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Overcoming barriers to multidisciplinary collaboration in healthcare

The influence of boundary spanning activities on overcoming barriers to multidisciplinary collaboration in healthcare.

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PREFACE

Before you lies the final product of my master Management of Governance Networks at the Erasmus University Rotterdam. It is the result of four years of studying and remarks the end my study days.
Just like establishing collaboration, the writing of this thesis did not completely go as planned and was a messy and emergent process. But with the support and help of some people I could finish my research and write my thesis to this final version. Therefore, I want to thank the people that contributed to the writing of my thesis. First of all, I'd like to thank dr. van Meerkerk, my first supervisor, for this feedback, tips and support. The research process did not always go smoothly, and many concept versions of this thesis were created before this one. But with the enthusiasm of dr. van Meerkerk and of course the good advices, I was inspired to keep working on the research and finish my thesis in time. I also would like to thank all people involved in my research. These are of course all the respondents that were so kind to take time and participate in an interview. But also the contact persons that received my interview request and guided me to the right people. Without the cooperation of these people, there would have been no thesis at all, so many thanks! Who also contributed to this thesis is Sarah Rach, my supervisor from my internship at DRIFT. Before my internship I had no clue what to write my thesis about and I was greatly inspired during my time at DRIFT. I also learned a lot about conducting interviews and am grateful for the opportunity to do my internship there. Then for the finishing of my thesis I would like to thank dr. Molenveld, who was so kind to provide feedback on my thesis on very short notice. These last comments helped with the final improvements and made this thesis as it is now. Then finally, I would like to give some special thanks to my family and friends. I could always count on them for a listening ear, support and encouragement and overall confidence in my ability to finish this thesis. Thank you all a lot!

Enjoy reading!

Franka Blok

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SUMMARY

This thesis researches the influence of boundary spanning on overcoming barriers to multidisciplinary collaboration in healthcare. By executing a comparative case study, three collaborations in healthcare were analysed to identify possible linkages between executed boundary spanning activities and overcoming barriers to collaboration. The cases on which this study focused were (1) health care centre De Zorgmolen, (2) nursing home Oranjestein and (3) the centre for social support Centrum Maatschappelijke Ondersteuning. In order to examine the relation between boundary spanning activities, barriers to collaboration and multidisciplinary collaboration, four types of boundary spanning activities and five barriers to collaboration have been identified in literature, as well as seven stages of multidisciplinary collaboration. As there was no clear theory about the effects of boundary spanning activities on overcoming barriers to collaboration, a conceptual model was created by merging existing theories.

Data was obtained by interviews with health care providers from various disciplines. An analysis of the data showed that barriers to collaboration do hamper collaboration and that boundary spanning activities have some influence in overcoming these barriers. Besides, the boundary spanning activities have an effect on the interaction in a collaboration, which then influences the stage of collaboration. It was concluded that that boundary spanning activities in general help overcome barriers, although the research could not reveal in which specific ways. Furthermore, it was concluded that the different barriers to collaboration are not related to specific stages of collaboration. Adding to the existing literature, this study identified three new barriers to collaboration in healthcare, these being rules and regulations from the national government, individual work ethic and age. Lastly, the study revealed the interesting finding that having scheduled moments for collaboration has a positive influence on the stage of collaboration.

These conclusions led to the creation of recommendations for both the collaborations that were researched in the study and for the literature. Possible areas for further research include the importance of interaction in collaborations, possibly in relation to boundary spanning, the three newly identified barriers, the influence of structured communication in contrast to very ad hoc communication, and the specific ways in which boundary spanning helps overcoming barriers to collaboration.

Key concepts: **multidisciplinary collaboration, boundary spanning activities, barriers, healthcare, seven stages of collaboration.**

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1 INTRODUCTION

'In the Netherlands, we are getting healthier and sicker at the same time' (Polder et al., 2012: p.127). Healthier, because we are getting older than ever before and sicker because there are more people with chronic illnesses or other diagnoses (Polder et al., 2012). These developments call for a change in the health care provision. The aging population requires commitment not only to care, but also to welfare in order to maintain a good quality of life, despite illnesses and limitations. More commitment to welfare calls for better cooperation between healthcare professionals and between healthcare professionals and welfare professionals (RIVM, 2018). The increase of illnesses and complex diagnosis requires an integrated approach, in which many different parties are involved. Broad collaboration is needed in the healthcare sector (RIVM, 2018).

Thus, collaboration in health case is becoming more and more important. Because the demand for care is becoming increasingly complex, often several care providers are involved in the care of the same patients (Brabers et al., 2012). In order to provide a good quality of care, an integrated approach is needed (RIVM, 2018). Also, according to the Bruno Bruins, Minister of medical care and sports, *'Developments such as aging and rising healthcare costs require a strong first line and a multidisciplinary approach'* (Bruins, 14 June 2018). For this, collaboration between health care professionals is essential (Brabers et al., 2012).
Now, many health care provisions are fragmented, and collaboration only occurs ad hoc (Ministerie van Volksgezondheid, Welzijn en Sport, 2013). It is also not easy to establish a multidisciplinary collaboration, because bringing together different types of expertise is difficult and can cause problems for collaboration (Hsiao et al., 2012) such as professionals speaking different professional languages (Fewster-Thuente & Velsor-Friedrich, 2008). This can cause barriers to establishing collaboration.

Prior research has shown that boundary spanning can play a role in achieving successful integration of multidisciplinary knowledge (Ratcheva, 2009). And that there is an increased prevalence of boundary spanning practices as collaboration occurs more frequently (Needham et al., 2017). It is even proposed that boundary spanning is inherent to leadership in healthcare (Chreim et al., 2013). Boundary spanning could thus play a role in establishing collaboration in healthcare.

The need for multidisciplinary collaboration in healthcare, the presence of barriers to this collaboration and the possible positive effect of boundary spanning activities in collaboration are the motivation of this study.

1.1 Research Question

This research tries to combine the abovementioned aspects and connect boundary spanning activities to overcoming barriers to multidisciplinary collaboration in healthcare. The research question of this thesis is as follows:

What is the influence of boundary spanning on overcoming barriers to multidisciplinary collaboration in healthcare?

The purpose of this research is to examine and explain if boundary spanning activities have an influence on overcoming barriers to multidisciplinary collaboration in health care. In order to answer the research question, a comparative case study has been executed. By means of semi-structured interviews and a document analysis, data has been collected about three cases in which health care providers from different disciplines in primary care work together. The obtained data has then been analysed by means of coding. Finally, a comparison of the three cases provided some insights to the influence of boundary spanning on overcoming barriers to multidisciplinary collaboration in health care.

The research made use of several theoretical and empirical sub questions in order to systematically answer the main research question. The theoretical sub questions are:

- *What is multidisciplinary collaboration in healthcare and what types of collaboration exist?*
- *How does multidisciplinary collaboration evolve?*
- *What boundaries between healthcare disciplines can be distinguished?*
- *What barriers to collaboration in healthcare can be distinguished?*
- *What is boundary-spanning and who are boundary spanners?*
- *What kind of boundary spanning activities can be distinguished?*

The empirical sub questions of this research are:

- *To what extend has multidisciplinary collaboration been realized in the 3 cases?*
- *What are experienced barriers to collaboration within the 3 cases?*
- *What boundary spanning activities have been executed in the 3 cases?*
- *How do the experienced barriers influence the multidisciplinary collaboration?*
- *How do the executed boundary spanning activities influence the collaboration and the experienced barriers to collaboration?*

The theoretical sub questions have been answered by a review of existing literature in the theoretical framework in Chapter 2 (page 11). Concepts that were discussed include different kinds of collaboration within healthcare, different stages of collaboration, barriers to collaboration and boundary spanning activities.
The empirical sub questions then applied the theoretical knowledge from the first five questions to the three cases. At first, of each case it was determined in which stage of collaboration it was. Then, the different barriers to collaboration that they faced and that have been overcome have been described. Next, it was discussed what boundary spanning activities have been executed.

Finally, the stage of collaboration, experienced barriers and executed boundary spanning activities have been connected to each other and the cases were compared, in order to gain insights in the influence of boundary spanning on overcoming barriers to multidisciplinary collaboration in health care.

1.2 RELEVANCE

Both the scientific and the social relevance of the study will be explained below.

1.2.1 Scientific relevance

Traditionally, boundary spanning was mostly looked at from an institutional and organizational level (Williams, 2002). This research will contribute to the body of research on activities performed by boundary spanners, in this case on multidisciplinary collaboration. The link between interventions of boundary spanners and collective performance has yet little evidence (Williams, 2010), this research seeks to test this relationship. More specifically, the influence of boundary spanning activities on overcoming specific barriers to collaboration in health care has not been researched before and this study will contribute that subject to the literature.
Furthermore, looking at collaborations within the health care sector, this research does not focus itself solely on the public or the private sector but has to do with both. The existing literature on boundary spanning is more focused and integrated in the private sector, than in the public sector (Williams, 2010). This research attempts to create insights in the working of boundary spanning in the health care sector, crossing both domains. Thereby taking into account the mechanisms of market thinking, delineated markets and financial cost-benefit analysis from the private sector, and various social, administrational and professional values and interests from the public sector (Delden, 2009).
Concluding, this research will test the existing theories of the influence of boundary spanning on collaboration. Besides, it will provide insights on the possible influence of boundary spanning activities on barriers to collaboration. This all will be researched in the context of multidisciplinary collaboration in health care and from a public administration perspective.

1.2.2 Social relevance

Problems in health care are becoming more and more complex, and interdisciplinary collaboration has increasingly been regarded as necessary to solve these problems (D'Amour et al., 2005). Another change has been the decentralization of health care provision in the Netherlands, which made that municipalities now have to reorganize the health care provision. This had led to a division of the Dutch health care sector in an expanding collection of providers, creating an increasingly bigger and more pluriform health care sector (Delden, 2009). In order to help municipalities arranging the decentralized health care, the Dutch government has published an e-book *Gezonde Wijk in Praktijk- Ervaringen en tips wijkgerichte aanpak* [EN: healthy neighbourhood in practice- experiences and tips for a neighbourhood-oriented approach]. However, there is no specific focus on the role or influence of boundary spanning

in this. Insights into the mechanisms that allow for multidisciplinary collaboration could contribute to the establishment of stable multidisciplinary networks between different health care actors. Knowledge on how to practice this collaboration is important for both healthcare regulators, managers and practitioners (Meier, 2015).

1.3 Reading guide

This research will explore and explain the influence of boundary spanning activities on overcoming barriers to multidisciplinary health care collaborations. In order to do so, first in Chapter 2, the theoretical framework will be presented. There the concepts of multidisciplinary collaboration, barriers to collaboration and boundary spanning activities will be discussed. Next in Chapter 3, the methodological choices of this study will be explained. In the analysis in Chapter 4, the results of the data collection will be shown, after which they are analysed on possible links and connections. Lastly, in Chapter 5, conclusions will be drawn, and the study will be discussed. Also, recommendations for both literature and the participating organizations will be provided.

2 THEORETICAL FRAMEWORK

This theoretical framework will provide an overview of the existing literature about multidisciplinary collaboration and boundary spanning in the field of healthcare.

