar contexts might be informed by the findings. It is parallel to external validity because it discusses the boundary conditions (Symon & Cassell, 2012). The transferability of this research is secured by providing a case description of the investigated organization. Via the given information, it can be judged whether the findings could be transferable to other similar contexts. The aim of this research is not to generalize the outcomes because it is a practical research, but more so to refine the data about the object of investigation in order to improve this particular organization and support other, comparable organizations.
**Dependability** refers to demonstrating how methodological changes and shifts in construction have been captured and made available for evaluation. It is parallel to reliability since it discusses whether the researcher bias is minimized or accounted for (Symon & Cassell, 2012). The methodological decisions were outlined in chapter three of this study. Moreover, a research diary was kept about the conducted interviews in order to substantiate the selection of the respondents.

**Confirmability** seeks to make clear where the data came from and how such data were transformed into the presented findings. It is parallel to objectivity since it discusses whether alternative explanations have been considered (Symon & Cassell, 2012). To make clear where the data came from, an overview is given in the data collection part of this chapter. In order to show how the data was transformed into the findings, it is illustrated by citations and references of the collected data to ensure the correctness of the findings. Moreover, an overview of the data was captured in the data-matrix.

Another quality criterium is the use of *triangulation*. This can be defined as: ‘the convergence of data collected from different sources, to determine the consistency of a finding’ (Yin, 2013, p. 241). Data triangulation was done based on comparing the data sources of the data collection, namely documents and interviews to improve the quality of the research (Bleijenbergh, 2015).

### 3.10 Research limitations

A limitation of this research is that a singular healthcare domain and its required interactions with facilities and the medical department was taken under investigation. However, the Amalia kinderziekenhuis consists of two healthcare domains and the proposed organizational structure is developed based on the whole organization. The focus on just a part of the whole organizational structure might give a distorted picture since one healthcare domain it not taken into consideration.

### 3.11 Research ethics

A researcher has the responsibility to conduct the research with special care and sensitivity, and therefore look beyond the research design in order to protect the participants. This involved gaining informed consent from all the persons who took part of the research and formally soliciting their volunteerism (Yin, 2013). This was ensured by sending invitations to the participants and offer the possibility to reject the invitation. Moreover, the participants were informed in advance about the aim of the research and the reason why the particular participant
was approached. Furthermore, the participants were informed about the possibility to withdraw from the research at any moment. Also, the participants were asked permission to record the interviews.

Regarding the findings of the research, it is of importance to protect the privacy and confidentiality of the participants, to among others make sure they will not put in an undesirable position as result of the research of answers given (Yin, 2013). Therefore, the anonymity of the participants was secured, and the transcripts of the interviews were kept safe and inaccessible for others. Moreover, the transcripts were checked by the participants afterwards to make sure the conversation was kept correctly, and possible comments were processed. Furthermore, references or citations which could trace back a participant were not used in the representation of the findings. Additionally, the findings were solely used for the aim of this research.
Chapter 4 - Results

4.1 Introduction
This chapter will provide answers to the analytical sub-questions which were established in the introduction of this research in order to present the results of this study. Section 4.2 will outline the first analytical sub-question: ‘What is the gap between the values of the topics of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis and the norm values of the topics of patient-centred healthcare according to literature?’ in order to reveal the first gap of the plan evaluation which was explained in the introduction of this research. Section 4.3 will elaborate on the second analytical sub-question: ‘What is the gap between the values of the structural characteristics of the organizational structure according to the plan of the Amalia kinderziekenhuis and the norm values of the structural characteristics based on literature?’ in order to reveal the second gap of the plan evaluation, as indicated in the introduction of this research. Section 4.4 will provide an answer to the third established analytical sub-question: ‘In what way does the proposed organizational structure contribute or inhibit the potential to enable the delivery of patient-centred healthcare?’.

4.2 Patient-centred healthcare
In the theoretical framework of this research, the concept of patient-centred healthcare is divided into several topics in order to describe patient-centred healthcare. As explained in chapter three of this research, these topics were used to collect data about the plan related to patient-centred healthcare in order to obtain a clear insight regarding the desired situation of patient-centred healthcare at the Amalia kinderziekenhuis. In order to reveal the first indicated gap, and answer the first analytical sub-question, the norm value of the outlined topics according to literature will be compared to the values of the plan of patient-centred healthcare at the Amalia kinderziekenhuis. Therefore, the norm value of every topic, as established in the theoretical framework of this research, will be mentioned. Subsequently, the value of every topic of the plan of the Amalia kinderziekenhuis will be presented. Finally, the discrepancy between the two values of every topic will be indicated.

Moreover, as outlined in the data-matrix (Appendix V), an additional topic, ‘case manager’ was added to the already indicated topics to obtain a comprehensive insight of patient-centred healthcare. However, it turned out that the additional topic was a manner to execute some of the already indicated topics. Therefore, the data of the topic ‘case manager’ is used to
describe the other topics but is not considered as an additional topic in the representation of the data.

4.2.1 Genuine health professional-patient relationship

Norm value: The health professional feels morally involved with the patient and is highly committed towards the treatment of the patient.

Value plan: The respondents all agree that involvement is of importance in order to serve the patient. They mentioned two aspects of the relationship between the health professional and the patient which were considered as valuable by several respondents. Firstly, multiple respondents mentioned trust as an important aspect of a health professional-patient relationship: “Above all, there should be a trust relationship” (R2), “So I’m a proponent of openness and transparency. I think it is of importance to develop a good relationship with the patient” (R3). The development of trust between the patient and health professional should be enabled by one-to-one contact between the patient and health professional, recurrent meetings and moreover, intensify the contact between a limited number of health professionals and the patient (R1; R2; R3; R5; R6; R7; R9). The role of case manager is often pointed out as a possibility to intensify the contact between the patient and health professional. According to various respondents, it is desirable to have the case manager involved during the whole care process of the patient (R1; R2; R3; R6). Moreover, the case manager is considered to be the point of contact for the patient to share concerns or questions, but for health professionals as well to enable an unambiguous provision of information towards the patient (R1; R2; R3; R6; R7; R9). This corresponds to the plan on paper of the Amalia kinderziekenhuis in which the role of case manager is explained as follows: “The term ‘patient-centred’ will be operationalized and formalized concretely by nurse specialists inside and outside the walls of the hospital. The nurse specialist acts within the care paths as case manager. She guides the child and family in the hospital and on their way home” (D2).

Secondly, another often mentioned aspect of the relationship between a health professional and a patient is to give the patient the feeling that they are heard by the health professionals (R1; R5; R6; R7; R8; R9). To illustrate this, “In the ideal world it would be nice (...) that patients have anyway the feeling, but also notice, that there is attention from A until Z for that patient” (R5), “I think mainly, show you are listening, that you are there for them. And that you appreciate their opinion (R6), “Sometimes you have to move along with the patient. Because then, people feel heard” (R8). According to the strategy related to the plan, the
employees should take the time for the personal situation of the patient by showing interest and good listening (D1), which corresponds to the expressed opinion of the respondents.

Some respondents also mentioned the limits of involvement that health professionals should have in order to remain a professional and be able to take adequate decisions if necessary (R4; R6; R7). “That’s a thin line, to what extent does your involvement reach. Especially for child health professionals, it is a natural involvement which reaches far, but you take the risk that, well, that you are too involved. And that is not good, because then, you cannot take the right decisions, or propose the right policy for the patient, because you are too involved” (R4).

Discrepancy: The desired value of the topic genuine health professional-patient relationship concerns that the health professionals should be involved with the patient, to develop a trust relationship and the patient has the feeling that he or she is heard by the health professional. A case manager is often mentioned as the desired person to develop such a relationship since he or she often interacts with the patient. However, the health professional should remain professionally capable and therefore the involvement should be limited to a certain extent. The norm value corresponds to the desired value and it can therefore be concluded that the norm value and the desired value do not show a notable discrepancy.

4.2.2 Open communication between patient and health professional

Norm value: There is informed consent of the patient regarding the treatment through open communication between patient and health professional.

Value plan: An unambiguous provision of information is considered important by all the respondents in order to enable informed consent of the patient. However, it is hard to achieve informed consent of the patient according to the respondents due to different reasons. First of all, it can be hard for patients to have a clear overview of the provided information since they have to process a lot of information from different health professionals (R1; R5; R7; R8). Moreover, the communication between the patient and health professional should be adjusted to the capabilities of the patients which can highly differ between patients (R3; R6; R7; R9). In addition, since it concerns a child hospital, the explanation of provided information should be both understandable for children and parents, which might require a different approach (R4; R6; R8). Moreover, various respondents argued that not all patients are willing to take the effort to get informed via several information channels (R3; R7; R8; R9).
According to multiple respondents, it is desirable to execute the consult in such a way that the different involved specialists are present if a patient needs multidisciplinary care, to enable an open communication between the patient and health professionals. Moreover, it contributes to the development of a clear overview for the patient since the provided information is more unambiguous and it offers the patient the possibility to ask questions to the different health professionals simultaneously (R1; R3; R7; R8; R9). In order to substantiate the notion of the combined consult: “So, what you want is that if you have all child care under one roof, so which kind of means that from the multidisciplinary train of thought, it enables that (...) if you think, I need the expertise of a MDL-arts, how nice would it be if you can immediately consult the MDL-arts” (R3), “I think how we prefer the consults (...) is that you thus build multidisciplinary consults around the patient in which you talk together (...) that you know what is going on” (R7), I: How could it in the desired situation be organized, that is it better arranged, that it is more unambiguous? “Do the consult together” (R9). However, due to administrative limitations, the organization of multidisciplinary meetings, in which multiple health professionals are involved, is currently restricted. The health professionals are forced to make use of a DBC (diagnosis treatment code) imposed by the insurer to enable a consult. However, only one health professional can be coupled to a DBC, and therefore a consult is insured for only one health professional related to one ‘diagnosis’ of a patient (R7; R9).

Another often mentioned way to enable an open communication is MijnRadboud, which is an online platform that presents, among other things, lab results and letters between health professionals concerning a patient. It contributes to the provision of information (R3; R5; R6; R7; R8; R9), as illustrated by the following quote: “I think communication with the patient, of course that should happen in all openness and transparency, and MijnRadboud is one of the resources to achieve this” (R3). Moreover, it offers the possibility for patients to ask the involved health professionals questions related to their care process (R3; R5; R6; R8; R9). An often mentioned advantage is that the health professionals and patient do not have to be available at the same time to exchange information (R3; R5; R6; R7; R8; R9). It provides the patient and parents the possibility to ask questions outside the consults, as confirmed by the following quote: “I consider MijnRadboud in itself, very good, mainly that parents can make contact in an easy way for non-urgent questions” (R6). Additionally, health professionals are disturbed less by non-urgent questions and it enables them to answer the questions when they prefer to do so. To illustrate this, “Some answers really can wait until tomorrow and things like that can be asked in MijnRadboud” (R5), “MijnRadboud is for non-urgent questions (...) and it works pretty well, because people say nice, as long as I receive an answer. So that’s really
nice because all those people called before (R8). The role of MijnRadboud is expressed in the same way in a document related to the plan (D2).