2.1 MULTIDISCIPLINARY COLLABORATION

The nowadays increasingly complex health problems are creating many interdependencies among health care professionals (D'Amour et al., 2005). To tackle these problems, collaboration of various actors from multiple disciplines is necessary (Meier, 2015; D'Amour et al., 2005). This multidisciplinary collaboration, or interprofessional care, is defined by Health Force Ontario (2007: p.7) as "*the provision of comprehensive health services to patients by multiple health caregivers who work collaboratively to deliver quality care within and across settings.*" It implicates collective action towards a shared goal, in a situation of harmony and trust (D'Amour et al., 2005). Disciplines within the primary healthcare are for example general practitioners, physiotherapists and social workers (Konings, 2010). Primary care then is characterized by the fact that patients can visit the practitioners and receive the care without a referral (Rijksoverheid, n.d.). A broader definition of disciplines within the primary care also includes other professional disciplines in the social domain, such as debt councillors or social support workers (Caluwé & Vlekkert, 2017). For the research, this broad definition will be used.

Collaborations in health care are established in the expectation that bundling knowledge and experience of different professionals will lead to better interventions than separate actions (Delden, 2011). Besides, the collaborations are important for moving forward and creating successes (Berg & Maas, 2013). Because multidisciplinary projects bring together ideas, tools and people from different domains, they could lead to innovative solutions (Cummings & Kiesler, 2005). This need for multidisciplinary collaboration is also emphasized by Noordegraaf and Siderius (2016), who come up with the term 'organizing professionalism' as a new model of professionalism. With this, they point to the collaboration between disciplines and professionals in teams, crossing the traditional borders of their own domains. In that way, professionals connect with other professionals, actors in the organization, clients and citizens, external stakeholders and various other actors such as journalists and inspections (Noordegraaf & Siderius, 2016).

When collaboration is being established, different kinds of collaboration and different stages of collaboration can be distinguished. These will be explained in the next two paragraphs.

2.1.1 Kinds of healthcare collaboration

Within the primary care, there are different kinds of collaborations that can be distinguished. As Konings (2010) describes it, in the Netherlands four types of collaboration are common within primary care. These are *collaboration on the base of coordination agreements, working*

together on a project base, supply chain collaboration and *establishing a (new) primary care organization.*
The first kind of collaboration is collaboration on the base of coordination agreements. The ambition of this kind of collaboration is to get an overview of which participants have what specific skills, and to find each other easily when there are questions about patients that exceed each individual specialist's knowledge. Established referral procedures and procedures for reporting back are common in coordination agreements.
The second kind of collaboration is working together on a project base. In this situation, the collaboration has clear goals and a predetermined end date. This kind of collaboration usually takes place in complex, non-routine processes that need sufficient time to reach a certain common goal. The efforts of all the included disciplines are needed to eventually reach this joint goal.
The third kind of collaboration is the supply chain collaboration. A healthcare supply chain collaboration entails a collaboration between different healthcare providers and -organizations who are dependent on each other for improving the care. Characteristics of this kind of collaboration are that it is a group performance in which various specialisms are needed in order to improve the health care provision. The partners can stay independent or form a new organization and there might be a common budget. There are clear agreements and the partners adjust their work methods to connect to each other's practices.
The fourth and last kind of collaboration that has been distinguished is a establishing a new primary care organization, such as a health care centre, multidisciplinary care group or a chain collaboration organization.

Depending on the goals and ambitions of the collaborating health care providers, and also the care requests and characteristics of the patient groups, a certain kind of collaboration is chosen (Konings, 2010).

2.1.2 Seven stages of collaboration

Besides different kinds of collaboration, there are also different stages a collaboration can be in. There range from none or minimal collaboration to very intense collaboration and even merging together organizations. Various scholars have come up with typologies for the extents in which actors work together. This is mostly described using a multiple stage approach to collaboration. The stages *cooperation, coordination* and *collaboration* identified by Peterson (1991), *networking, cooperation, coordination, coalition* and *collaboration* by Hogue (1993), *cooperation, coordination, collaboration and coadunation* of Bailey and Koney (2000) and *networking, cooperating, partnering, merging* and *unifying* of Gajda (2004) are combined by Frey et al. (2006) to a Seven-stage model. This model also suits the 'five C's of interorganisational relationship forms' *competition, cooperation, coordination, collaboration,* and *consolidation* as identified by Keast (2016). The model of Frey et al. (2006) is shown in Figure 1 on the next page.

Figure 1: The 7-stage model

The seven stages of the model are *coexistence, communication, cooperation, coordination, coalition, collaboration and coadunation*.

In the stage of coexistence, different organizations exist separately from each other and don't interact.
In the communication stage, the relations between actors are quite loose. The organizations that are involved are aware of organization, but this organization is not very strict. Roles are loosely defined and there is little communication. All decisions are made independently from other actors.
In the cooperation stage, information between actors is provided to each other. Roles are somewhat defined, more than in the stage of communication. There is formal communication between actors, but still all decisions are made independently.
At the coordination stage, the step has been taken to share information and resources with each other. Roles are defined, and communication takes place frequently. There is some shared decision making, but not all decisions are made together.
A coalition exists when parties involved share ideas and resources, have frequent and prioritized communication, and decision making is organized in a way that all members have a vote in it.
Collaboration takes it to the next level, with having the members all belonging to the same system. There is frequent communication, which is characterized by mutual trust between the parties. Decision making is then organized by means of consensus.
In the stage of coadunation, the different organisations merge together to one organization (Frey et al., 2006).

Reasoning from the abovementioned seven stage model to collaboration, the higher the stage of collaboration that that a collaboration is in, the more intensively the actors collaborate with each other. It is however not that it is always desirable to reach the highest stage of collaboration (coadunation). Since various kinds of collaboration have different goals and characteristics, they do not all desire reaching the highest stage possible. As the goal of a collaboration is to share knowledge across disciplines, but the participants want to keep working independently from each other, a more moderate stage of collaboration would be fitting. Some kinds of collaboration could even work better in lower stages, as in the lower stages of collaboration, investments in the collaboration such as time and energy (Heinemann & Zeiss, 2002) and needed resources (Lasker et al., 2001), are also lower than in the higher stages (Heinemann & Zeiss, 2002). The stage of the collaboration is thus not a determinant of the quality of the collaboration, just of the extent of the collaboration. It is then dependent on the goal of the collaboration and the efforts that participants are willing to put in, which of the seven stages of collaboration would be most fitting in a particular case.

Remarkable in literature about collaboration is that the numerous definitions of collaboration in health care all mention some concepts repeatedly (D'Amour et al., 2005). These were *sharing, partnership, interdependency, power* and *process.* These concepts will thus be merged with the beforementioned theory and serve as indicators for collaboration in paragraph 2.8: Operationalization. The five concepts concerning collaboration are explained in the literary review of D'Amour et al. (2005) as follows. *Sharing* can consist of shared responsibilities, shared decision-making, shared health care philosophy, shared values, shared data, shared planning and intervention or shared professional perspectives. The second concept is that of *partnership*. This implies two or more actors joining a collaborative undertaking, characterized by an authentic and constructive, collegial-like relationship. To accomplish that, open and honest communication are needed, as are trust and respect. Actors should be aware of the value of others' contributions and pursue the same set of common goals. Thirdly, *interdependency* is connected to collaboration. This implies mutual dependence between professionals, based on the common desire to address the patient's needs. Synergy emerges when team members become aware of their interdependencies and join in collective action. The fourth concept is that of conceived shared *power* among the actors. This can be in the form of an alliance. The power of actors is a product of interactions and the relation between actors and based on their knowledge and experience, rather than on their functions or titles (D'Amour et al., 2005). Although power can also be deducted from formal systems (Laschinger et al., 1999) and power in decision-making power and authority are also recognized (Committee on Bioethics, 1995). However, power can't be separated from the relationship in which it is exercised, and collaborative action is required to maintain symmetry in power relations. The last concept related to collaboration is that of *process.* Collaboration is seen as an evolving process, a dynamic and interactive process, a transforming process, an interpersonal process and the structuring of collective action. Concrete steps of the process include negotiation and compromise in decision-making and shared planning and intervention. In the collaborative process, professional boundaries have to be crossed to enable each actor to contribute to the health care provision.

However, collaboration almost never evolves as planned, it is a messy and emergent process. Understanding this process is crucial to successfully managing multidisciplinary collaborations (Keast, 2016). Multidisciplinary collaboration in the health sector is not something new (Nemeth et al. 2008). In the Netherlands there are already health centres in which different disciplines in the first line work together (Delden, 2009). But, substantive collaboration is not conventional, although there is a clear need for it (Delden, 2009). Besides, the complexity of contemporary problems leads to potential gaps in coordination both within and across organizations and disciplines (Nemeth et al. 2008). But maybe the most important barrier to collaboration are the boundaries between the different disciplines.

2.2 BOUNDARIES

Members from different disciplines often find it difficult to work together (Xyrichis & Lowton, 2008). Collaboration can be a challenge, because the actors all actors have different backgrounds, different interests and different values. This can create diverging perceptions

regarding common issues and possible solutions for problems (Aarts & Woerkum, 2002). Besides, different health professionals have had different education and thus are used to the theoretical and discipline-based frameworks of their own profession (D'Amour et al., 2005). So, each participant can have a different view on the collaboration. As everyone then has a different reason for collaborating, trust should be built in order to create agreements, determine a common goal for the collaboration and decide on actions to take (Eriksson et al., 2010). Reason for this is that within the collaboration, actors are dependent on each other, and there is often a mutual dependency. So, actions of one actor influence the others, and every participant is needed in order to reach the goal of the collaboration (Grey, 1985). As collaboration requires time, energy and money, and the results are often unpredictable, members of the collaboration should all believe in the added value that the collaboration will bring about, and put in the needed resources (Konings, 2010). Besides, taking part in a collaboration often means losing (part of) its own autonomy (Konings, 2010). Which can be challenging if some organizations will remain more power than others (D'Amour et al., 2008). Another challenge for collaborating actors are the management styles between organizations or within disciplines, which can create unclarity about responsibilities and accountabilities (Johnson et al., 2003).

These challenges make it difficult to collaborate. They create boundaries between the organizations or the people in the organizations (Xyrichis & Lowton, 2008). For collaboration and interaction, it important that the professionals create an understanding for each other and integrate their individual realities (Klijn & Koppenjan, 2016). Therefore, they need to work across their own boundaries (Cummings & Kiesler, 2005). Boundaries then are the distinctions among people and groups (Zietsma & Lawrence, 2010). They defy the entities involved in the collaboration (Schotter et al., 2017).

There are various types of boundaries to be distinguished, such as social, cognitive or technical boundaries (Boumassoudi, 2014). According to Meier (2015), in healthcare, two main types of boundaries are central: organizational boundaries and professional or disciplinary boundaries. Meier (2015) defines organizational boundaries as the boundaries of organizations, departments or units. Organizational boundaries separate the different subunits from each other and from external units (Tushman & Scanlan, 1981). Organizational boundaries involve patterns of employment, accountability and coordination problems, and structures of hierarchical powers and relations (Hudson et al., 1997).
The second type of boundaries are professional boundaries, also called disciplinary boundaries. They are the demarcation between members of various disciplines or professional groups (Meier, 2015) Professional boundaries are defined by the professionals themselves and set up the boundaries of their role and territory (Hudson et al., 1997). The broader this definition, the more space is created for negotiation and collaboration (Ibid).

The boundaries distinguish between various groups, whether it is between people belonging to different organizations (organizational boundaries) or people from different professions (professional boundaries). These boundaries cause barriers to collaboration. It is the task of a so-called boundary spanner to connect people across these boundaries. In order to collaborate,

boundaries should be crossed and barriers to collaboration should be overcome. Which barriers to multidisciplinary collaboration are caused by the organizational and professional boundaries will be explained below.