Regarding the provision of information via brochures, videos or the website are most respondents on the same page. They agree that it is desirable to inform the patients via texts or videos, since it contributes to the unambiguous provision of information (R3; R4; R5; R6; R7; R9).

However, various respondents argued that provision of information via the mentioned channels do not work out well for all patients, since some patients are not able or willing to take get informed via the information channels as explained previously. Therefore, multiple respondents argued that the communication channels, which are considered as desirable, should be further developed to align the way of communication towards the patients. However, they do not know explicitly how this should be improved. For example, the child hospital tries to improve the communication via an updated website. However, several respondents mentioned that it did not improve the provision of information (R3; R5; R7; R8; R9). “I think, leaflets were already read badly, but I think this [information on the website] is read even more badly, because people have to do more [to find the appropriate information]. So, I think that you have to do more with videos for children. It happens a lot already, but I think this should be improved, that is should be provided on a more appealing way” (R8).

Discrepancy: The desired value of the topic open communication between patient and health professional concerns a consult in which different involved health professionals are present. Moreover, the role of the online platform MijnRadboud and the provision of information via texts and brochures is considered desirable to support the open communication between patient and health professional besides the planned consults. It should be taken into consideration that not all patients are willing or able to process information through these information channels due to several reasons. The norm value corresponds to the desired value of the Amalia kinderziekenhuis and therefore do not show a notable discrepancy.

4.2.3 Competent health professionals

Norm value: Health professionals have appropriate skills and knowledge to provide the care.

Value plan: All respondents agree that skilled and competent health professionals are a prerequisite to provide the care. According to several respondents, it is desirable to have the responsibility to ensure skilled and competent health professionals organized and guaranteed
on microlevel (R2; R3; R4; R5; R8; R9). To illustrate this perspective: “In the model that we choose, there arises the possibility that you can talk within the patient area, like what does the care looks like? What do you encounter, what are the problems? And that you try to learn from each other” (R4), “I’m convinced that you should work more with dedicated teams, firstly to increase the pleasure of people, because you choose for something and so you are more, with education involved, and you are more updated about it” (R8), “We should more increase the interaction in the care path. Like what can you, what do you want (...) Where do we need more education, so you can teach them, and they know content-wise more about patients they get in touch with” (R9). The perspective of the respondents corresponds to the plan written down on paper: “We believe this is an excellent development which fits patient-centred and multidisciplinary care, whereby the care paths are considered central, and ‘leading and manage’ changes into coaching at the work floor” (D2).

**Discrepancy:** The desired value of the topic competent health professionals is that skilled and competent health professionals are considered as a prerequisite to provide the care, which should be guaranteed on microlevel. The norm value and the desired value do not show a notable discrepancy.

### 4.2.4 Collaboration between health professionals

**Norm value:** Critical information is accurately communicated between health professionals and they complement each other in the delivery of care.

**Value plan:** A written document about the plan of the Amalia kinderziekenhuis provided a clear desired situation regarding the collaboration between health professionals: “Regardless of the job you are fulfilling, it is all about give and take responsibility, have time for each other and support each other, address each other if necessary, develop clear agreements and honour them. The accent is on behaviour instead of development of rules and procedures. Real change arises from the inside, if it wants to succeed” (D2). The opinion of the respondents show agreement with the plan on paper. They all considered working in multidisciplinary teams as desirable in order to facilitate the collaboration between health professionals. It enables health professionals to complement each other and facilitate sharing of information because they work closely together: “So you have a team of professionals which unite around a patient group, as you can say, with their knowledge and skills (R2), “From the multidisciplinary train of thought (...) health professionals can find each other in a more easily way” (R4), “A team which
collaborates well, is important of course. And that relies on the health professionals themselves for a big part. I think we deliver patient-centred healthcare because at our place, the patient is not divided into little pieces” (R7). Moreover, various respondents considered it important to have the possibility to informally contact each other about numerous topics (R4; R6; R7; R8; R9).

Furthermore, the electronic patient dossier facilitates the collaboration between the health professionals which is recently updated with an in-basket function which enables to ask questions within the system to another health professional. This development is experienced as desirable since it facilitates the communication between health professionals (R6; R7; R8; R9).

**Discrepancy:** The desired value of the topic collaboration between health professionals is to work in multidisciplinary teams to enable the collaboration between health professionals by complementing each other and share information. Furthermore, the informal network and the electronic patient dossier enable to provide the collaboration between health professionals. The norm value corresponds to the desired value, so they do not show a notable discrepancy.

### 4.2.5 Autonomy of patient

**Norm value:** A patient is treated as respected autonomous individual who is involved in decision-making to own will. However, the ability of a patient and loved ones should be taken into consideration.

**Value plan:** All respondents mentioned that the involvement of a patient in the care process is desirable, to enable shared decision-making during the care process of a patient. Several respondents agree that the provision of information is a prerequisite to enable the involvement of a patient, so they become equal conversation partners to a certain extent (R3; R4; R5; R6; R8). To illustrate this, “If I view a shared-decision making, it is important that firstly, there is equality about knowledge related to a certain disorder and treatment options” (R4).

The respondents mentioned different ways to involve a patient. Some argued that a patient and loved ones should, in some cases, be invited to the multidisciplinary meeting concerning their own care process (R1; R3; R4; R5; R6; R9). However, several respondents doubt simultaneously whether this is desirable since a multidisciplinary meeting also is used to educate health professionals in training. Therefore, professional language is used to discuss several topics. This could not be understandable for non-health professionals (R1; R3; R4; R5; R6; R8).
Multiple respondents pointed out that it is desirable to have different possibilities regarding the care process of a patient clearly outlined by the health professionals. Subsequently, the choice between the different possibilities should be made by the patient and loved ones. The privilege to take the decision is considered as the autonomy of the patient (R2; R4; R5; R6; R8; R9). Some documents related to the plan confirmed this consideration regarding the autonomy of the patient: “There is explicit attention for the involvement of the patient during the process of making choices in the individual care process” (D1), “The child and loved ones are leading during the organization of the care” (D2). Several respondents mentioned that time to consider a certain decision for the patient is important. The possibility to give the patient and loved ones some time to consider a certain decision should be offered always, if it is not in conflict with the treatment of a patient (R6; R7; R8; R9).

However, several respondents mentioned that the extent to which a patient and his or her loved ones should be involved by the health professionals depends on different factors. In some cases, a patient and loved ones are not able to be involved due to their lack of capacity to understand treatment-related cases (R4; R7; R8; R9) or they are emotionally too involved (R4; R5; R7; R9). Moreover, some patients and loved ones do not want, or to a smaller extent, to be involved (R7; R8; R9). To illustrate this, “Ask 100 patients if they really want it [to be involved]. Because maybe 70% do not want it, so we are developing a lot for 30% who wants to be involved, regardless whether they are able, to facilitate them. And we have to watch out a bit that we are not going to do too much, because a lot of people are not able to take that role well” (R9). This should be taken into consideration during the care process of a patient according to multiple respondents (R4; R5; R7; R8; R9).

Discrepancy: The desired value of the topic the autonomy of the patient is that the patient should be well informed in order to enable the involvement regarding to the shared decision-making. Besides this, the autonomy of the patient is considered as possessing the decision-power by the patient and loved ones to take a certain decision during the care process within the outlined possibilities. Time for the patient and loved ones to take the decision is considered important. However, the extent to which the patient should be involved by health professionals or wants to be involved is restricted in some cases due to several reasons. The norm value corresponds to the desired value and therefore, the discrepancy between the norm value and the desired value is not notable.
4.2.6 Customized care plan

*Norm value:* Care plan is based on the patient’s individual needs and values.

*Value plan:* The respondents are very united about this topic. They all agree that the needs and values of the patient should be clearly addressed, and the care plan should be developed according to patients’ needs and values within the possibilities of the hospital. In order to illustrate this: “The need for care of the child should be well investigated, so it is very clear, and there should be built a team of health professionals around that child, so the need for care can really be answered” (R1). “The care should be organized maximally around the wishes and needs of the patient. So, the starting point is the patient, and the end point is the patient as well. What is done at the hospital, is fully organized from the perspective of the patient” (R4).

A document related to the plan corresponds to the perspective of the respondents: “We deliver adequate care, by organizing it together with the patient” (D2).

A few respondents mentioned that it is desirable if the care plan can be found online, so the patient has a clear overview about the care plan and the next steps which will be taken regarding to the treatment (R3; R5; R6). A few other respondents argued that some care processes are unpredictable which limits the possibility to develop such a care plan with clear steps (R4; R7; R8; R9).

*Discrepancy:* The desired value of the topic customized care plan concerns that the needs and values of the patient should be clearly addressed and implemented in the care plan. The norm value corresponds to the desired value and therefore, do not show a notable discrepancy.

4.2.7 Addressing physical and emotional needs of patient

*Norm value:* A patient has a feeling of well-being, both physically and emotionally.

*Value plan:* Several respondents pointed out that the rebuilding of the Amalia kinderziekenhuis aims to contribute to a child-friendly environment and therefore to the physical well-being of the patients (R1; R3; R4; R5). This is confirmed in a document related to plan (D1).

Regarding the emotional well-being of the patients, they consider the relationship between the patient and health professional important (R1; R2; R4; R6; R7; R9). It enables to “develop a clear picture of the situation of someone” (R2). Moreover, it gives the patient a point of contact: “We are always easily approachable. That constitutes of well-being as well. They feel comfortable with that, that they know, there is always someone who I can approach”
(R6). Furthermore, the relationship between patient and health professional can contribute to the decrease of uncertainty patients are dealing with, which can contribute to the emotional well-being: “Uncertainty is the thing which delivers discomfort for a lot of people (…) So if you can create less uncertainty of clarity about what is clear and what is unclear, it will help the most (R7). According to various respondents, a case manager is desirable to address and contribute to the emotional feeling of well-being of patients. A case manager has the possibility to get to know the patient and answer questions since they are considered to be easily approachable. Additionally, a case manager can contribute to decrease the uncertainty patients are dealing with (R1; R2; R4; R6; R7).

**Discrepancy:** The desired value of the topic addressing physical and emotional needs of the patient is to support the physical well-being of the patient by facilitating a child-friendly environment. Regarding to the emotional well-being of patients, the relationship between the patient and health professional is considered important to develop a clear picture of the patient, to give the patient a point of contact and it enables to decrease the uncertainty a patient is dealing with. A case manager is often mentioned as the appropriate person to support the emotional-well-being of the patients. The norm value corresponds to the desired value, so they do not show a notable discrepancy.

**4.2.8 Overview results patient-centred healthcare**

This table provides an overview of results of the topics of patient-centred healthcare. It summarizes the value of the plan and provides the norm value and discrepancy of every topic. A conclusion with respect to this gap will be provided in the next chapter of this research.

<table>
<thead>
<tr>
<th>topic</th>
<th>Value plan</th>
<th>Norm value</th>
<th>Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Genuine health professional-patient relationship</strong></td>
<td>The health professionals should be involved with the patient, to develop a trust relationship and the patient has the feeling that he or she is heard by the professional.</td>
<td>The health professional feels morally involved with the patient and is highly committed towards the treatment of the patient.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
<tr>
<td><strong>Open communication between patient and health professional</strong></td>
<td>A consult in which different involved health professionals are present, the online platform MijnRadboud and the provision of information via texts and brochures is considered desirable to support the open communication</td>
<td>There is informed consent of the patient regarding the treatment through open communication between patient and health professional.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
</tbody>
</table>
between patient and health professional besides the planned consults.

<table>
<thead>
<tr>
<th>Competent health professionals</th>
<th>Skilled and competent health professionals are considered as a prerequisite to provide the care, which should be guaranteed on microlevel.</th>
<th>Health professionals have appropriate skills and knowledge to provide the care.</th>
<th>The values do not show a notable discrepancy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration between health professionals</td>
<td>Working in multidisciplinary teams is considered desirable to enable the collaboration between health professionals by complementing each other and share information.</td>
<td>Critical information is accurately communicated between health professionals and they complement each other in the delivery of care.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
<tr>
<td>Autonomy of patient</td>
<td>the autonomy of the patient is considered as possessing the decision-power by the patient and loved ones to take a certain decision during the care process within the outlined possibilities. However, the extent to which the patient should or want to be involved is restricted in some cases due to several reasons.</td>
<td>A patient is treated as respected autonomous individual who is involved in decision-making to own will. However, the ability of a patient and loved ones should be taken into consideration.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
<tr>
<td>Customized care plan</td>
<td>The needs and values of the patient should be clearly addressed and implemented in the care plan.</td>
<td>Care plan is based on the patient’s individual needs and values.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
<tr>
<td>Addressing physical and emotional needs of patient</td>
<td>A child-friendly environment to support the physical well-being of the patient. Moreover, the relationship between the patient and health professional is considered important to develop a clear picture of the patient, to give the patient a point of contact for the patient and it enables to decrease the uncertainty a patient is dealing with.</td>
<td>A patient has a feeling of well-being, both physically and emotionally.</td>
<td>The values do not show a notable discrepancy.</td>
</tr>
</tbody>
</table>

Table 4.1 – Overview results patient-centred healthcare

4.3 Organizational structure

In the theoretical framework of this research, the concept organizational structure is explained by means of four structural characteristics. As mentioned in chapter three of this study, these
structural characteristics were used to collect data about the plan related to the organizational structure in order to obtain a clear overview about the proposed organizational structure of the Amalia kinderziekenhuis. In order to reveal the second indicated gap, and answer the second analytical related sub-question, the norm value of the topics based on literature will be presented. Subsequently, the value of the topics as formulated by the plan of the Amalia kinderziekenhuis will be explained. Finally, the discrepancy between the two values of every topic will be indicated.

4.3.1 Degree of functional concentration

Norm value: All operational tasks required for realizing an order are grouped together into one production-flow (the degree of functional concentration is low).

Value plan:

The domain childcare (figure 1) consists out of eight different patient areas (the orange marked flows at figure 1), which are divided into ± 57 care paths in total. A carepath is described as the trajectory form the diagnosis until the eventual intervention and aftercare of a disorder (R1; R2; R4; R5; R6; R9; D5). Several care paths show similar contents regarding the treatment process of a disorder. Moreover, as result of the comparable treatment processes of the care paths, multiple sub-specialisms are always involved together to treat the patients of a bundle of care paths (R1; R2; R4; D1; D4). This evolved collaboration between different sub-specialisms to provide multidisciplinary care, which is mentioned as a microsystem, was used to cluster different care paths into patient areas. A microsystem is defined as: “A collection of health professionals who are working in a care environment organized around a patient with a specific
disorder” (D1). These microsystems seemed appropriate to identify the different patient areas, as illustrated by the following quote: “Subsequently, we explored that if you watch the care paths, which players are involved, what is the microsystem, and than you discover that there arise groups of care paths in which the same players are involved. So, it is really developed from the perspective of the microsystem, to cluster them” (R4).

Moreover, two carepaths are indicated to provide the care which cannot be captured in a unique care path, like monodisciplinary care (the grey marked flows at figure 1). These are the clinical path (patient who stay at the hopital during the night) and the polyclinical path (patient who visit the clinic if they have an appointment). These two care paths are divided into a cutting path and a contemplative path, as shown in figure 1 (R2; R4; D1: D5).

The proposed organizational structure also shows a division of the provided care into low complex care (Value-added processes) and high complex care (Solution shop). The low complex care consists of the clinical and polyclinical path in which the provided care is considered as predictable and can be executed in a sequential order. The high complex care consists out of the eight indicated patient areas in which unpredictable care is provided (R1; R2; R4; R7; D4). The chronic care is allocated partly to the facilitated network in order to enable to deliver care in a consequent way (R2; R9; D4). Figure 2 shows an indication of the proposed organizational structure in which the low complex care is marked green, the high complex care orange and the chronic care blue.

As confirmed by all respondents, the grounding idea of the proposed organizational structure is that the provided care is organized around the patient, so the care process of the patient has a central place in the organization, as illustrated by the following quote: “In the design, we develop conditions to allocate all the childcare in the child hospital and to highlight the care
paths, to arrange that within the care paths, primarily, the care is built around that child” (R1). Hence, in the ideal situation, the care process of a patient is organized within one care path. This care path consists of the required facilities, such as operating rooms and beds for the patients but also the health professionals who are responsible for the provision of care. However, in practice, the plan of the proposed organizational structure indicates different limitations which inhibits the potential to enable the ideal situation in which the care process of a patient is executed within one flow. These limitations are discussed below.

Firstly, the hospital is bound to undividable facilities, like the operating rooms, which are shared between the care paths of the Amalia kinderziekenhuis, but also with the Radboudumc (R1; R3; R5; R6; R8; D3). To illustrate this, “The functional deconcentration, we have to deal with the boundaries, because we have expensive facilities, and you kind of hire them (...) so you cannot afford it to have it all deconcentrated into one flow” (R1). The undividable facilities cause that it is impossible to develop independent flows on patient area/care path level.

Secondly, the Amalia kinderziekenhuis is a small part of the Radboudumc, which results in a limit number of patients with a high variety of disorders (R1; R2; R4; R5; R7). “We are a mini-hospital in the big hospital and for everything in the hospital, you can allocate it to a department, but here, you have just two or three children of it (...) so we have 42 beds, complemented by 22 specialisms, so that is a complicated one how to organize it” (R5). Consequently, if the limited number of patients with a high variety of disorders are divided into ± 57 care paths, the number of patients who are allocated to a care path is minimal. This results, on average, into a small volume of patients of every care path (R1). Moreover, according to the plan, every care path will be managed by an employee who is in charge regarding the care path. Logically, this will result into ± 57 care paths managers who are responsible for the development and quality of the care path (R1; R2; R4; D4). It seems doubtful whether the high number of care paths with a low volume and numerous care path managers are desirable in practice since it can lead to inefficiency. Inefficiency of a patient area/care path should be avoided to enable the viability of the Amalia kinderziekenhuis (Achterbergh & Vriens, 2019). Therefore, the high number of proposed flows seems unachievable. It seems probable that the plan concerning this aspect will not be maintained after implementation which goes at the expense of the indicated flows.

Thirdly, according to the plan, several health professionals will become dedicated to one (or a few) patient areas/care paths. For instance, the policlinic assistants at the policlinic will become dedicated to a few patient areas, however, they should be able to work in every patient
area if necessary (R3; R9). In addition, the nurses and physician assistants working at the clinic will become dedicated to a few patient areas, nonetheless they also should still be able to work in every patient area (R2; R5; D1). The mentioned health professionals have a general profile, which provides opportunities for them to become dedicated to every patient area. However, due to the small number of patients who need to be treated in a single patient area/care path as explained before, they cannot be allocated to a single patient area (R1; R2; R4). Therefore, the policlinic assistants are allocated to the facility of the policlinic and the nurses are allocated to a nurse domain (R3; R5; D4). This results into an organizational structure based on quasi-flows because the treatment of a patient is structured over different departments, since the required health professionals are not allocated to one flow, or a patient area/care path. Moreover, a hospital also has multiple health professionals who have a specialized profile. Although the patient areas/care paths are organized from the perspective of the microsystems, various specialized health professionals are still bound to different patient areas/care paths (R4; R7; R8; R9). The health professionals are still functionally organized based on their specialism and ‘switch’ patient area/care path to execute their job. Again, the result is that the organization will be organized based on quasi-flows since the treatment of a patient is structured over the existing departments of the different specialisms.

Fourthly, another mentioned problem is the triage of the patients to determine in which patient area/care path the patient should be placed. This can be complicated if the diagnosis of the patient is not known yet. In addition, for some patients, the identification of the diagnosis can be hard to determine, which impedes the placement of a patient to a patient area. Furthermore, in practice, a patient is often being referred from another hospital or doctor to a sub-specialism, which determine the allocation of the patient in the Amalia kinderziekenhuis (R2; R4; R7). To illustrate this, “You could imagine that you have a central triage, to determine for everyone the possible care we have to deal with and subsequently to allocate them to the flows, but unfortunately it doesn’t work like that. People are referred from a peripheral hospital (…) and they refer immediately to a specialism” (R2). However, the referral can be wrong and so, the patient is placed in the wrong patient area/care path (R2; R4; R7). Hence, it can be complicated to allocate the (‘right’) patients to the indicated patient areas/care paths.

Discrepancy: The degree of functional concentration is high due to several limitations. Firstly, the undividable facilities limit the low degree of functional concentration since they have to be shared with several patient areas/care paths. Secondly, the volume of the patient areas/care paths are small which results in inefficiency. Therefore, it seems questionable whether this high
number of care paths, or flows, will be sustained in practice, which go at the expense of a low degree of functional concentration. Thirdly, the health professionals are allocated to a facility or department of their specialism which results into quasi-flows and therefore low degree of functional concentration. Fourthly, the allocation of the patients to the (‘right’) indicated patient areas/care paths can be complicated which can go at the expense of the usefulness of the indicated flows and consequently a low degree of functional concentration.