2.3 BARRIERS TO COLLABORATION

Boundaries between organisations and professions cause multiple barriers to collaboration. Fewster-Thuente and Velsor-Friedrich (2008) identified five barriers to collaboration among members of multidisciplinary healthcare teams. These were *patriarchal relationships, a lack of time, gender, culture* and *a lack of role clarification.* The three barriers that this research will examine, are *a lack of time, culture* and *a lack of role clarification.* The barriers *patriarchal relationship* and *gender* have been regarded as non-relevant in for this research as they were based on the male physician's dominance over female nurses and partly stemmed from an outdated research from the year 1967 (Stein, 1967). As the setting of this research is different and does not focus on physicians and nurses only, the barriers *a lack of time, culture* and *a lack of role clarification* were chosen for this research. Thereby, the barrier *culture* has been split into two components: *organisational culture* and *professional culture*. As Bloor and Dawson (1994) explains it: each organisation has its own culture and within one organization of multiple professions, each profession can have its own professional subculture. Besides the barriers mentioned before, a fifth barrier has been added from existing literature: *a lack of trust*. So, the five barriers to collaboration that this research will examine are *a lack of time, organisational culture, professional culture*, *a lack of role clarification* and *a lack of trust*. These barriers will be discussed below.

2.3.1 Lack of time

The first barrier to collaboration is a lack of time. Participating in multidisciplinary collaboration takes time and all participants should put in the needed time for it to succeed (Fewster-Thuente & Velsor-Friedrich, 2008). However, in the health care sector, there is a general shortage of staff and often a shortage of time to deliver patient care (Chan et al., 2013). Therefore, health care providers often chose not to participate in interdisciplinary collaborations when they have no time to spend besides the patient care (Baggs et al., 1997). A lack of time is often caused by a high work load and having no time allotted specifically for collaboration (Fewster-Thuente & Velsor-Friedrich, 2008). Putting not enough time in the collaboration has a negative impact on the collaboration. By not putting time into getting to know each other, people often feel uncomfortable approaching each other. Besides, it takes time to build trust, which is also essential to collaboration (Edelenbos & Klijn, 2007; also see p.18), so people need time for interaction in order to build trust and successfully collaborate (Fewster-Thuente & Velsor-Friedrich, 2008).

2.3.2 Organizational culture

Organizational culture is '*a patterned system of perceptions, meanings, and beliefs about the organization which facilitates sense-making amongst a group of people sharing common*

experiences and guides individual behaviour at work.' (Bloor & Dawson, 1994: p.276). The organizational culture exists of both shared perceptions and shared practices (Hofstede et al., 1990). Issues occur when people from multiple organizations have to collaborate and have different assumptions about how things should be (Fewster-Thuente & Velsor-Friedrich, 2008). Also having contradicting protocols or formal procedures in various organizations can lead to poor collaboration, as members of the multidisciplinary collaboration don't know which procedures to follow (Niezen & Mathijssen, 2014). Another restriction that could cause a barrier to collaboration is an organization's hierarchy. When an organizational culture promotes hierarchy, collaboration is less likely to be successful than when the organizational culture promotes and rewards collective behaviours (Ibid).

2.3.3 Professional culture

Besides the organizational culture, the professional culture of the actors involved in the collaboration can also cause barriers to collaboration. First of all, in general professionals are very autonomous in their work, while working together is essential to collaboration (Fewster-Thuente & Velsor-Friedrich, 2008). Secondly, each medical specialist has had a different education. This creates problems when the various professionals are from different cultures or speak different specialist languages. This not only hampers communication but can also mark differences in ideas and practices (Fewster-Thuente & Velsor-Friedrich, 2008). Thirdly, professionals tend to define their own role and territory. When they define a small professional role and territory, this leaves little room for collaboration (Hudson et al., 1997) as they only work within their own borders (Offenbeek et al., 2009).

2.3.4 Lack of role clarity

A lack of role clarity, or role ambiguity, can be a barrier to collaboration. This occurs when roles are poorly differentiated and lack clearly defined activities belonging to specific roles (Carter, 2010). This ambiguity confuses actors about the objectives, scope of practice, responsibility and desired outcomes of specific roles (Woods, 1999). The lack of role clarity hampers collaboration because it is unclear who is responsible for what tasks and whom to collaborate with (Fewster-Thuente & Velsor-Friedrich, 2008). Role ambiguity can lead to increased stress, decreased performance and lesser organizational efficiency (Tunc & Kutanis, 2009). Besides, a lack of role clarity can have a negative impact on team communication, which is essential to collaboration (Carter, 2010). This barrier to collaboration is often caused by shortages of staff, as health care providers try to fill in the gaps by taking on new tasks and exceeding their regular job descriptions (Fewster-Thuente & Velsor-Friedrich, 2008). There are however also some differences among various actors as of how they experience the role division. A role can mean different things to different people, leading to conflicting expectations about roles and the associated tasks when there are no formal role descriptions (Carter, 2010).

As many researches have shown, trust also plays an important role in the establishment of collaborations. Therefore, the lack of trust is added as a fifth factor that can cause a barrier for collaboration

2.3.5 Lack of trust

An important driver for collaboration is trust (Edelenbos & Klijn, 2007; Ansell & Gash, 2008) as it creates a sustainable and effective relationship (Delden, 2008). Acting collectively is not possible without the presence of trust (Boumassoudi, 2014). Trust is described as *"a more or less stable perception of actors about the intentions of other actors, that is, that they refrain from opportunistic behavior"* (Edelenbos & Klijn, 2007: p.30). If actors trust each other, they are willing to assume open and vulnerable positions (Klijn et al., 2010). They expect each other to take their interests into account (Rousseau et al., 1998).
As Klijn et al. (2010) mention, without trust in a collaboration, there is less probability that actors will invest their resources into the collaboration. This could hamper the collaboration as the actors might be interdependent on each other's resources, such as expert knowledge. Besides, trust creates predictability about actor's behaviours, thereby reducing the risks involved in collaborating. Without this trust, actors might be less inclined to take part in a collaboration, due to the potential risks of being taken advantage of. Lastly, trust stimulates learning and innovation by reducing uncertainty about opportunistic behaviour. This allows for information and knowledge exchange and uniting actors with different ideas and expertise, creating opportunities for learning and innovation (Klijn et al., 2010). Trust affects the choices that health professionals make about if to collaborate, with whom and to what extend (McDonald et al., 2012).
Boundary spanning can lead to trust building (Williams, 2002). Repeated interaction with actors from various disciplines creates the opportunity to learn about each other's' values and perspectives. Also, it enables the building of a common ground and framework (Steadman, 1992). This trust is being positively influenced by boundary spanners, but also has a function of its own because trust contributes to network performance (Meerkerk, 2014). But it also works the other way around: good collaboration leads to increased trust (Lewicki & Bunker, 1996).

To overcome the barriers to collaboration, a mediator is needed (Kapral, 2011). In literature about collaboration, the function of boundary spanners is described as people who span boundaries and positively influence collaborations. The relation between boundary spanning and overcoming barriers to collaboration will be discussed in this thesis. First, the function and activities of boundary spanners will be explained.

2.4 Boundary spanning

Boundary spanning is defined by Meerkerk (2014) as *"A combination of interrelated activities concerned with connecting different actors from the realm of government, society, and business, building sustainable relationships between these actors, and connecting governance network processes with intra-organizational processes."* (p.38). It is a set of activities, processes and

practices (Williams, 2010: p.7), aimed at building inter-organizational capacity (Williams, 2002). It involves interactions aimed at realizing a better fit (Meerkerk & Edelenbos, 2014). Boundary spanning is executed at the borders of boundaries, by boundary spanners (Steadman, 1992) and often results in sustainable, effective and personal relationships (Williams, 2002).
For boundary spanning to happen, it is important to have shared activities between actors, the creation of a feeling of urgency and commonality (Rath, 2015). Both formal and informal contacts create opportunities for boundary spanning (Feldman & Khademian, 2007). In these contact moments, knowledge is shared, actors learn from each other and about each other, and boundaries are being recognized (Boland & Tenkasi, 1995).

These boundaries then can be spanned. According to Brock et al. (1999), interorganizational boundary spanning can take place in three forms: *horizontal, vertical* and *systemic boundary spanning*. *Horizontal boundary spanning* crosses the boundaries of various organizations that offer similar types of health care services. *Vertical boundary spanning* refers to the creation of linkages between organizations that offer services at different levels of care. *Systemic boundary spanning* finally, involves attempts to reconfigure entire systems of organizations. This is done by crossing management boundaries and reducing provider autonomy and might even include forcing other forms of horizontal and vertical integration (Brock et al., 1999).

2.5 BOUNDARY SPANNERS

Boundary spanning is done by boundary spanners. Boundary spanners are persons with the task of connecting people and organizations across boundaries. Boundary spanners can be, but are not always appointed formally to their position. As Williams (2010) explains, some boundary spanners have a job to serve as a connection between different actors. But there are also boundary spanners, and that are most, who undertake boundary spanning activities as part of their normal job (Williams, 2010).
What all these boundary spanners have in common, is that they possess certain skills. Because working effectively and productively together, requires skills, empathy and dialogue (Sennet, 2012).

It is important that boundary spanners understand the social constructions in the networks of which they span the boundaries (Williams, 2002). They should understand the language of both sides of the boundary (Tushman & Scanlan, 1981) and know which actors are important (Williams, 2002). Then they can bring together different actors, establishing relationships (Ibid). The boundary spanner should take on a neutral stance, so he can act as arbitrator in the case of a conflict (Leadbeater and Goss, 1998). But more importantly, the boundary spanner must engage with others (Williams, 2002). This needs not only good listening skills, but also the ability to speak with all involved actors (Ibid). Taking on the role of ‘cultural broker’, the boundary spanner should be understanding of, and empathize with others (Trevillion 1991, p. 50). Taking on the role of an honest broker, the boundary spanner should provide symmetrical information to the actors in the network (Ebers, 1997: p.31)

Besides, boundary spanners must know how to mobilize resources (Williams, 2002) and know how to couple problems and solutions (de Leon, 1996). Therefore, he should be able to think beyond existing organizational arrangements and practices (Williams, 2002). Thinking creatively (Bardach 1998) and having a sense for opportunities (Leadbeater and Goss, 1998) are thus important. Only then a boundary spanner can effectively couple interests, professionals and organizations (Webb, 1991).
Some of the personal traits a good boundary spanner should have are honesty, commitment and reliability (Beresford and Trevillion, 1995). Williams (2002) also mentions being personable, respectful, reliable, tolerant, diplomatic, caring and committed and having an easy and inviting personality. Adding more key skills for successful boundary spanning is Ansett (2005), who also lists empathy, open-mindedness, active listening, strong communication skills, strong abilities to synthesise information, emotional maturity and integrity.
One of the aspects these competences lead to, is the creation of trust in the network of interacting actors (Van Meerkerk & Edelenbos, 2014; Williams, 2002), which is needed in establishing multidisciplinary collaboration.