### 4.3.2 Degree of differentiation of operational tasks

**Norm value:** The operational tasks contain make, prepare and support sub-tasks (the degree of differentiation of operational tasks is low).

**Value plan:** The proposed organizational structure contains facilities which support the primary process, the treatment of patients. One main facility concerns the policlinic which provide, for example, rooms and policlinic assistants to support the consults. Another main facility concerns the clinic which provides, for example, the beds for the patients and nurses who take care of the patients at the clinic. The medical specialists are allocated to the different departments. The facilities of the policlinic and clinic and the departments support all the provided care at the Amalia kinderziekenhuis. Other facilities, such as the operating rooms, are shared with the Radboudumc as well (R1; R2; R3; R4; R5; D3). This model based on the facilities has been chosen to enable the efficiency of the provided care, which is considered as a must nowadays (R1; R2; R3; R4; R5). For instance, the rooms of the policlinic can be ‘hired’ for the provision of all childcare and the beds of the clinic can be ‘reserved’ for all patients of the Amalia kinderziekenhuis. However, the division of the care into facilities has different consequences for the organization of the care process of a patient.

Firstly, the ‘hiring’ of the facilities of the policlinic and the ‘reservation’ of the beds at the clinic require a multitude of interactions with the different facilities to enable the treatment of a patient during the care process. Moreover, the policlinic and clinic facilitate all patients which concern a high number of patients with a high variety of disorders, and additionally, a high number of involved health professionals (R1; R2; R3; R5). Consequently, the variability of the content of the interactions is high as well.

Secondly, as confirmed by all respondents, the planning of the delivery of care is still functionally organized in the departments of every specialism which requires a multitude of interactions in order to organize the treatment of a patient with a multidisciplinary disorder. Therefore, as part of the plan, they launched the idea of a central planning office: “We are busy
with the establishment of a central planning office so people work closely together and do not have to call each other, or can replace each other but also understand each other” (R5). The central planning office will become another facility in which the planning of the Amalia kinderziekenhuis in its entirety will be arranged: “The planning will become a central facility, which should not be part of the patient areas. It is just like a department, like the OK department, you need a planning office as well. It is comparable to a travel agency, and all the questions related to the planning, ideally for the operating rooms or an admission or a multidisciplinary meeting, everything will be arranged” (R4). The train of thought is that the employees of the planning office will develop a better understanding of other facilities and departments in the hospital which result into a better collaboration between them. Moreover, different appointments related to different facilities of departments can be better aligned since the employees of the planning office interact more easily (R1; R2; R3; R4; R5).

However, several respondents who are part of the primary process doubt whether the idea of the central planning office will work out well. They think that it will result in lots of mistakes since many employees are responsible for the planning of all patients. Furthermore, the health professionals argued that they may not know anymore who to address regarding the planning, due to the high number of employees who are responsible for the planning in total. Moreover, they are afraid that they lose track about the planning of the patients they are treating since they may lose mandate to add something in the agenda by themselves. Moreover, health professionals’ preferences regarding the planning of a care process might be (unintentionally) neglected (R6; R7; R8; R9).

As confirmed by some respondents, if the planning will be centrally organized, a lot of interactions are needed due to the high number of employees at the planning office and the high number of patients and involved health professionals who have to make use of the central planning office. Moreover, the variability of the interactions will be high as well since it concerns all patients with a high variety of disorders.

Discrepancy: The degree of differentiation of operational tasks is high. The supporting and preparing tasks of the primary process will be organized from other facilities, like the rooms for a consult, beds for patients to stay or the planning of an appointment. Moreover, every facility is responsible for all the patients of the Amalia kinderziekenhuis. This requires a high number of interactions with a high variability in order to organize the treatment of a patient.
4.3.3 Degree of specialization of operational tasks

Norm value: Different sub-tasks are integrated into one task (the degree of specialization of operational tasks is low).

Value plan: In the plan regarding to the policlinic, the policlinic assistants are going to fulfil a large role concerning the guidance of the patients. The policlinic assistant executes various sub-tasks concerning the patient’s appointment at the policlinic such as to undress and dress the children, to weigh the children, to perform control measurement and to provide information if necessary (R3; R9). The number of interactions needed to facilitate the consult of a patient is limited since one policlinic assistant realizes a main part of the consult. Moreover, just one policlinic assistant has to interact with the health professional(s) with whom the patient has an appointment with.

Regarding the clinic of the Amalia kinderziekenhuis, the task of the Physician Assistant will be enlarged. They will be responsible for a specific patient group, like the patient areas, who stay at the clinic (D1). The Physician Assistants become dedicated to a few patient areas, in which they possess knowledge to inform patients and give explanations regarding the specific patient areas (R5). The Physician Assistants will be the point of contact for other health professionals who are involved in the corresponding patient areas so they will have a key position in the organization. This results in a minimal number of interactions. Despite the provision of (multidisciplinary) care can require a lot of involved health professionals, the number of interactions and variability is reduced due to the expanded role of the physician assistant.

According to the plan, nurse specialists are, if possible, allocated to a care path in which they provide a large part of the care of a patient. Their jobs contain a lot of sub-tasks, such as consults with patients, provision of information and prescription of medicines. Furthermore, they will fulfil a key position in the organization, since they are considered as the point of contact for the patient, but for other health professionals as well (R4; R5; R7; R8; R9). Since the nurse specialist provides multiple sub-tasks related to the care of a patient and is considered as a central point regarding the treatment of a patient, the required interactions related to the care process of a patient are reduced.

Discrepancy: The degree of specialization of operational tasks is relatively low. Although multiple health professionals are often involved due to the provision of multidisciplinary care, the number of involved health professionals in key positions related to the treatment of a patient
are reduced in the plan. The policlinic assistants, physician assistants and nurse specialists will have an enlarged task since different sub-tasks are integrated into the job. This reduction of the involved health professionals leads to a lesser amount of required interactions with a high variability.

4.3.4 Degree of separation

*Norm value:* All tasks contain both operational and regulatory sub-tasks (the degree of separation is low).

*Value plan:* According to the plan, the autonomy of the health professional is considered important. They want to design the Microsystems in such a way that the health professionals have regulatory potential within the microsystem (D3). However, the control structure of the proposed organizational structure has not been developed yet: “We state in our end-model that autonomy is very important in dedicated teams, it also fits in the academic setting to give people responsibility. I think it happens currently on own estimate, but how to organize it, I don’t know yet (...) We have not written it down so far” (R2).

However, it is questionable if a high level of regulatory potential within the microsystem, or department or facility, is adequate to deal with the disturbances they face as result of the organizational structure based on quasi-flows. The high degree of functional concentration forces to interact with other department or facilities, which leads to a high number of interactions with a high variability. To illustrate this, “If something goes wrong in the process, for instance, the planning, I would like it if they could solve it themselves. And I expect that they are currently dependent of an opaque forest of elements, planning office, interest of the clinic, interest of colleague X, and they have no influence on it at all” (R1). Regardless of the regulatory potential they have within their department or facility, they still have to deal with a multitude of interactions outside the department or facility, for which the regulatory potential is not adequate. Therefore, a high degree of functional concentration inhibits to have a low degree of separation.

In order to illustrate this conditional inhibition of the degree of separation, the role of the nurse specialist will be used as proposed in the plan. The nurse specialist is often considered as the manager of the care path and responsible to ensure the quality of the particular care path according to the plan (D3). However, several respondents argue that the nurse specialist might not have the possibility to execute this task well. They often have the possibility to arrange it well for the specialism which they are related to. However, they can experience difficulties
regarding the regulation of their job if multiple specialisms are involved, because the required medical specialisms are not allocated to the same department (R6; R7; R8; R9). To illustrate this, “For nurses [nurse specialists] it can be hard sometimes to have a control position because one doctor calls this and the other ones something else and they are in between that” (R7). Therefore, the multitude of interactions with a high variability needed to organize the care outside the department inhibits to provide the care of a patient or ensure the quality of the care path, regardless of the level of regulatory potential a nurse specialist has within the department.

It is plausible that this limitation to execute the nurse specialist’s task well, also applies to other functions within the child hospital.

**Discrepancy:** The degree of separation is indicated as high. The proposed organizational structure does not provide a design related to the control structure of the Amalia kinderziekenhuis yet. Although the intention of the plan is to give the health professionals an adequate level of regulatory potential, the degree of functional concentration is high which inhibits the degree of separation to be low.

### 4.3.5 Overview results organizational structure

This table provides an overview of the structural characteristics of organizational structure. It summarizes the value of the plan and provides the norm values and discrepancy. A conclusion regarding this gap will be provided in the next chapter of this research.

<table>
<thead>
<tr>
<th>Degree of functional concentration</th>
<th>Value plan</th>
<th>Norm value</th>
<th>Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The degree of functional concentration is high due to several limitations. Firstly, the undividable facilities are shared with several patient areas/care paths. Secondly, the volume of the patient areas/care paths are small which results in inefficiency. Thirdly, the health professionals are allocated to a facility or department of their specialism which results into quasi-flows. Fourthly, the the allocation of the patients to the (‘right’) indicated patient areas/care paths can be complicated which can go at the</td>
<td>All operational tasks required for realizing an order are grouped together into one production-flow (the degree of functional concentration is low).</td>
<td>The values show a high discrepancy.</td>
</tr>
</tbody>
</table>
expense of the usefulness of the indicated flows.

| Degree of differentiation of operational tasks | The degree of differentiation of operational tasks is high. The supporting and preparing tasks of the primary process will be organized from other facilities, like the rooms for a consult, beds for patients to stay or the planning of an appointment. Moreover, every facility is responsible for all the patients of the Amalia kinderziekenhuis. | The operational tasks contain make, prepare and support sub-tasks (the degree of differentiation of operational tasks is low). | The values show a high discrepancy. |
| Degree of specialization of operational tasks | The degree of specialization of operational tasks is relatively low. The policlinic assistants, physician assistants and nurse specialists will have an enlarged task since different sub-tasks are integrated into the task. | Different sub-tasks are integrated into one task (the degree of specialization of operational tasks is low). | The values do not show a notable discrepancy. |
| Degree of separation | The degree of separation is indicated as high. The proposed organizational structure does not provide a design related to the control structure. Although the intention of the plan is to give the health professionals an adequate level of regulatory potential, the degree of functional concentration is high which inhibits the degree of separation to be low. | All tasks contain both operational and regulatory sub-tasks (the degree of separation is low). | The values show a high discrepancy. |

Table 4.2 – Overview results organizational structure

4.4 Relationship between patient-centred healthcare and organizational structure
This section aims to highlight in what way the proposed organizational structure contributes or inhibits the potential to enable the delivery of patient-centred healthcare. In order to explain this relationship, the indicated discrepancies of the topics of patient-centred healthcare and the structural characteristics will be combined. Since this research is deductive, the analysis is based on the outlined relationship between patient-centred healthcare and organizational structure which is developed in the theoretical framework of this study. Moreover, it is complemented by information of the respondents in order to illustrate the outlined relationship.
4.4.1 Degree of functional concentration

The initial plan contains the grounding idea of capturing the care process of a patient within one flow, so the care is built around the child. However, the organization has to deal with several limitations which leads to quasi-flows and consequently to a high degree of functional concentration. Consequently, it goes at the expense to enable the delivery of patient-centred healthcare.

The relationship between patient and health professional

In order to develop a genuine relationship between the patient and health professional, various respondents consider it as important to have recurrent meetings with patients and to intensify the contact between a limited number of health professionals (R1; R2; R3; R5; R6; R7; R9). However, as result of the quasi-flows, the probability that various health professionals with a similar profession are involved with the care process of a patient is high since they are not allocated to one flow in which the patient is treated. The patient interacts with several health professional which inhibits the possibility to develop a genuine health professional–patient relationship between a limited number of health professionals.

Moreover, the open communication between the patient and health professionals can be disturbed due to the quasi-flows. A high number of interactions are required between different health professionals of the different departments and facilities and the patient, which leads to a high probability of disturbances. Consequently, it might result in a fragmented provision of information (R1; R3; R5; R7). Moreover, various respondents mentioned that it is desirable to have a combined consult with different involved health professionals. However, this requires a multitude of interactions in order to organize this since they are not allocated to the same flow and therefore a team of health professionals (R1; R3; R7; R8; R9).

The collaboration between health professionals to enable the delivery of multidisciplinary care can be inhibited due to the quasi-flows as well. Since the different health professionals are still allocated to a department or facility, it becomes more difficult, to communicate and collaborate with health professionals, and especially between health professionals of different professions, of other facilities and departments (R1; R6; R8; R9). This can impede the grounding idea of placing the patient in a central position as illustrated by the following quote: “The multidisciplinary meeting will be within the care path with the involved disciplines, but we see the habits, to be functionally concentrated. So the pediatrician transfer information with the pediatricians, the surgeons transfer with the surgeons and they transfer
the surgical knowledge and not necessarily the patient’s needs of the child with all the disciplines involved” (R1).

Regarding the topic competent health professionals, it is considered desirable to allocate the responsibility of skilled and competent health professionals to the patient areas (R2; R3; R4; R5; R8; R9; D2). However, if the proposed organizational structure is designed based on quasi-flows, it might have consequences for the allocation of the responsibility concerning the skilled and competent health professionals since the involved health professionals are divided over the organization and not actually bound to one patient area. Therefore, the guarantee of skilled and competent health professional might not be ensured.

**Patient participation and involvement**

The autonomy of the patient can be restricted due to the organization design based on quasi-flows. All respondents consider the provision of information important to enable the involvement of the patient. Several respondents argued that the patient should take a decision based on a clear outline of the different possibilities (R2; R4; R5; R6; R8). However, due to the allocation of the involved health professionals to different departments and facilities, it requires a lot of interactions and consequently a high probability of disturbances to develop a clear overview of all the information regarding the care process of a patient. This may inhibit the possibility of the patient to make a well-deliberated decision. To illustrate this, “I always ask firstly what they consider as important. Actually, I always ask what they have understood of the other consults because sometimes people visit so many doctors (...) and I have all the information bundled in the dossier, and it often shows another picture of what they have understood (R7).

Regarding the topic customized care plan, it is considered desirable by all respondents and a provided document (D2) that the care should be organized around the patient in order to deliver care according to patients’ needs and values within the possibilities of the hospital. However, due to the quasi-flows, the care process is divided over different departments and facilities which makes it more complicated to align the developed care plan between the different departments and facilities (R6; R8). It requires a high number of interactions with a high varied content which leads to a high probability of disturbances.

Furthermore, to address the physical and emotional needs of a patient, it is considered important by several health professionals to develop a relationship between the patient and health professional to develop a clear picture, to give the patient a point of contact and to decrease the uncertainty a patient is dealing with (R1; R2; R4; R6; R7; R9). As pointed out
before, quasi-flows are associated with a lot of required interactions which leads to a high probability of disturbances. This may inhibit the potential to enable the mentioned conditions in order to address the physical and emotional needs.

4.4.2 Degree of differentiation of operational tasks

The proposed organizational structure uses facilities in order to support the primary process of the organization, the treatment of patients. However, due to the division of the different tasks into the facilities, a multitude of interactions are needed to organize the delivery of care which results in a high degree of differentiation of operational tasks. This inhibits the potential to enable the delivery of patient-centred healthcare in different manners.

The relationship between patient and health professional

Working in multidisciplinary teams is considered as valuable to facilitate the collaboration between health professionals, according to multiple respondents (R1; R2; R4; R5; R6; R7; R8; R9). However, the organization’s ability to enable the collaboration between health professionals can be disturbed if the planning is organized centrally. The planners, who are together responsible for the total planning, might not be aware of all the different processes, arrangements, meetings and dependencies in which different health professionals and patients are involved. This might lead to a high probability of mistakes regarding the planning (R6; R7; R8; R9). To illustrate this, “the philosophy is that it is useful if everyone can do everything. But the consequence is that people are doing things of which they have no knowledge. Overlook things, plan things wrong. It leads to frustration of parents and patients, to frustration of health professionals” (R9). A possible consequence, which is implied by several respondents, might be that the involved health professionals arrange different meetings via the informal way because it is more effective than via the formal way, the central planning office (R7; R8; R9). Another result of the organizational structure divided into facilities will be that the competences of the health professionals might not be guaranteed. As mentioned previously, the responsibility of the skilled and competent health professionals is allocated to patient areas (R2; R3; R4; R5; R8; R9; D2). However, the patient’s care process is divided over different facilities. Therefore, the guarantee of skilled and competent health professionals must be ensured at different locations within the organization which requires a multitude of interactions and consequently a high probability of disturbances.
Patient participation and involvement

If the central planning office will work out well, it should be beneficial for the autonomy of the patient since the patients only have to deal with one facility to organize the care aligned to their preferences within the possibilities of the hospital (R3; R4; R5; R6). However, since the degree of differentiation is high, the probability that the central planning office causes a lot of mistakes is high. If these mistakes regarding the planning have to be corrected afterwards, without the involvement of the patient, it can go at the expense of the autonomy of the patient (R6).

In addition, in order to develop a customized care plan, a multitude of interactions with a high variability are needed to align the different facilities and corresponding health professionals according to the patient’s needs and values, due to the different facilities which provide the care process of the patient. This reasoning corresponds to the topic to address the physical and emotional needs of the patient, since different facilities should be involved to enable the well-being of the patient which requires a multitude of interactions with a high varied content.

4.4.3 Degree of specialization of operational tasks

In general, the health professionals fulfil different sub-tasks within their job. This results in a reduced number of health professionals which are involved in the treatment of a patient. Hence, the degree of specialization of operational tasks is relatively low, which contributes to the potential to enable the delivery of patient-centred healthcare.

The relationship between patient and health professional

The respondents consider it as valuable to have recurrent meetings with a patient with a limited number of health professionals in order to develop a genuine health professional-patient relationship (R5; R6; R8; R9), as illustrated by the following quote “Everyone has much more to offer, it is also nice to be more involved in a close way, because the next time you recognize the child and the parents. And you know, that contributes to the pleasure in the job, and that pleasure feel and see people immediately” (R9). Since the role of different health professionals will increase due to task enlargement, they interact with the patient concerning a relatively extensive part of the care process which enables the possibility to feel more involved with the patient.

Moreover, the task enlargement of different health professionals contributes to the open communication between the patient and health professional since they interact with the patient for a relatively extensive part of the treatment. The patient has to communicate with less
health professionals which contributes to the unambiguous provision of information and offers the patient to ask questions related to different topics regarding the treatment (R7; R9).

Furthermore, concerning the collaboration between health professionals, one health professional is responsible for a relatively extensive part of the care process which reduces the number of involved health professionals and consequently the required interactions needed to enable the collaboration between them. In addition, the competences of the health professionals are more optimally used, since they are responsible for a relatively extensive part of the care process according to their qualifications. This will mobilize them to learn and develop themselves since they execute different sub-tasks (R8; R9).

The role of case manager as pointed out in the plan, often mentioned as a nurse specialist, is considered as the point of contact for the patient and other involved health professionals. As mentioned by all respondents, the task enlargement of for instance a nurse specialist, contributes to execute the role of case manager since they can more easily develop a genuine relationship with a patient and facilitate the communication between the patient and health professionals. In addition, a case manager can enable the collaboration between the health professionals since he or she can fulfil a key position to facilitate and coordinate the collaboration.

Patient participation and involvement
The task enlargement of several health professionals might result in a smaller number of involved health professionals. Therefore, the provision of information will be more unambiguous. This enables the involvement of the patient which results in a higher autonomy of the patient. As result of the limited number of health professionals, the delivery of the customized care plan is easier to align due to the less required interactions. Moreover, the physical and emotional needs can be more easily addressed since the conditions of the well-being of a patient can be better recognized. The health professionals get more engaged with the patients since they execute a relatively extensive part of the treatment (R6; R8; R9).

4.4.4 Degree of separation
The proposed organizational structure did not develop the control structure yet. Although the intention of the plan is to give the health professionals an adequate level of regulatory potential, the degree of functional concentration is high which inhibits the degree of separation to be low. Hence, this inhibits the potential to enable the delivery of patient-centred healthcare in different ways.
The relationship between patient and health professional

As result of the organizational structured based on quasi-flows, the health professionals might be inhibited to execute their job well since they are dependent on other actors in the organization, which are part of another facility of department. Although they have a high level of regulatory potential within their facility or department, this is not adequate to deal with the high number of interactions with a high variability with other departments or facilities. This inhibits health professionals to regulate their job well, which might go at the expense of the competence of health professionals. The competences cannot be used in an optimal way because, for instance, they are not able to solve disturbances they face at work (R1; R5; R7). Furthermore, the responsibility of skilled and competent health professionals is allocated to the patient areas (D2). However, they should have the possibility to enable the conditions to ensure skilled and competent health professionals. This seems not self-evident as result of the high degree of functional concentration.