2.6 BOUNDARY SPANNING ACTIVITIES

There are different typologies of the roles and activities that boundary spanners perform. In the public-sector setting, Williams (2002; 2012) has identified four roles of boundary spanners. These are being a reticulist, being an entrepreneur, being an interpreter and being a coordinator. A reticulist brings people together and helps partners find their role, their linkages and their possible contributions to the collaboration. An entrepreneur will bring together problems and (new) solutions by using creativity, opportunism and innovation. An interpreter will communicate different cultures, motivations and practices of organisations. And finally, a coordinator plans and maintains the collaborative process (Williams, 2013). Williams appoints to each role a number of key competences the boundary spanners should possess, which are connected and interact, so that they are deployed differently depending on the situation (Williams, 2010).
Also relevant for this research are the roles identified by Meier (2015) who researched boundary work in healthcare settings. Meier (2015) determined the main types of boundary spanning work as being dissolving and redrawing boundaries and maintaining boundaries to affirm difference without rejection.
Focusing on boundary spanning on the activity level are Birkinshaw et al. (2017) and Van Meerkerk and Edelenbos (2014). Birkinshaw et al. (2017) have identified four types of boundary spanning activities: spearheading, facilitating, reconciling and lubricating. They stress that the first two are focused on connecting across boundaries and the last two are focused on overcoming differences in worldviews. Van Meerkerk and Edelenbos (2014) mention the following three main and interrelated activities of boundary spanners: connecting or linking people and processes, selecting relevant information and translating this information across boundaries.

As there could not be found an existing set of indicators of boundary spanning activity within health care networks, a new set of indicators has been constructed, using the work of Meerkerk and Edelenbos (2014) and Birkinshaw et al. (2017).
Meerkerk and Edelenbos (2014) constructed a scale for measuring the presence of boundary spanners in governance networks, based on both business and boundary spanning literature and used it in the case of urban governance networks. In their work, they distinguish between five boundary spanning activities that together measure the presence of boundary spanners. Firstly, there has to be a good information exchange between the network and the home organization. Secondly, sustainable relationships between organizations in the network should be build and maintained. Thirdly, effective connections should be made between developments in the network and work processes in the home organization. Fourthly, there should be a feeling for what in the network is important for other organizations. And lastly, when it is considered necessary or useful for the developments in the network, the home organization should be mobilized timely.

Birkinshaw et al. (2017) researched boundary spanning activities undertaken by corporate headquarters executives of a multinational corporation. In their research, they identified four generic boundary spanning activities: spearheading, reconciling, facilitating and lubricating. Their operationalization of boundary spanning is aimed at the activity level and is comprised of specific actions taken by corporate HQ executives. The four activities are explained as follows. *Spearheading* involves making new connections between the own organization and other organizations or actors from other organizations. Often this involves the opening up of relationships that the organization wants but couldn't do without a boundary spanner. Spearheading is also about brokering existing relationships and generating broader visibility. The generation of visibility involves promoting the company to a broader network of actors. This can be done by building connections to external media such as tv. The second concept, *Reconciling,* is about overcoming different perspectives of external partners. This is done through a form of translation (Carlile, 2004). With translation the perspectives or knowledge of one actor is being formulated in a new way, one that is understandable for the other actors (Evans & Scarbrough, 2014). Reconciling also concerns the clarifying of opportunities, taking on a business development role and opening up conversations with government officials. Thereby translating the perceptions of the involved parties. Lastly, reconciling encompasses the buffering of external demands. *Facilitating* takes place when connections are made between individuals or teams within the own organization. This role exists of making links between internal employees, for example by a face-to-face meeting, or a phone call. Also, opportunities for people to interact are created. These opportunities were created by organizing forums or events in which actors can work together. The last facilitating activity is moving individuals to new locations. By moving key individuals around and placing them in a different environment, shared understanding was facilitated. The fourth and last generic boundary spanning activity is *Lubricating*. This is about overcoming internal differences, by having boundary spanner working internally to improve the effectiveness of interactions between individuals within the own organization. Just as in the reconciling, an emphasis is on overcoming the different perspectives of actors involved and transforming knowledge. In that way, boundaries between

the actors should be reconciled. The first lubricating activity is signalling a shift from the status quo, by making big changes in the internal workings of the organization. The second lubricating activity is the creation of equilibrium procedures, by making changes to formal procedures in the organization so that the rules and regulations for all actors within the organization were equal. The third and last activity of lubricating is questioning and challenging existing assumptions, with the aim of exposing and creating opportunities to overcoming implicit biases. This was typically done during meetings (Birkinshaw et al., 2017).

Merging the identified boundary spanning activities as identified by Meerkerk and Edelenbos (2014) and Birkinshaw et al. (2017) leads to a new typology of boundary spanning activities, existing of four different activities. This new typology includes: *connecting with external partners, overcoming differences with external partners, connecting internally* and *overcoming internal differences.*

Connecting with external partners combines the concept of spearheading of Birkinshaw et al. (2017) and four of the boundary spanning activities from Meerkerk and Edelenbos (2014). Connecting with external partners focusses itself on the relation of the organization with the external partners and is about opening up, brokering and/ or maintaining existing relationships, connecting between developments in the network and work processes, generating broader visibility, having a feeling for what in the network is important for other organization and making sure the organization is mobilized timely. This new concept has been created by merging the activity of making new connections as identified by Birkinshaw et al. (2017) with the boundary spanning activity of maintaining sustainable relationships between organizations as identified by Meerkerk and Edelenbos (2014). The aspect of generating broader visibility as mentioned by Birkinshaw et al. (2017) is adopted as it is, as are the activities of making effective connections between developments in the network and work processes in the home organization, having a feeling for what in the network is important for other organizations, and timely mobilization, from the work of Meerkerk and Edelenbos (2014).

The second type of boundary spanning, overcoming differences with external partners, has been composed by merging the concept of reconciling from Birkinshaw et al. (2017) and the activity of information exchange between the network and the home organization from Meerkerk and Edelenbos (2014). This activity also focuses on the relation of the organization with the external partners, however it's focus is more on resolving (potential) conflicts. The concept involves the beforementioned activity of information exchange from Meerkerk and Edelenbos (2014) and the activities of focuses on translating perspectives or knowledge from one partner to the other, clarifying opportunities and buffering demands from Birkinshaw et al. (2017).

The last two boundary spanning activities focus more on the internal aspects of the collaboration and were based on the concepts facilitating and lubricating of Birkinshaw et al. (2017). The boundary spanning activity of connecting internally was based on the concept of facilitating and involves making internal introductions, creating opportunities for people to interact and by moving individuals to new locations.

Lastly, the concept of overcoming internal differences was based on the boundary spanning activity of lubricating, as created by Birkinshaw et al. (2017). Overcoming internal differences

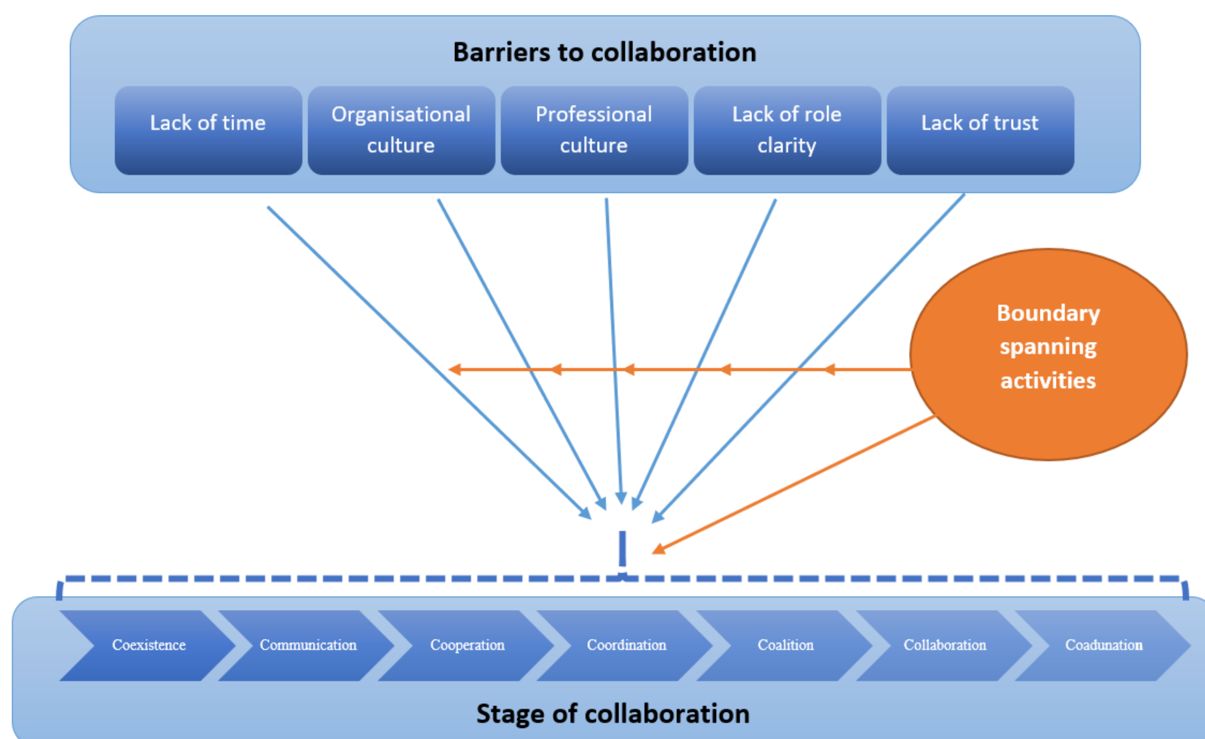
includes signalling a shift from the status quo, equalizing rules and regulations and questioning and challenging assumptions.

Now the main concepts of the study have been discussed, the expected relations between have been made visual in the conceptual model on the next page.

2.7 CONCEPTUAL MODEL

The main goal of this research is to examine and explain the relationship between boundary spanning activities and multidisciplinary collaboration. The expectation is that *boundary spanning activities* will reduce the negative effect that barriers to collaboration have on multidisciplinary collaboration. Thereby functioning as a moderating variable on the relationship of the independent variable *barriers to collaboration* and the dependent variable *multidisciplinary collaboration* and also having a direct positive effect on the dependent variable *multidisciplinary collaboration.* These relations are shown in Figure 2: Conceptual model.

Figure 2: Conceptual model



As shown in the conceptual model above, the expectation is that the identified barriers to collaboration: *a lack of time, organisational culture, professional culture, a lack of role clarity* and *a lack of trust,* have a negative effect on the stage of collaboration that an organisation is in. The more barriers a collaboration faces, the lower the stage of collaboration it is in. It is expected that an organisation in a higher stage of collaboration will have overcome these

barriers and will be facing less barriers. This study will find out if there is the expected relation between barriers faced and the stage of collaboration that an organization is in.

The study will also look at boundary spanning activities and if they have the expected positive effect on overcoming the beforementioned barriers to collaboration. Besides, the study will look if boundary spanning activities have the expected positive direct influence on the stage of collaboration. It is expected that the more boundary spanning activities are being executed, the higher the stage of collaboration the case will be in.

It could be reasonably argued that at different stages of collaboration, different barriers play a role. As in each of the ascending stages the collaboration gets more intense, the participants have more contact with each other. In the lower stages, there is less contact and there the barriers of a lack of role clarity and a lack of trust might be visible. As interaction leads to knowledge about each other's roles and intentions, these two barriers might only be visible in the lower stages of collaboration. The barriers of a professional and organizational culture could be expected to play a part in the middle stages of collaboration, as they only become visible when there is some contact but have to be solved in order to reach the highest stages of collaboration. A lack of time could be a barrier to collaboration in every one of the stages of collaboration.