Moreover, the job content of the nurse specialist has been changed in the plan due to task enlargement. They are going to fulfil a key position in which they facilitate the collaboration between health professionals. However, as result of the high degree of functional concentration, the involved health professionals are divided over the different facilities and departments. It is hard to regulate the collaboration between the health professionals due to the high number of interactions with a high variability, regardless of the level of regulatory potential. This could inhibit the collaboration between health professionals (R5; R7; R8; R9). To illustrate this, “I often notice that nurse specialists are bound to a particular specialism (…), so they can arrange it well for their piece, but they have a lack of influence on what happens outside [the department], so I think that we can arrange that a way more efficient if they can develop the care path and have the possibility to ask people to join [to be part of the care path]” (R7).

Patient participation and involvement

As mentioned previously, as result of the organizational structure based on quasi-flows, the care process of a patient is divided over different departments or facilities. This makes it complicated for health professionals to organize the care in the interest of the patient. Their regulatory potential within the department or facility is not adequate to interact with all the involved actors in order to align the care to the patient’s customized care plan or the physical and emotional needs of the patient. Moreover, it restricts to facilitate the autonomy of the patient (R3; R5;
R6; R7; R9). To illustrate this, “If we want to structurally adapt it [an aspect of the provision of care] and everybody agree, we can organize it well. However, if some people still think he or she can do it on their own way, then, we cannot improve it” (R5).

4.4.5 Overview results relation patient-centred healthcare and organizational structure

The table below provides an overview of the relationship between the topics of patient-centred healthcare and the structural characteristics. It shows which topics contributes (C), inhibits (I), do not have an effect (-), do not indicate a notable effect (?) or indicate a conditional inhibition as result of a high degree of functional concentration (c.i.) by the different topics of the proposed organizational structure to enable the delivery of patient-centred healthcare. A conclusion with respect to this outlined relationship will be provided in the next chapter of this study.

<table>
<thead>
<tr>
<th></th>
<th>Degree of functional concentration</th>
<th>Degree of differentiation of operational tasks</th>
<th>Degree of specialization of operational tasks</th>
<th>Degree of separation</th>
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<tbody>
<tr>
<td>Genuine health professional-patient relationship</td>
<td>I</td>
<td>-</td>
<td>C</td>
<td>?</td>
</tr>
<tr>
<td>Open communication between patient and health professional</td>
<td>I</td>
<td>-</td>
<td>C</td>
<td>?</td>
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<tr>
<td>Competent health professionals</td>
<td>I</td>
<td>I</td>
<td>C</td>
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<tr>
<td>Collaboration between health professionals</td>
<td>I</td>
<td>I</td>
<td>C</td>
<td>c.i.</td>
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<tr>
<td>Autonomy of patient</td>
<td>I</td>
<td>I</td>
<td>C</td>
<td>c.i.</td>
</tr>
<tr>
<td>Customized care plan</td>
<td>I</td>
<td>I</td>
<td>C</td>
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</tr>
<tr>
<td>Addressing physical and emotional needs</td>
<td>I</td>
<td>I</td>
<td>C</td>
<td>c.i.</td>
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Table 4.3 - Overview results gap between patient-centred healthcare and organizational structure
Chapter 5 – Conclusion & Discussion

5.1 Introduction
This chapter aims to answer the main question of this research: “To what extent does the proposed organizational structure enable the delivery of patient-centred healthcare at the Amalia kinderziekenhuis?”. The objective of this study was to provide a plan evaluation of the proposed organizational structure which aims to enable the delivery of patient-centred healthcare. Moreover, the discussion regarding this research will be outlined.

Section 5.2 will provide an answer to the main question of this research based on the outlined results in chapter four of this research. Section 5.3 illustrates the solution space of this study with respect to the structural characteristics which inhibit the potential to enable the delivery of patient-centred healthcare. Section 5.4 provides recommendations concerning the organizational structure of the Amalia kinderziekenhuis, which is aimed at increasing the extent to which the proposed organizational structure enables the delivery of patient-centred healthcare. Section 5.5 provides the practical implications and section 5.6 outlines the theoretical contribution. Section 5.7 provides the reflection of this study. Finally, section 5.8 discusses directions for further research.

5.2 Conclusion
As outlined in the introduction of this research, two gaps were indicated in order to execute the plan evaluation. Both gaps were revealed in chapter four of this study and will be summarized below in order to provide a conclusion regarding the gap, thereby answering the main question of this research.

Gap patient-centred healthcare
The first gap entails the difference between the desired situation of patient-centred healthcare according to the plan of the Amalia kinderziekenhuis and patient-centred healthcare as formulated by literature. As outlined in chapter four of this study, the norm values and values of the plan did not show a notable difference. Therefore, it can be concluded that the interpretation of patient-centred healthcare according to the Amalia kinderziekenhuis corresponds to the interpretation of patient-centred healthcare according to literature. As result of this resemblance, it can be stated that the requirements needed to enable the delivery of patient-centred healthcare are in line with the interpretation of both the Amalia kinderziekenhuis and literature. Therefore, the structural characteristics which were used to
enable the delivery of patient-centred healthcare were appropriate in order to enable the desired interpretation of the delivery of patient-centred healthcare according to the Amalia kinderziekenhuis.

Gap organizational structure

The second gap was indicated as the difference between the structural characteristics of the proposed organizational structure, according to the plan of the Amalia kinderziekenhuis, and the structural characteristics of an organizational structure needed to enable the delivery of patient-centred healthcare based on literature. As shown in chapter four of this study, three of the four indicated structural characteristics show a notable difference between the norm value and the value of the plan, which were: the degree of functional concentration, the degree of differentiation of operational tasks and the degree of separation. The discrepancy between the indicated values of these three structural characteristics and the corresponding norm values will be explained in the next section of this chapter.

As indicated in the theoretical framework of this research, if the structural characteristics correspond to their norm value, they enable the delivery of patient-centred healthcare. However, since three of the four structural characteristics deviate from this norm value, it can be concluded that the proposed organizational structure of the Amalia kinderziekenhuis enables the delivery of patient-centred healthcare to a small extent.

5.3 Solution space

Chapter four illustrated in what way the structural characteristics, which deviate from the norm value, inhibit the potential to enable the delivery of multiple topics of patient-centred healthcare. This section will outline these structural characteristics to develop recommendations in the next section of this chapter in order to improve the proposed organizational structure.

The structural characteristic degree of functional concentration inhibits the potential to enable the delivery of all topics of patient-centred healthcare since the organizational structure is built upon quasi-flows. This results in a high probability of disturbances due to numerous relations with a varied content. The degree of functional concentration should be reduced for enabling the delivery of patient-centred healthcare. Recommendations aimed at reducing the degree of functional concentration will be provided in the next section.

The structural characteristic degree of differentiation of operational tasks inhibits the potential to enable the delivery of patient-centred healthcare for the following topics: competent health professionals, collaboration between health professionals, autonomy of patient,
customized care plan and addressing physical and emotional needs. Due to the organization design based on facilities, the different tasks are divided over the facilities. Therefore, a lot of interactions are needed to treat the patients, which leads to a high probability of disturbances. In order to reduce the probability of disturbances and increase the potential to enable the delivery of patient-centred healthcare, the numerous required interactions should be reduced. The next section of this study will provide recommendations in order to reduce the degree of differentiation of operational tasks. The topics genuine health professional- patient relationship and open communication between patient and health professional do not show a notable effect. However, these topics are not influenced by this structural characteristic, as already indicated in the theoretical framework of this research.

As indicated in chapter four of this study, due to a high degree of the structural characteristic functional concentration, the structural characteristic degree of separation will be high as well. Therefore, the degree of separation inhibits the potential to enable the delivery of patient-centred healthcare for the following topics: competent health professionals, collaboration between health professionals, autonomy of patient, customized care plan and addressing physical and emotional needs. Due to the proposed organizational structure based on quasi-flows, health professionals have to deal with a high number of interactions, characterized by a high content variability, regardless of the level of regulatory potential they have within their facility or department. This leads to a high probability of disturbances. In order to increase the potential to enable the delivery of patient-centred healthcare, the degree of functional concentration should be reduced. Subsequently, a control structure with a low degree of separation should be developed. Recommendations regarding this structural characteristic will be provided in the next section. The topics genuine health professional- patient relationship and open communication between patient and health professional did not indicate a notable effect according to the results of this study. This might be the result of the limited data regarding this structural characteristic since the proposed organizational structure does not provide a control structure yet. Therefore, it can be possible that these topics are (conditional) affected by this structural characteristic, even though the results of this study do not show or imply it.

5.4 Recommendations

The recommendations regarding the proposed organizational structure will be based on the previous outlined solution space of this research. Moreover, de Sitters’ Sociotechnical Design Theory (1994) is used, as outlined in the theoretical framework of this study, in order to provide the recommendations. This theory stated that an organizational structure should attenuate the
amount of disturbances and amplify the regulatory potential. These recommendations aim to increase the extent to which the proposed organizational structure of the Amalia kinderziekenhuis enables the delivery of patient-centred healthcare.

*Increase the degree of utilization capacity of flows*

The organization design proposed ± 57 care paths which are divided over eight patient areas. These provided care consists of complex care (solution shop). It was indicated that this division leads to a low volume of every care path which can lead to inefficiency. In order to enable the viability of the Amalia kinderziekenhuis, inefficiency of a patient area/ care path should be avoided (Achterbergh & Vriens, 2019). Therefore, the provided care of the Amalia kinderziekenhuis should be divided into less flows which will result in a higher degree of utilization capacity of every flow. Since the division based on microsystems and disorders seems too precise to be viable, other possibilities to cluster the provided care should be explored. An option might be to divide the provided care based on processes. Although the treatment regarding different disorder seems incomparable, several processes of a treatment show similarities which can be used as a starting point in order to cluster the provided care. Another option might be to still use the content of the provided care as starting point, but to have a rougher distribution of the provided care to end up with less patient areas. This should result in a higher degree of utilization capacity which is required in order to be viable.

*Allocation of health professionals to flows*

The health professionals are allocated to several facilities or departments of their specialism. This results into quasi-flows because the treatment of a patient is structured over different departments. In order to have an organizational structure based on flows, the required health professionals should be allocated to one flow. As mentioned previously, the indicated patient areas/care paths are too small to allocate health professionals to. Therefore, the division of the complex care should be divided into less flows so health professionals can be allocated to a flow. However, some health professionals with a specialized profile, like a pediatrician, cannot be allocated to a flow since they provide care for a high variety of treatments. Therefore, the health professionals should be allocated to a flow to the highest possible extent, so the division of the health professionals over different facilities and departments is as limited as possible.
Division of facilities into dedicated teams

The facilities (such as the clinic and the policlinic) are responsible for supporting the treatments of all patients of the Amalia kinderziekenhuis. A multitude of interactions with a high variability are required in order to organize the provision of care. In the ideal situation, the facilities should be divided and allocated to the indicated flows because it reduces the required interactions in order to deliver the care. However, the model based on facilities was used to ensure the efficiency, and so, the proposed ideal situation seems unachievable. Therefore, a probable solution might be that the facilities will be divided into dedicated teams, which are part of the facilities, but responsible for a flow. This limits the variability of the interactions to a certain extent and therefore the probability of disturbances.

The same applies to the idea of a central planning office in which the planning for all patients will be organized by one facility. A central planning facility will result into a high number of required interactions with a high variability in order to organize the planning. Therefore, it would be ideal if the planning will be allocated to the flows, however it is questionable if this can be achieved. Hence, a probable solution might be that the central planning office will be divided into dedicated teams, so a limited number of employees are responsible for the planning of an indicated flow.

Develop a control structure based on the proposed production structure

The control structure of the organizational structure has not been developed yet. However, it is indicated that a low degree of functional concentration is a prerequisite to enable health professionals to have the possibility to regulate. Therefore, it is recommended to adapt the proposed organizational structure in order to achieve a low degree of functional concentration (see recommendations above). Subsequently, an aligned control structure should be developed in which the health professionals have an adequate level of regulatory potential.

Focus on regulatory potential of key positions

The role of some health professionals, nurse specialists and physician assistants are mentioned explicitly, will change in the plan due to task enlargement. They are going to fulfill a key position in the organization since they will be the point of contact for the patients and other involved health professionals. This corresponds to a high number of interactions with a high variability. In order to deal with all these interactions, they need regulatory potential in order to execute their task well. Conversely, if they have a lack of regulatory potential, it will lead to a high probability of disturbances due to their key position in the organization and care process of a
patient. Therefore, it is recommended to have an explicit focus on the regulatory potential of health professionals who will fulfil a key position in the organization during the development of the control structure.

5.5 Practical implications

This study provided a plan evaluation about the proposed organizational structure of the Amalia kinderziekenhuis in order to enable the delivery of patient-centred healthcare. Several recommendations were outlined (Section 5.4) in order to improve the proposed organizational structure which can contribute to a successful implementation of the plan. As mentioned previously, the Amalia kinderziekenhuis is part of the Radboudumc. The Radboudumc is dealing with a comparable reorganization, and therefore, the improved plan can be used as input to propose an organizational structure for the Radboudumc. Moreover, this study aimed to support the delivery of patient-centred healthcare by evaluating a proposed organizational structure and therefore delivered a contribution to the societal value of providing high quality healthcare.

Furthermore, an important insight which this study highlights is the importance of the structural characteristic degree of functional concentration which can be considered as a prerequisite for the other indicated structural characteristics. Without a low value of the degree of functional concentration, and therefore an organization based on quasi-flows or functional departments, it is hard to enable a low value of the other indicated structural characteristics. This outcome is explicitly outlined regarding the degree of separation in this study. This insight should be taken into consideration during the development of the organizational structure of a hospital.

5.6 Theoretical contribution

Literature offers several insights into the design of hospitals in order to provide high quality healthcare. Moreover, the concept of patient-centred healthcare is described in multiple studies (Kitson, Marshall, Bassett, & Zeitz, 2012). However, a focus on conceptualizing how to implement patient-centred healthcare into the structural design of hospitals is considered as a gap in literature (Fix, Van Deusen Lukas, Bolton, Hill, Mueller, LaVela, & Bokhour, 2018; Patel et al., 2018). This study aimed to enrich literature regarding this gap and provided insight into what organizational structure can enable the delivery of patient-centred healthcare. In order to enrich the literature, the Sociotechnical Design Theory of de Sitter (1994) was used as the
design theory to develop an adequate organizational structure. Since this theory does not focus on the design of hospitals, it was complemented by care specific design theories. Moreover, the concept of patient-centred healthcare was divided into several topics in order to describe patient-centred healthcare. Subsequently, the relationship between organizational structure and patient-centred healthcare was explained.

Another contribution which this research offers, is the insight regarding the limitations of patient-centred healthcare. The interpretation of patient-centred healthcare according to the employees of the Amalia kinderziekenhuis did not show a discrepancy regarding the interpretation of patient-centred healthcare according to literature. However, this study shows that the way how to express or execute this perspective by health professionals is restricted due to several reasons. Firstly, all respondents agree about the provision of an open communication between a patient and health professional. However, it is mentioned that not all patients are able or willing to take the effort to get informed via certain information channels due to several reasons. In addition, employees of the child hospital do not know explicitly how to improve the provision of information towards the patient. Besides this, the hospital has to deal with administrative limitations which restrict the open communication between a patient and health professionals. To illustrate this, the organization of a multidisciplinary meeting between health professionals and patients is restricted due to the use of a DBC (diagnosis treatment code) imposed by the insurer, which is required to enable a consultation.

Secondly, another limitation concerns the autonomy of the patient. As already indicated in literature, patient and loved ones are not always willing or able to be involved in the own care process, which should be taken into account by health professionals. However, health professionals seem to be responsible to determine what level of involvement a patient and loved ones can handle. The determination about the limit of the level of involvement a patient and loved ones should have, cannot be influenced by the patient and loved ones, and consequently impair the initial autonomy of a patient and loved ones as formulated by the concept of patient-centred healthcare.

5.7 Reflection

5.7.1 Methodological reflection

The quality criteria of Guba and Lincoln (1989) were used to discuss the quality of this research (see Chapter 3). However, this research has several limitations which are of importance to highlight.
Firstly, the concept of patient-centred healthcare is considered as a broad concept in literature. This could have implications in measuring the interpretation of patient-centred healthcare according the plan of the Amalia kinderziekenhuis accurately. In order to deal with this implication, the interviews consisted of open-ended questions in order to obtain a comprehensive insight regarding this concept. Moreover, the desired interpretation of every respondent was outlined for every topic in the data-matrix and complemented by an additional topic which did not fit in the conceptualization of the developed topics. In addition, it was complemented by documents regarding the plan (Appendix V).

Secondly, the respondents could have developed a personal interpretation of the proposed organizational structure which might have given a distorted picture of the plan. In order to tackle this limitation, the different data sources were compared using the developed data-matrix to enable the development of an unambiguous elaboration of the plan.

Thirdly, regarding patient-centred healthcare, this study only takes into consideration the perspectives of employees of the Amalia kinderziekenhuis. The involvement of patients and loves ones could have improved the quality of this research. However, since this research provided a plan evaluation of the proposed organizational structure, the respondents must have been aware of the plan in order to provide valuable information regarding the aim of this research. Therefore, patients and loved ones were excluded as participants for the interviews.

5.7.2 Theoretical reflection

This research deals with several limitations regarding the development of the theoretical framework which might have implicated the quality of this research.

Firstly, the concept of patient-centred healthcare is used in this research because the Amalia kinderziekenhuis started a reorganization to improve the delivery of patient-centred healthcare. This concept has a focus on the patient, but the parents or other loved ones are not taken into account explicitly. However, they are often involved in the care process of the patients to a great extent, due to the young age of a lot of patients who are not yet able to decide for themselves. Therefore, a comparable concept, family-centred care, seems to fit the context better of this research which concerned a child hospital. The concept is described as follows: “Family centred care is a way of caring for children and their families within health services which ensures that care is planned around the whole family, not just the individual child/person, and in which all the family members are recognized as care recipients” (Shields, Pratt & Hunter, 2006, p. 1317). However, the effectiveness of the concept of family-centred care is not known yet and no single definition of this concept exists (Shields, Pratt & Hunter, 2006).
Moreover, the concept of patient-centred healthcare is most embedded in the literature regarding the placement of the patient at the centre of the care delivery (McCance, McCormack & Dewing, 2011). Therefore, the concept of patient-centred healthcare is considered most suitable regarding this study.

Secondly, this study used the Sociotechnical Design Theory of de Sitter (1994). The argumentation for the selection of this design theory is outlined in the theoretical framework of this research. However, this design theory does not focus explicitly on the design of hospitals. In order to tackle this limitation, the studies of Christensen et al. (2009) and Bohmer (2009), which both focus on the healthcare context, were used to complement the chosen design theory. De Sitter’s design theory did not provide a care specific interpretation of the structural characteristic degree of functional concentration. However, Christensen et al. (2009) and Bohmer (2009) discuss the de-concentration of the provision of care, and therefore, enrich the Sociotechnical Design Theory regarding the degree of functional concentration. The theory of Christensen et al. (2009) does not discuss the other structural characteristics as outlined by de Sitter (1994). Additionally, the theory of Bohmer (2009) barely discusses them. However, the structural characteristics are considered important in order to develop an adequate organizational structure. Hence, the Sociotechnical Design Theory and the care-related theories of Christensen et al. and Bohmer complemented each other in order to develop a theoretical framework which was applicable in achieving the aim of this research.

5.7.3 Role of the researcher

The role of the researcher and the interactions with the research object might have influenced both the research processes and outcomes. Therefore, it is important to be aware of the researchers’ role in order to acknowledge how the research could be affected by it (Symon & Cassell, 2012). Regarding this study, the researcher prejudice about the design of a hospital was that there should be an optimal way to develop an organizational structure in order to enable the delivery of high quality healthcare. However, the researcher had no experience in the design of hospitals and was not aware about the relatively high level of influence of other matters, such as politics and policies, and therefore started this research fairly blank. After the first meetings with the supervisor of the hospitals and the first interviews with respondents it turned out that, although the employees have the best intentions, the child hospital has to deal with several challenges which limit their possibilities to deliver the highest possible quality of care. These new understandings regarding the possibilities of a hospital design revised the perspective of
the researcher and this was taken into consideration during the progress of this study and the
development of the recommendations.

Moreover, another prejudice of the researcher was that patients and loved ones are always willing to be up-to-date and involved in the own care process. However, it turned out in literature and during interviews with respondents that not all patients and loved ones are willing or able to have this high level of involvement. This altered the perspective of the researcher into a more realistic perspective regarding the involvement of patients. This surprise was expressed by the researcher during several interviews, which resulted in more illustrations by the respondents to explain this matter.

5.8 Directions for further research
This research indicates several directions for further research. Firstly, the perspective of patients regarding patient-centred healthcare of the Amalia kinderziekenhuis should be taken into account in order to compare it to the perspective of the employees and discover if the right interpretation is taken to align the proposed organizational structure with.

Secondly, the improved proposed organizational structure of the Amalia kinderziekenhuis should be re-evaluated and improved even further. Subsequently, it should be evaluated after implementation as well to investigate if the desired results are achieved.