To overcome these barriers to collaboration, boundary spanning activities are being executed. It might be expected that different boundary spanning activities are applied in solution to different types of barriers. However, there is no clear expectation of which types of boundary spanning activities could be used to overcome specific barriers.

2.8 Operationalization

In the schemes below, the operationalization from theory to measurable concepts, sub concepts and indicators is shown. In table 1, the operationalization of the concept *stage of collaboration* is shown. This concept has been divided into sub concepts that each have their own corresponding indicators. The concepts, sub concepts and indicators all are based on the literature from the theoretical framework. In table 1, the sub concepts are the seven stages of collaboration and the indicators are aspects of the collaboration that belong specifically to one of the stages of collaboration. The concepts *barriers to collaboration* and *boundary spanning activities* are operationalized in the same way in table 2 and table 3 respectively.

Table 1: Indicators of the stage of collaboration

Operationalization				
Concept	**Sub concept**		**Indicators**	
Stage of collaboration	Coexistence	1.1	No interaction	1.1.1
	Communication	1.2	Awareness of organization	1.2.1
			Loosely defined roles	1.2.2
			Little communication	1.2.3
			All decisions are made independently	1.2.4
	Cooperation	1.3	Information is being provided to each other	1.3.1
			Somewhat defined roles	1.3.2
			Formal communication	1.3.3
			All decisions are made independently	1.3.4
	Coordination	1.4	Information and resources are shared	1.4.1
			Defined roles	1.4.2
			Frequent communication	1.4.3
			Some shared decision making	1.4.4
	Coalition	1.5	Shared ideas, frames and/ or vision	1.5.1
			Shared resources	1.5.2
			Frequent and prioritized communication	1.5.3
			All members have a vote in the decision making	1.5.4
	Collaboration	1.6	Members belong to one system	1.6.1
			Frequent communication characterized by mutual trust	1.6.2
			Consensus is reached on all decisions	1.6.3
			Sharing information, resources and ideas	1.6.4
			Partnership	1.6.5
	Coadunation	1.7	Merging of organisations	1.7.1

In table 2 below, the concept *barriers to collaboration* is being operationalized. The concept is divided into five sub concepts, these being the five barriers identified in the theoretical framework. Subsequently, each sub concept has been assigned a number of indicators, pointing to aspects that are typical for one of the five barriers to collaboration.

Table 2: Indicators of barriers to collaboration

Concept	**Sub concept**		**Indicators**	
Barriers to collaboration	Lack of time	2.1	Feeling that participants do not put in the needed time for collaboration	2.1.1
			No time allotted for collaboration	2.1.2
	Organizational culture	2.2	Contrasting perceptions or practices	2.2.1
			Contrasting protocols or procedures	2.2.2
			Hierarchy	2.2.3
	Professional culture	2.3	Working autonomously	2.3.1
			Specialist language	2.3.2
			Differences in ideas and practices	2.3.3
			Small defined professional role and territory	2.3.4
	Lack of role clarity	2.4	Confusion about objectives for or responsibilities of a specific role	2.4.1
			Taking on new tasks exceeding job descriptions	2.4.2
			No formal role descriptions	2.4.3
	Lack of trust	2.5	Perception that others won’t refrain from opportunistic behaviour	2.5.1
			Actors are not willing to assume open and vulnerable positions	2.5.2
			Actors don’t expect each other to take their interests into account	2.5.3

In table 3 below, the operationalization of the concept *boundary spanning activities* is displayed. The concept is then sub divided into four sub concepts, namely *connecting with external partners, overcoming differences with external partners, connecting internally and overcoming internal differences*. These four sub concepts have been derived from the theoretical framework and are four types of boundary spanning activities. Of course, each sub concept has its own indicators: aspects that are typical for one of the four boundary spanning activities.

Table 3: Indicators of boundary spanning activities

Concept	Sub concept		Indicators	
Boundary spanning activities	Connecting with external partners	3.1	Opening up, brokering and/ or maintaining existing relationships	3.1.1
			Connecting between developments in the network and work processes	3.1.2
			Generating broader visibility	3.1.3
			A feeling for what in the network is important for other organizations	3.1.4
			Timely mobilization	3.1.5
	Overcoming differences with external partners	3.2	Translating perspectives or knowledge	3.2.1
			Information exchange	3.2.2
			Clarifying opportunities	3.2.3
			Buffering demands	3.2.4
	Connecting internally	3.3	Making internal introductions	3.3.1
			Creating opportunities for people to interact	3.3.2
			Moving individuals to new locations	3.3.3
	Overcoming internal differences	3.4	Signalling a shift from the status quo	3.4.1
			Equalizing rules and regulations	3.4.2
			Questioning and challenging assumptions	3.4.3

Other relevant findings were marked with the code ‘4’ as to indicate that the quote was interesting and relevant for the research but did not fit any of the indicators shown in tables 1, 2 and 3.

There may seem to be some overlap between indicators of the stage of collaboration and indicators of the presence of boundary spanning activities. They are however not the same and it is important to mark the difference between the two. In the indicators of the stage of collaboration, the activities are executed by multiple people throughout the whole collaboration. For example, the sharing of information (1.4.1) happens between all members of the collaboration. The indicators of boundary spanning activities on the other hand, point to specific actions of individuals aimed at connecting members of the collaboration. For example, with information exchange (3.2) by a boundary spanner, information is actively spread and collected by one person. Boundary spanning activities are individually executed or set up by one person.

3 METHODS

This section will explain the research approach, research strategy and methods that were applied in this research. Next, it will elaborate on the validity and reliability of the research.

3.1 RESEARCH APPROACH

The research approach of this research is explanatory. With the focus on the factors that influence multidisciplinary collaboration, it tries to explain the mechanisms behind this relationship. The fact that these factors are based on existing literature makes the research deductive, rather than inductive.

3.2 RESEARCH STRATEGY

This research is qualitative of nature, as it tries to gain insights in the way in which boundary spanning influences multidisciplinary collaboration in local health care networks. This requires in-depth insights and non-numerical data.

The research exists of a multiple case study. A case study is a suitable method for research in which the researcher has little control over events and the focus is on a contemporary phenomenon (Yin, 2003). Or when the research area is new or existing theories seem inadequate (Eisenhardt, 1989). Case studies may offer insights that might not be achieved with other approaches (Rowley, 2002). And allow for investigation of a phenomenon in its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident (Yin, 1994: p.13).

3.3 CASE SELECTION

For this research, three cases have been selected. A total of three was chosen as the time did not allow to research a higher amount of cases. For the selection of cases, they had to meet multiple criteria. The first criterium was that they are a collaboration between health care providers, the second criterium was that the collaboration is between professionals from multiple disciplines and the third criterium was that that the health care professionals all operate in primary healthcare. Furthermore, the three cases had to be in a different stage of collaboration, to create a variation on the dependent variable of the study. By having this variation, the research could take on the form of a comparative case study. This provided the opportunity to understand and explain how context, in this case the stage of collaboration, influences boundary spanning activities in a collaboration.

After a selection of possible cases, availability and willingness to take part in the research finalized the selection to three cases. The three collaborations that were chosen are *De Zorgmolen, Oranjestein* and the *Centrum voor Maatschappelijke Ondersteuning*. Below, each case is introduced.

3.3.1 De Zorgmolen

De Zorgmolen is a collaboration between various primary care providers in the neighbourhood. Several general practitioners started the health care centre in Papendrecht and invited other health care disciplines, with whom they now share the building. De Zorgmolen opened in 2012 and offers integrated care for the citizens in the neighbourhood. In order to do that, the fifteen health care providers from the centre work together intensively. The centre offers, among others, general practitioners, physical therapy, psychology, movement therapy, podiatry, skin therapy, medical pedicure, home care and echography (Gezondheidscentrum De Zorgmolen, n.d.).

The expected stage of collaboration in De Zorgmolen is that of coordination, because frequent communication is to be expected, yet it might not be prioritized. Each owner is an entrepreneur and their own practice could have priority over communication with other disciplines. Besides, there is no shared vision stated for De Zorgmolen.

3.3.2 Oranjestein

Oranjestein is a nursing home, located in Doorn. It was built in 1977 but has been renovated in 2012 to comply to the heavier demand for care. Oranjestein is property of health care provider Pro Senectute (Pro Senectute, n.d.). The people in Oranjestein have a heavy demand for care, starting at care-level 4. Oranjestein has a total of 68 apartments, divided over six departments. Besides the heavier care, Oranjestein has plans to expand and build houses for people with a lower care demand. The plans for this are expected to be finished in 2019 or 2020. Among the disciplines working in Oranjestein are nurses, care givers, personal healthcare assistants, a general practitioner specialized in elderly care and ergo coaches. Besides, there is regular contact with physical therapists, dental hygienist and several employees with a special focus, such as wound care or a hygienist (Oranjestein, n.d. a).

Oranjestein is expected to have taken the collaboration to the ‘collaboration’ stage. As it is mentioned on their website, their vision is to have a vital organization that can respond to *‘the resilience of its employees and the solidarity of employees, with clients and with the organization’* (Oranjestein, n.d. b). Furthermore, they state that their employees make the difference to whether residents live comfortably. Pro Senectute wants its employees to together create a home feeling (Pro Senectute, n.d.). These are indications for the presence of trust, sharing and partnership, indicators belonging to the stage ‘collaboration’.

3.3.3 Centrum voor Maatschappelijke Ondersteuning

The Centrum voor Maatschappelijke Ondersteuning or in short, the CMO, is a centre for social support in Apeldoorn. The CMO has been established in 2015 and mainly exists of the three organizations the Social District Team (NL: Sociaal wijkteam), the welfare network (NL: welzijnsnetwerk) and the social support law (NL: WMO). But also, for example debt assistance is often involved. The CMO has the function of a network collaboration between partners in the social domain. They all work together from a joint mission to vision and share the responsibility to make sure there are enough resources available to execute the work. In Apeldoorn, four CMO’s are in place, each for a different part of town. The CMO of this research is the one in Noord West- Centre (Caluwé & Vlekkert, 2017).

Because the CMO works from a shared vision and shares resources, but the members do not all belong to the same system (yet) “The challenge for further development is to ensure coherence between the various disciplines that are part of the social domain” (Caluwé & Vlekkert, 2017: p.7), it is expected that the CMO is in the ‘coalition’ stage of collaboration.

These cases, all in a different stage of collaboration, will provide some insights in the working of boundary spanning in various stages of collaboration. An overview of the selected cases, their function, place and expected stage of collaboration is shown in Table 4 below.

Table 4: Selected cases

	Case 1	**Case 2**	**Case 3**
Organisation	De Zorgmolen	Oranjestein	Centrum voor Maatschappelijke Ondersteuning (CMO)
Function	Health care centre	Nursing home	Centre for social support
Place	Papendrecht (ZH)	Doorn (UT)	Apeldoorn (GD)
Expected stage of collaboration	Coordination	Collaboration	Coalition

3.4 DATA COLLECTION

Data collection was carried out using two methodologies: a document analysis and interviews. This data triangulation, collection data from a variety of perspectives and using a variety of methods (Guba, 1981: p.87), not only examines the research object from multiple perspectives, but also enriches the understanding of it by allowing for new or deeper dimensions to emerge, and by uncovering the deviant dimensions of the research object (Jick, 1978: p.603-604). It is one on the strengths of case studies (Rowley, 2002). The dominant data collection method was interviewing employees working in health care collaborations. The minor method was a document analysis.

The document analysis was executed first and provided background information on the cases and allowed for making a selection for three cases. Also, the information from the document analysis was used in the analysis and helped determine the stage of collaboration that the cases are in, the experienced barriers to collaboration and the performed boundary spanning activities. The interviews with health care professionals were executed after the document analysis. The interviews were semi-structured, which had the advantage that they followed the same format, but still allowed deviating from the script to ask through on certain topics. In this way a thorough understanding of the respondents’ opinions and the reason behind them could be obtained (Borg & Gall, 1983). Also, they were person-to-person, which is best for obtaining in-depth information (Bugher, 1980: p.2). Acquiring these honest and frank responses, interviews needed to be conducted in a properly structured context. The respondent should know the purpose of the interview, questions should be properly worded and complete anonymity should

be guaranteed to the respondents' responses (Bugher, 1980). This research tried to meet these criteria by making sure the interviewees were told the purpose of the interview and the anonymity of their answers. Besides, the questions for the interview were checked beforehand by multiple researchers.

The structure of the interviews was largely determined beforehand, but during the interviews, questions might change order or questions could be added, when opportunities to enrich the data arose. The advantage of the predetermined questions and structure is that all interviewees do get some questions in common, which allowed for comparison between the cases (Carruthers, 1990). A good interview schedule should centre around six to twelve questions, in a set order. But, there should be a possibility to make some changes in the questions asked, the extent of probing and the question order (Rownley, 2012). The interview schedule of this research existed of eleven questions, in which each question had up to six possible sub-questions which could be used to steer the interview (back) to the main question if that was necessary, or to ask through on a subject.

The interviews were conducted by the researcher in face-to face interviews. The interviews took between thirty-five and sixty-five minutes. The selection of respondents was by the method of snowball-sampling. The first contacts were made directly by phoning or emailing one of the persons involved in the collaboration. From there on, these participants suggested other possible respondents, which were then contacted by either the researcher or the first participants. Per case, 5 respondents were interviewed, of as many different disciplines as possible and at least four different disciplines. Respondents from De Zorgmolen were labelled respondent 1-5, respondents from Oranjestein were labelled respondent 6-10 and respondents from the CMO were labelled respondents 11-15. In Tables 5, 6 and 7 below, the respondents who were interviewed and the disciplines they work in are presented per case. To guarantee anonymity, the disciplines are placed in a random order, so the first shown discipline is not necessarily respondent 1.

Table 5: Disciplines of respondents in case 1

Case 1	**Disciplines respondents**
De Zorgmolen	Physiotherapist
	Podiatrist
	Medical pedicure
	Physiotherapist
	Movement therapist

Table 6: Disciplines of respondents in case 2

Case 2	**Disciplines respondents**
Oranjestein	Personal healthcare assistant (NL: Verzorgende IG)
	Care giver
	Manager healthcare
	Nurse in training
	Care giver

Table 7: Disciplines of respondents in case 3

Case 3	**Disciplines respondents**
Centrum voor Maatschappelijke Ondersteuning	Case manager
	Manager development CMO (NL: Kwartiermaker)
	Social support worker
	Welfare worker
	Quality coach

The respondents were selected based on their discipline or function, and on the base of availability. Because the research had a limited time span for data collection, it was important that the respondents were available in the weeks that data collection was planned.

3.5 DATA ANALYSIS

The interviews have been recorded (with permission of the interviewees) and transcribed into text form. The transcripts were then coded in a deductive way with the use of the operationalisation scheme on page 23. For the coding, every indicator of the relevant variables was assigned a specific code. Items from the transcripts that matched a certain concept, were labelled for the right indicator. After all data was coded, it was analysed, compared and relevant information was presented in chapter 4: Analysis. There, the data is presented under headings that reflect the main themes from the research question and the sub questions. When possible, findings will be illustrated through the use of anonymized quotes from the individual respondents.

3.6 RELIABILITY

The reliability of the research exists of its internal and the external reliability. The internal reliability of the research is high. By adapting a deductive research approach, concepts and indicators are based on existing theories and validated scales.
The external reliability of the research is being determined by the extent to which the research is repeatable. To make sure that any repetition of the study could be executed in the same way, all used information has been stored in an online case study database. Also, all steps from the research are described in the paper, so any replication of the study could be executed in the same manner. This should make sure that a same measurement will yield the same results. However, qualitative analysis always requires some interpretation by the researcher. Even though all steps from the analysis have been described, other researchers might interpret some findings differently. This makes the external reliability of the case study moderate.

3.7 VALIDITY

The validity of the research will be debated on the categories construct validity, internal validity and the external validity. The construct validity has been guaranteed by using multiple sources of evidence. By conducting interviews with multiple interviewees from three different cases, ambiguity about concepts is eliminated as much as possible.

The internal validity of the research is reasonable, as there will be an interviewing script to be followed, but it is impossible to keep all interviewing conditions the same. Because the interviews will be conducted on different dates, times and places, there is no guarantee that these conditions don't have an impact on the research data.
The external validity of the research is low. Because this research is a case study, the results will not be generalizable to a big extend.

4 RESULTS AND ANALYSIS

By means of coding, all obtained data has been categorized and has then been analysed. In the first three paragraphs of this chapter, the findings from the data regarding the stage of collaboration, experienced barriers to collaboration and performed boundary spanning activities will be presented. Next, in paragraph 4.4, these findings will be analysed and compared, in order to explore and explain the relationships between the variables.
So, in this result section, first a background on the three cases will be provided in which also the stage of collaboration that the cases are in, will be determined. Second, experienced barriers to collaboration will be explained. Then, executed boundary spanning activities and the people undertaking these activities will be discussed.
These findings eventually facilitate connecting the results in the second part of this analysis. There, the link between boundary spanning, overcoming barriers to multidisciplinary collaboration and the stage of collaboration in which the three cases can be found, will be explored. An overview of all results can be found in Table 8 below, which displays of each of the three cases the stage of collaboration that they are currently in, the barriers to collaboration that the respondents experienced, the boundary spanning activities that were found to be executed and the most interesting link between the executed boundary spanning and the barriers that were overcome.

To recall, the three cases of this research were health care centre De Zorgmolen, nursing home Oranjestein and the centre for social support CMO.

Table 8: Overview of results

Casus	Stage of collaboration	Experienced barriers to collaboration	Executed boundary spanning activities	Link between boundary spanning and overcome barriers
De Zorgmolen	Coordination	Lack of time, Professional culture, some lack of role clarity, Lack of trust.	Connecting with external partners, Connecting internally.	A lack of trust has been overcome by connecting with external partners and connecting internally, Little boundary spanning is executed.
Oranjestein	Collaboration	Organizational culture, Some lack of role clarity.	Connecting with external partners, Overcoming differences with external	There are no formal boundary spanners, however much connecting and boundary spanning activities

			partners, Connecting internally, Overcoming internal differences.	are being performed. This did not lead to overcoming the organizational culture or the lack of role clarity.
Centrum voor Maatschappelijke Ondersteuning (CMO)	Coalition	Organizational culture, Some professional culture, Lack of role clarity.	Connecting with external partners, Overcoming differences with external partners, Connecting internally, Overcoming internal differences.	The Organizational culture has been equalized by overcoming differences with external partners by creating a shared vision.

4.1 STAGES OF COLLABORATION

Based on the obtained data, the stage of collaboration that each case is situated in at the moment will be determined and the development of the collaboration will be discussed.

4.1.1 De Zorgmolen

De Zorgmolen is a collaboration between different disciplines located in a shared building. The health care providers mostly collaborate by exchanging information and sharing knowledge. This multidisciplinary collaboration is relatively new as De Zorgmolen exists for only six years now. At first, the various health care providers had no interaction, they were in the 'coexistence' stage of collaboration. On the initiative of one general practitioner, plans were made for a general practice that housed multiple general practitioners. He, anther general practitioner and her husband then bought the building of De Zorgmolen. Later, two pharmacists hired the building from them and invited other disciplines to join them in De Zorgmolen, or other disciplines signed themselves up. Unfortunately, the two pharmacists got into an argument and a third pharmacy became the main tenant. But with the establishment of De Zorgmolen, the collaboration was set in the stage of 'cooperation', since they provided information to each other, there was formal communication and somewhat defined roles. However, decisions were made with shared decision making. Now roles are more defined, communication is frequent and not only formal. And besides information, also resources are shared.

In De Zorgmolen, the collaboration is currently in the stage of 'coordination'. Information and resources are shared between members of the collaboration. As one respondent says about the exchange of information *"Yes, we indeed try to keep that [information exchange lines] short. So, it is indeed by phone or letter that we pass something along, so they can see it immediately" – Respondent 1.* The members of De Zorgmolen also share resources with each other, although not very often. *"Borrowing materials now and then… a book or something like that"- Respondent 5.* They do however share the same building and some disciplines share their waiting rooms.
Roles within De Zorgmolen are defined and the various disciplines know their work field *"That's basically the part that* **we** *execute in De Zorgmolen"- Respondent 1* and where it stops *"…then at a certain point you also know where the borders are - of well, until here and no further, I just shouldn't do more"- Respondent 1.* At those points, they often refer to other health care providers in the building, or they ask help from them *"So at that moment we asked the podiatrist 'could you take a look'?"- Respondent 1.*
The communication between the disciplines in De Zorgmolen is frequent. As one respondent explains: *"…we meet each other regularly. We also go out with each other. We just, last week or two week ago I think, went a night out with as many people that could go"- Respondent 2.* Another one says: *"we can indeed make a call to downstairs to say 'well, do you have some time to have a look [at this patient]'" - Respondent 1.* So, when one specialist cannot figure out the exact illness of a patient, they frequently communicate and consult other specialists within De Zorgmolen. The communication in De Zorgmolen is not only formal such as in a cooperation, because health care providers also see each other outside of the working environment. The communication is however also not prioritized, as would be the case in a coalition *"Or there is no response to emails… and then you sometimes get something like 'well, that one is never around' or 'that one never responds' or 'is he sick?' or 'oh, he turned out to be sick' or something. Well, then let us hear something from you"- Respondent 5.*
Decision making is partly shared, but only the owners of the practices have a say in the so-called Tenants Association. In there, mostly faciliatory decisions are being made *"Little is really spoken of professionally, but more facilities"- Respondent 5* but also the acceptance of new renters is being discussed *"Look, a beautician will be accepted here…. That [decision] is supposed to be end up at the Tenants Association"- Respondent 3.* Furthermore, within the Tenants Association, decisions are made with majority vote *"Well, within the Tenants Association, it's the majority of votes. So, voting happens during the meetings"- Respondent 5.* So, there is some shared decision making. It is not that all members have a vote in the decision making, which would be the case in a coalition, and also not all decisions are made independently, as in a cooperation. Overall, the stage of collaboration that De Zorgmolen could be determined as being in the stage of coordination.

Most respondents do however share the desire to take the collaboration to a next level. Some stated that the amount of collaboration has declined a bit "*In the beginning, it [the collaboration] was more active than it is now" – Respondent 1* or that they want to take it some further *"If you ask me, I'd like to expand it even more [the collaboration]"- Respondent 2.*

4.1.2 Oranjestein

Nursing home Oranjestein was established in 1977 and takes care of elderly with a high care demand. In 2012 the building was renovated, but about the evolution of collaboration within Oranjestein, no data was obtained.