Thirdly, it would be valuable to further investigate in what way a hospital should be designed in order to enable the delivery patient-centred healthcare. Further research might enable the development of a blueprint of an hospital’s organization design which enables the delivery of patient-centred healthcare.
References


Labuschagne, A. (2003). Qualitative research—airy fairy or fundamental? The qualitative report, 8(1), 100-103.


# Appendices

**Appendix I: Overview used documents**

<table>
<thead>
<tr>
<th>Title</th>
<th>Reference</th>
<th>Length</th>
<th>Patient-centred healthcare</th>
<th>Organizational structure</th>
</tr>
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<tr>
<td>Het Amalia kinderziekenhuis: Toelichting bij de One Paper Strategie 2019</td>
<td>D1</td>
<td>p. 55</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Strategie inhoudelijk keuzes: implicaties voor het Amalia kinderziekenhuis</td>
<td>D2</td>
<td>p. 104</td>
<td></td>
<td>X</td>
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<tr>
<td>Het Amalia kinderziekenhuis: Strategie, keuzes, ontwerp en praktijk</td>
<td>D3</td>
<td>p. 50</td>
<td></td>
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<td>Praktijk concept inrichting zorgdomeinen</td>
<td>D4</td>
<td>p. 15</td>
<td></td>
<td>X</td>
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<tr>
<td>Het Amalia kinderziekenhuis: Aandachtspunten en Versnelkansen</td>
<td>D5</td>
<td>p. 9</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*The documents are available upon request.*
Appendix II: Interview guide

Ten eerste wil ik u hartelijk bedanken dat u mee wilt werken aan het onderzoek. Het Amalia kinderziekenhuis verkeert op dit moment in een reorganisatie met als doel om patiënt- en familie gerichte zorg te verbeteren. Hiervoor is een organisatiestructuur ontwikkeld. Deze organisatiestructuur is nog niet geïmplementeerd. Met dit onderzoek zal de ontwikkelde organisatiestructuur geëvalueerd worden ten behoeve van patiëntgerichte zorg. Ik zou graag met u in gesprek gaan over hoe patiëntgerichte zorg in het Amalia kinderziekenhuis eruit moet komen te zien in de gewenste situatie en hoe de ontwikkelde organisatiestructuur is opgebouwd volgens het plan.

Zoals ik bij de uitnodiging al heb aangegeven zullen de resultaten strikt vertrouwelijk behandeld worden. Bij uw goedkeuring zal het gesprek worden opgenomen en de uitgewerkte versie hiervan kan ik naar u opsturen.

Het interview zal ongeveer een uur duren. Mocht u tussendoor vragen hebben, schaam niet om deze tussentijds te stellen.

Algemene vragen:
- Wat is uw functie in het Amalia kinderziekenhuis?
- Wat is uw rol met betrekking tot de reorganisatie?

Inhoudelijke vragen:
- Hoe ziet patiëntgerichte zorg eruit in de gewenste situatie in het Amalia kinderziekenhuis volgens het plan?

*The relationship between the patient and health professional*

Ik zou nu graag willen inzoomen op de relatie tussen de patiënt en de zorgprofessional. Het gaat wederom wat u als de gewenste situatie zou zien in het Amalia kinderziekenhuis met betrekking tot de topics.

1. **Persoonlijke relatie:** Hoe zou de relatie eruit moeten zien tussen de patiënt en de zorgprofessional in de gewenste situatie in het Amalia kinderziekenhuis?
2. **‘Informed consent’ patiënt:** Op wat voor manier zou de informatieverstrekking moeten plaatsvinden, zodat de patiënt op de hoogte is van de voor- en nadelen van een medische behandeling alvorens de behandeling wordt ondergaan, in de gewenste situatie in het Amalia kinderziekenhuis?
3. **Mogelijkheid tot delen informatie vanuit patiënt:** Hoe zou de communicatie tussen de patiënt en de zorgprofessionals eruit moeten zien in de gewenste situatie in het Amalia kinderziekenhuis?

4. **Kennis en vaardigheden zorgprofessionals:** Op wat voor manier zouden de kennis en competenties van de zorgprofessionals gewaarborgd moeten worden in de gewenste situatie in het Amalia kinderziekenhuis?

5. **Informatiedeling tussen zorgprofessionals:** Hoe zou het accuraat delen van informatie eruit tussen zorgprofessionals eruit moeten zien in de gewenste situatie in het Amalia kinderziekenhuis?

6. **Leveren multidisciplinaire zorg:** Hoe moet de samenwerking tussen de zorgprofessionals eruitzien om multidisciplinaire zorg te kunnen leveren in de gewenste situatie in het Amalia kinderziekenhuis?

7. **Eenduidige informatie richting patiënt:** Op wat voor manier moet de informatievoorziening richting patiënten vormgeven worden in de gewenste situatie in het Amalia kinderziekenhuis?

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*Patient participation and involvement*

Ik heb nu een beeld gekregen hoe patiëntgerichte zorg eruit zou moeten zien. Ik zou nog graag een paar topics verder willen bespreken, te beginnen met topics gerelateerd aan patiëntparticipatie en de betrokkenheid van de patiënt in het eigen zorgproces. Ik zou graag willen weten wat de gewenste situatie zou zijn in het Amalia kinderziekenhuis met betrekking tot de topics.

8. **Betrokkenheid individu:** Hoe zou de betrokkenheid van een individuele patiënt eruit moeten zien in de gewenste situatie in het Amalia kinderziekenhuis?

9. **Begrijpelijke informatievoorziening richting patiënt:** Op wat voor manier wordt de patiënt op de hoogte gehouden van het eigen zorgproces door de zorgprofessionals in de gewenste situatie in het Amalia kinderziekenhuis?

10. **Participatie patiënt in beslissingsproces:** Op wat voor manier zou de patiënt deel moeten nemen aan het beslissingsproces rondom het eigen zorgplan in de gewenste situatie in het Amalia kinderziekenhuis?

11. **Afstemming zorgplan op wensen individu:** Hoe zou de afstemming met betrekking tot het zorgplan en de wensen van het individu eruit moeten zien in de gewenste situatie in het Amalia kinderziekenhuis?
12. **Gevoel van welzijn van patiënt**: Hoe zou een gevoel van welzijn gecreëerd moeten worden, zowel vanuit fysiek als emotioneel perspectief, in de gewenste situatie in het Amalia kinderziekenhuis?

Het Amalia kinderziekenhuis heeft een organisatiestructuur ontwikkeld met als doel om patiëntgerichte zorg te leveren. Deze organisatiestructuur is nog niet (volledig) geïmplementeerd. Ik zou nu graag het plan met betrekking tot de organisatiestructuur met u willen bespreken aan de hand van een aantal topics.

**Level of functional concentration**

13. **Groepering van taken**: De organisatiestructuur is opgedeeld in ‘flows’. Wat verstaat u onder een ‘flow’ en waaruit bestaat dit?

14. **Verdeling behandelingen**: Op basis van welke eigenschappen is het onderscheid tussen de ‘flows’ gemaakt?

15. **Mate van interactie**: In hoeverre is een zorgprofessional werkzaam binnen één ‘flow’ en gekoppeld aan de behandeling van een patiënt?

16. **Mate van interactie**: Wat voor interactie is er nodig met andere partijen, buiten de ‘flow’ waar de patiënt aan is toegewezen, om het zorgproces van een patiënt uit te voeren?

**Level of differentiation of operational transformations**

17. **Soorten activiteiten**: Wat voor ondersteunende en voorbereidende activiteiten zijn er nodig naast het daadwerkelijk uitvoeren van een behandeling?

18. **Inhoud operationele transformatie**: In hoeverre zijn de ondersteunende en voorbereidende activiteiten samengevoegd binnen één ‘flow’?

19. **Mate van interactie**: Wat voor interactie is er nodig met andere partijen buiten de ‘flow’ met betrekking tot de ondersteunende en voorbereidende activiteiten?

20. **Mate van interactie**: Hebben de partijen die betrekking hebben op de ondersteunende en voorbereidende activiteiten van een behandeling en zich buiten de flow bevinden, ook interactie met andere ‘flows’ of partijen?

**Level of specialization of operational transformations**
21. **Inhoud van taak:** Als een behandeling globaal opgedeeld wordt in de diagnose, keuze van behandeling, behandeling zelf en effect van behandeling, in hoeverre zijn de zorgprofessionals betrokken bij het gehele proces?

22. **Mate van afhankelijkheid tussen betrokken werknemers:** Op wat voor manier zijn de zorgprofessionals afhankelijk van elkaar bij het uitvoeren van een behandeling?

23. **Mate van interactie:** Wat voor interactie is er nodig tussen de zorgprofessionals om een behandeling uit te voeren (multidisciplinair overleg etc.)?

*Level of separation between operational and regulatory transformations*

24. **Operationele regulatie:** Zorgprofessionals kunnen verstoringen ervaringen in het primaire proces waarin zij werkzaam zijn. Hoe kunnen de zorgprofessionals omgaan met problemen die zij ervaren in het primaire proces?

25. **Ontwerp regulatie:** Zorgprofessionals hebben mogelijk ideeën over hoe de werkzaamheden anders kunnen worden ingericht zodat zij hun werk beter kunnen uitoefenen. Op wat voor manier worden de zorgprofessionals de mogelijkheid geboden om structurele veranderingen aan te brengen aan de inrichting van hun werk?

26. **Strategische regulatie:** Veranderingen in de omgeving kunnen invloed hebben op hoe het werk ingericht zou moeten worden. Hoe kunnen zorgprofessionals invloed uitoefenen op de strategische keuzes van het Amalia kinderziekenhuis die betrekking hebben op het uitoefenen van het werk?

27. **Mate van interactie:** Indien de zorgprofessionals niet zelf de regelmogelijkheden hebben om te gaan met verstoringen tijdens het werk, wat voor interactie is er nodig met andere partijen om zaken waar zorgprofessionals tegen aan lopen op te lossen?

We hebben nu de gewenste situatie besproken van patiëntgerichte zorg in het Amalia kinderziekenhuis en vervolgens hoe de ontwikkelde organisatiestructuur is opgebouwd volgens het plan. Ik heb nu nog een aantal vragen over de relatie tussen de gewenste situatie van patiëntgerichte zorg en de ontwikkelde organisatiestructuur.

- Waarom zal de ontwikkelde structuur bijdragen aan het leveren van patiëntgerichte zorg?
- Welke eventuele problemen voorziet u met betrekking tot de ontwikkelde organisatiestructuur?
- Op wat voor manier zou er omgegaan kunnen worden met deze eventuele problemen?
Appendix III: Research diary – interviews
This document is not included in this study because of confidentiality reasons.

Appendix IV: Transcripts of interviews
This document is not included in this study because of confidentiality reasons.

Appendix V: Data-matrix
This document is not included in this study because of confidentiality reasons.