Oranjestein currently works together in the 'collaboration' stage of collaboration. It has taken the collaboration the furthest of all three cases. In Oranjestein, members belong to one same system and all identify themselves with Oranjestein, rather than their discipline. Some procedures, such as the transmission of information as shifts change in the morning and in the evening are not organized by a specific person, but just happen as that is their standard procedure *"Yes, that is not really organised so to say. That is our way of working, that you do that together" – Respondent 6.* Besides, all employees have to be able to work for Oranjestein as a whole *"It is true that everyone should be deployable everywhere"- Respondent 6.*
Communication is frequent and often happens through written down communication *"... in principle I always write everything down"- Respondent* 9. The staff members have to trust their colleagues to pass along all relevant information and to actually take action based on what is written down. So, the communication is based on mutual trust between the employees. Also, a lot of communication takes place during the transmission in the morning and in the evening where people from the different shifts have to communicate the most important events and practical issues to each other.
Consensus is reached on most decisions *"And you do that together [creating a care plan], preferably with the resident, the informal care giver, a doctor is also always involved"- Respondent 7.* Also, on decisions about practices consensus is sought between employees *"Then luckily, it is really about having a conversation with each other about 'hey, how do you do it?' and 'What are we going to do?' So that... is actually always discussed with each other."- Respondent 6.* Or consensus on issues is sought by the people responsible for these subjects, such as the scheduling nurses *"Every day in the morning and at night we have a 'responsible person of the shift', as we call it, who in the morning if there are problems with the schedule, together have a look at it and together take the decisions" – Respondent 6.*
Information, resources and ideas are also shared. Information is mostly shared through written down communication and the transmission sessions. The exchange of information and ideas goes really easy as one respondent explains *"it is very free, in the sense of when we need advice, then let us know, they come to watch. That is very easy, that is very nice…"- Respondent 7.* Resources are also shared, although thing are *"...sometimes not brought back" – Respondent 8.* So, some instruments do belong to a specific residential layer of Oranjestein but can be borrowed by others.
There is a partnership in which colleagues can rely on each other "*If someone falls out, they still put their shoulders together and still get it together" – Respondent 6.* There are even some people *"…who are besides the work also friends" – Respondent 6.*
Because Oranjestein has its members belonging to one system with its own practices and procedures and because part of the communication is heavily based on trust, it can be said that Oranjestein operates within the 'collaboration' stage of collaboration. It is a step further than a coalition, in which all members have a vote in the decision making, but no consensus is reached.

But it is also no coadunation, in which organisations merge. Within Oranjestein it is still clear who belongs to which discipline or organization, such as the temporary workers of employment agency Aethon *"I will never be ultimately responsible because I am a temporary employee" – Respondent 9.*

Regarding any possible developments for the collaboration in Oranjestein were no real wishes expressed. Some respondents mentioned things that could improve the collaboration, mostly resolving the shortages and having enough employees available *"[I want to change] ... first of all of course again the balance, that all the shortages are resolved – Respondent 7.* Also, there are some plans to set up a learning department in Oranjestein as another future development. On its website, Oranjestein states that they want to create a continuum for health care from living independently with possibly light care, to fully cared for and nursed living. For this, private rental apartments will be built on the area of Oranjestein (Oranjestein, n.d. a). This might make some changes in the way that employees work but has no visible effects yet.

4.1.3 Centrum voor Maatschappelijke Ondersteuning

The CMO in Apeldoorn was established in 2015, after the decentralizations in health care. Before, the responsibilities for social help and support were the fragmented and the collaboration between the different disciplines took place in the stage of 'coordination'. There were defined roles, there was frequent communication and some shared decision making, but mostly the organizations worked separately from each other (Caluwé & Vlekkert, 2017). As one of the respondents explains: *"[at first] we were more separated from each other, but we actually needed each other very often and it was very nice if we could find that connection. That has made us now the CMO ... we now really are working more closely together" - Respondent 15.* So, at first there was not yet a shared vision or prioritized communication. But then *"...we said, well, let's create an organization of the four domains Work and Income, Welfare, WMO and multi-problem, Social District Team and we call that CMO" – Respondent 15.*

The CMO currently works together in the 'coalition' stage of collaboration. Within the centre, ideas, visions and frames are being shared. Created by the municipality of Apeldoorn, the CMO works based on six leading principles *"that the citizen comes first, that we work integrally and system-oriented. And that that is done efficiently and effectively. And then there is another one"- Respondent 11.* The employees from the CMO thus works according to the same vision. This vision has been consciously created and the CMO actively works on the development of methods that facilitate working conform that vision *"...we are going to look at 'what is that joint vision, what are the starting points for us and how should we then behave?' And there it can turn out that we are going to use a kind of common methodology"- Respondent 11.* The CMO also shares ideas *"I notice that when I consult with them, for example, they bring forward ideas that are included in the collective offer" – Respondent 15* and frames *"...we must transfer that added value that we have from each other to each other, so to say. Or reinforce each other there, that's what I think, so that we can both start thinking from different perspectives" – Respondent 15.*

Besides sharing ideas, vision and frames, the CMO shares resources with each other. Most employees work in the same building and the ones that don't can make use of it *"we have there two, three offices, so to say. Two meeting rooms and a big conference room" – Respondent 13.* In the building, the computers and facilities are free to use for all employees. However, some changes are to be made before all employees can actually use all resources. For example, *"the computers here are set to the municipality of Apeldoorn. If you come to work here from Stimenz, it is more difficult to work here" – Respondent 15.*
In the CMO, there is frequent and prioritized communication *"Through this pilot of Integral Work, all new cases are now being discussed. So, you actually have daily contact anyway, in the consultation moment of new clients. And you see each other constantly, of course, so if there is something you can always quickly ask each other. It is pretty accessible in itself"- Respondent 13.* When new cases are being discussed, everyone involved has to be present there. As one employee explains: *"So when you have a family, for example, and a local agent is involved, the Centre for Youth and Family, ambulatory guidance, but for example also a debt assistant, who are then really involved with that family and with those people, we have a meeting" – Respondent 15.* When a member of the CMO can't make the team meeting, they consult with their colleagues. As one member explained about missing a meeting because of other appointments "*I always consult that. Because they do the same with me" – Respondent 13.*
Lastly, in the CMO, all members have a vote in the decision making. When a new case is being addressed, whether it is under supervision of the Social District team, or the social support law (Dutch: WMO), all professionals have a say. They *"really look 'what? where to go? and how?' so to say... And then there is always contact with the WMO like 'hey, there will have to be an indication, do you see that? And what kind of indication is the best?"- Respondent 12.*

Based on the abovementioned observations, the CMO is currently in the collaboration stage of 'coalition'. As they say themselves *"We didn't say that we would found a new organisation… we keep it a network organisation" – Respondent 15.* But they are not yet collaborating, mostly the members do not belong to one system yet. The disciplines within the CMO operate together within the CMO, but also have their own facilities, rules and regulations *"The WMO has a client contact centre, the Social District Team has a standby-duty…" – Respondent 13* and the members from the WMO *"are dealing with the laws and regulations of the WMO. So, we have to work within those frameworks" – Respondent 12.* The CMO does go further than coordination though, as they share frames with each other and prioritize their communication.

There are plans to expand the collaboration and further develop the CMO by having closer ties with the welfare network and organize more collaboration and joint housing with the Centre for Youth and Family *"In the new locations the Centre for Youth and Family also joins us. So, you actually have all the care at neighbourhood level together" – Respondent 12.* It will then become possible to promote integral working and to connect the preventive field and professional care more with each other. Also, other fields will be included, such as education, safety and spatial environment (Caluwé & Vlekkert, 2017: p.16). They however don't want to create one new organization, as would be the case in coadunation *"We don't want to say, well, we'll employ all those people at the municipality. So, it won't be a municipal thing, no, it will*

be a collaboration of the municipality, that has an important role in it, and other parties" – Respondent 15.

Overall, it can thus be concluded that De Zorgmolen is currently in the collaboration stage of 'coordination', Oranjestein in the stage of 'collaboration' and the CMO in the stage of 'coalition'. Below in table 9, an overview of the results is presented. The table shows the stage of collaboration that was expected beforehand, the stage of collaboration that each case is in now and a comparison of these results with the theory.

Table 9: Overview of results – stage of collaboration

Case	**De Zorgmolen**	**Oranjestein**	**CMO**
Expected stage of collaboration	Coordination	Collaboration	Coalition
Stage of collaboration	Coordination	Collaboration	Coalition
Comparison with the theory	The development of collaboration in De Zorgmolen and the CMO matches the course of collaboration as described by Frey et al. (2006). Besides, in all cases the indicators for the different stages of collaboration as deducted from the theory of Frey et al. (2006) proved to be useful. The indicators were clearly found in the data, providing a clear indication of which stage of collaboration was present at what time.		
Explanation	Is seems that the theory is well suited for identifying the stage of collaboration that a case is in and for describing the evolution of collaboration.		

In the next section, the barriers to collaboration that each case has encountered will be described

4.2 EXPERIENCED BARRIERS TO COLLABORATION

Each of the cases faced some of the barriers to collaboration as indicated in the theoretical framework. Per case it will be discusses which of the barriers were present and how strongly they were present.

4.2.1 De Zorgmolen

In De Zorgmolen the experienced barriers to collaboration were a lack of time, professional culture, some lack of role clarity, and a lack of trust.

A lack of time was mostly experienced in having no time allotted for collaboration. In De Zorgmolen, the main issue with time was the availability for collaboration at specific moments *"Well, time is a bit tricky. For example, I am only here on Tuesdays and Thursdays for example*

and I know that on Thursday the podiatrist is not there, for example. So, if I have something on Thursday, then I have to wait until Tuesday... so you cannot always say 'Yo, I'll have some time at 4 o'clock', because well, I will not" - Respondent 4. Or as respondent 2 says: *"Other working hours also, some people work until the evening, some people are already gone at 15:00".* Although this often did work out fine *"In De Zorgmolen you notice that you'll say 'okay, we are together in the same building, I have some time so just come visit' and that is really nice" – Respondent 1.* There are also some moments where meetings are scheduled *"We always have meetings once in a while, so we ensure that we are all present. That is without any obligation, so not everyone has to be present, but yes, of course you always try to be present as much as possible" – Respondent 1.* So, in De Zorgmolen, there is little time allotted for collaboration and there are no compulsory meetings.
Participants of De Zorgmolen did not have the feeling that people did not put in the needed time for collaboration. As Respondent 2 explains for De Zorgmolen: *"There is no unwillingness, I don't believe that".*

The organizational culture was not experienced as a barrier to collaboration. Contrasting perceptions or practices did not occur or did not hamper collaboration. There was also no mention of having contrasting protocols or procedures that might form a barrier to collaboration. Furthermore, there are little layers of hierarchy. At the top are the owners of the building, then there is the renting party, the Tenants Association and the health care providers. This does not seem to cause any problems in De Zorgmolen.

What did cause problems, was a professional culture. It was noticed that some health care providers worked autonomously, more than others *"…there are a few who are more distant, in the general practitioner's department I think, especially the assistants, they are a club in itself" – Respondent 3.* One respondent noted that it are mostly the bigger practices within the health care centre, that did not have as much contact with the other practices than the solo practices *"I think that [less contact] is because I work alone and they have, they are with several. So, they also have work meetings every once in a week or twice a week. So then, because they themselves, each has its specialties, are specializations" – Respondent 5.*
Specialist language was not mentioned by any of the respondents, but differences in practices was. This led to some difficulties in the multidisciplinary collaboration. Due to new regulations, patients have to be referred to the medical pedicure via the podiatrist, instead of directly from the general practitioner. As one of the employees from De Zorgmolen mentioned: "*nowadays, there is a podiatrist in between [the referral], and unfortunately, we do not have a podiatrist within De Zorgmolen" – Respondent 1.*
The last aspect that could cause the professional culture to be a barrier to collaboration is having a small defined professional role and territory. This was not the case in De Zorgmolen. Actually, employees even pick up tasks that are not necessarily theirs, such as more facilitating tasks *"…there are still things that we can pick up together, there are things that customers run into. For example, the lift that does not work, or you know, something like that…" – Respondent 1.*

In De Zorgmolen, there was some lack of role clarity. Objectives for or responsibilities of a specific role were determined in introduction rounds where the professionals explained their field of work *"If a new person joins... if they come to the meeting then we do a proposal round" – Respondent 5.* And in general, the respondents all agreed that roles were clear, even though it took some time to get to know each other. The professionals from different disciplines do not necessarily keep each other up to date if they follow new trainings *"That is only shared by chance, so not centrally. Well, if there would be a regular multidisciplinary meeting, then you could know that ... but we do not have that. There is no need for that, at least not from the GPs" – Respondent 5.* Keeping informed about each other's role was *"a bit of you own interest, I think. To what extend you ask and make an inventory of what the others do and can do" – Respondent 4.*
Taking on new tasks exceeding job descriptions was not experienced as causing a barrier to collaboration
There were formal job descriptions written down in a booklet, only meanwhile that is already outdated *"we have published a booklet, that is now a little bit dated, that says exactly who does what and who they are" – Respondent 2.*
This led to some ambiguity of roles. For example, a specialist got a patient that was referred to her by the general practitioner, but that *"...actually was not within our discipline" – Respondent 1.* This problem was then solved by calling in a specialist from another discipline and discussing the best option to treat the patient.

The last barrier to collaboration that was experienced in De Zorgmolen is a lack of trust. This barrier is now almost overcome but played a big role some years ago. Trust was now mentioned as an important aspect for collaboration, especially in the phase of choosing partners to take part in the multidisciplinary collaboration in De Zorgmolen: *"Of course, there has to be some trust, because you have to be able to work well together" - Respondent 1.* There is a general perception that others will refrain from opportunistic behaviour *"If you hear negative stories about a colleague, you will of course become more cautious. But as long as that happens* ***incidentally*** *or not, you do not do anything with it" – Respondent 3.* So even if incidentally things go wrong, the participants do not immediately think it is on purpose.
Also, the participants in De Zorgmolen were willing to assume open and vulnerable positions. When a health care provider had to ask help from a colleague, he had the feeling they would help, instead of seeing it as a weakness *"So, I am not afraid to ask him for help if that's necessary" – Respondent 4.* There were however some things that the respondents did not feel comfortable asking. This was about the way in which the other health care providers refer patients. About this, they say: *"That are not things you can just ask point-blank" – Respondent 3.*
Actors also expected each other to take their interests into account and took each other's interests into account. This was visible in for example referring patients to each other and having trust in that that was the right choice *"I don't know if he is good, I can't compare him to another podiatrist… I do not know anything about that. So that's just based on granting" – Respondent 4.*

What should be noted, is that in De Zorgmolen there had been little trust in the collaboration at some point in time. At the beginning, when De Zorgmolen was established, the coordinator for the establishment turned out to be a bit of a fraud *"Later you find out that you are terribly fooled… and that, for a collaboration is not a nice base" – Respondent 2.* That did cause some troubles for De Zorgmolen and *'that took some years to correct that. And that now quite alright' – Respondent 2.* So, there was a lack of trust just after the establishment of De Zorgmolen, which now seems to have gone away.

A lack of trust has thus been overcome and the barriers a lack of time, professional culture and to some extend a lack of role clarity still form barriers to collaboration in De Zorgmolen.

4.2.2 Oranjestein

In Oranjestein only two barriers to collaboration were experienced. These were organizational culture and a lack of role clarity.

A lack of time was not causing a barrier to collaboration in Oranjestein. One respondent even stated: *"I get a lot of time and opportunity to work in the way that I think is good for me and for others" – Respondent 7.* In Oranjestein no one mentioned participants not putting the needed time in for collaboration and there was even time allotted for collaboration. Team meetings are compulsory and *"you get time back for that [team meetings]" – Respondent 6.* Also, when working on a department where the elderly need medicines and none of the staff is qualified to distribute medicines, the schedulers plan a time where the qualified person will help the department *"…that is already in the day schedule, that she has to do the medication in a certain department. And if it takes too long, I'll call" – Respondent 10.*
The employees experienced a lack of time to perform their daily tasks, but that did not form a barrier to collaboration. They even made use of the collaboration when they didn't have time to perform a task. An example was: *"Sometimes they [family members of the residents] want us to walk fifteen minutes a day with a resident. Well, we do not always have that time for that. So, then the physical therapist has to come, you arrange that together" – Respondent 7.*

Regarding the barrier of organizational culture, contrasting perceptions, practices, protocols or procedures were a problem for Oranjestein. *"Every team has a kind of own culture" – Respondent 6.* Per department there are other ways in which things are done. As one respondent describes it: *"So if I am used to a department, how they do things in a certain way and then when I do that in the other department I will hear 'oh, that's not quite right'. Then I say 'Oh, I only did what I thought I had to do'. Anyway, you will learn how to do it" – Respondent 9.* But also for the whole or Oranjestein, some employees experienced protocols or procedures different from the ones they are used to *"... I was used to only the nurses having accessibility shifts. But here the care givers also have that"- Respondent 8.* It was stated that it is not only convenient for employees of a department to create specific protocols and procedures, but also for the residents, especially the demented elderly, because the need routine *"If you are a new resident on the department, you'll learn how it goes and well, they are of course demented, but rest, regularity and cleanliness is what keeps them going, so to say" – Respondent 9.*

In Oranjestein, there was little hierarchy, and everyone seems to be working together just fine *"the cooperation between the management and the cleaners and the cooks and the receptionist and that... I do not know. Everyone has a telephone, and everyone can reach each other, and I think that's fine" – Respondent 9.*

Working autonomously, specialist language, differences in ideas and practices, and a small defined professional role and territory are all indicators for the presence of a barrier to collaboration caused by the professional culture. In Oranjestein, employees mostly work together on a department, but *"From half past 1 on there is only one person per department" – Respondent 10.* This autonomously working not hamper collaboration however, as there is contact between staff from the various departments *"…everyone has to help each other because we have shortages, so you shift employees" – Respondent 7.*
Specialist language was not used in Oranjestein or did not cause problems.
Differences in ideas and practices between professionals were not noticed, only on the organisational area such as between teams or departments, as mentioned before.
The professional role and territory were not small defined, actually employees helped each other when they could, even if it was not their responsibility *"She [the hostess] will prepare the breakfast, coffee, etc. And the lunch… we'll help her with lunch" – Respondent 10.*

A lack of role clarity was not a problem for the collaboration in Oranjestein. Roles were actually quite clear. Objectives or responsibilities were written down *"Yes, that's being noted [who has which tasks]" – Respondent 7.* And when it was not clear yet whose task something is, there is a meeting and a shared decision on who will take responsibility *"And then you can discuss "okay, that's the plan. What do you think about it? ' And then it is about whose task it is. Sometimes the physio picks it up and another time the ergo" – Respondent 7.* One problem that Oranjestein encountered was that even if roles are clear, it is not always clear if the tasks belonging to that role are actually executed properly *"It is sometimes unclear in the sense of whether people really have picked up things that belong to that role" – Respondent 6.*
Taking on new tasks exceeding job descriptions did happen, but that was mostly for helping each other, such as helping the hostess prepare the lunch for the residents (see paragraph above). The taking on of tasks was not formal, just ad hoc.
There is a formal description of roles in Oranjestein, especially regarding which tasks can be executed by whom. For some tasks, special training is needed *"Internally at Oranjestein I have signed off medication… so that I can also hand out medicines" – Respondent 9.* In a special booklet it is written down what trainings the employees have had. Especially with temporary workers that comes in handy, as there sometimes is confusion about which skills they actually have and thus which tasks they can execute. *"There sometimes is ambiguity about it. So, we agreed that you ask in advance [what skills they have]" – Respondent 10.* It seems that the formal role descriptions are clear, but there is some confusion about the skills of the temporary workers.

A lack of trust did not appear to be present in Oranjestein. Trust *"in general there is." – Respondent 6.*

There is no perception that others will not refrain from opportunistic behaviour, however there are several mentions of gossiping *"it has to do with that, the gossiping" – Respondent 7,* which could decrease trust within a collaboration.
But still, employees have the feeling that they *"…can say everything to each other. We also dare to say everything" – Respondent 10.* They thus are willing to assume open and vulnerable positions.
The interests of each other were taken into account and employees helped each other when necessary *"Employees are very helpful here. I especially notice that in the evening. That we really have a few meetings, especially during the coffee at eight o'clock, and ask 'does someone need help?'" – Respondent 8.* Also, when given the task to help other departments, employees would do that. But, employees tended to first help their own department before they started helping others *"Then it is 'my department first, before I go and help others'" – Respondent 7.*

So, in Oranjestein the organizational culture forms a barrier to collaboration. Besides, there is sometimes a lack of role clarity, especially with temporary workers and students.

4.2.3 Centrum voor Maatschappelijke Ondersteuning

The CMO experienced organizational culture and a lack of role clarity as barriers to collaboration.

About the lack of time, it was mentioned that people were often busy *"…I do notice that everyone always indicates that they are busy, that will remain. But that does not mean that people are more dependent on themselves" – Respondent 15* but that did not necessarily hamper collaboration. The feeling that participants did not put in the needed time for collaboration was absent, partly because employees knew they had to collaborate a lot in this function *"For example the Social District Team employees, they all applied specifically for this job, so they really chose this work and they like to do it" – Respondent 11.*
In the CMO there is specific time allotted for collaboration. Some meetings are scheduled weekly and another part of the collaboration is based on ad hoc meetings. The so-called Team of the Day meetings are scheduled every day on a specific time. There is also a schedule of whom participates when *"The Team of the Day is every day from half past 2 till 3. Debt counsellors just make sure that at that time one of you is in the office, that they can ask you questions if necessary" - Respondent 11.*

Organizational culture did form a barrier to collaboration in the CMO. This was mostly visible in the presence of different practices. *"…we analyse everything in a very different way." – Respondent 15.*
In the CMO there are also some varying procedures and protocols in the different organizations working together. And even in the municipality itself are big differences: *"The municipality, then you'll think 'well that is one organization, it will have one culture and one way of working'. And there are big differences. Because the work and income branch, works very different from the youth care and welfare branch – Respondent 14.*

Hierarchy was present in the CMO *"we have a director and then a manager at the city hall... Then we have four quarters of the four district teams. Well, then you have a number of interim managers who discuss the further development of the CMOs… the more people have something to say about it, the more ideas there are, so how do you get that in line, that you go one way and not that everyone has their own plan. That can also be a risk" – Respondent 12.* As the respondent says, hierarchy could be a risk, but was not experienced at one already. The only problem regarding hierarchy that the CMO encountered was that different organisations from the collaboration have different directors. There are some that are all part of the municipality and a respondent explained why that was easier to collaborate in *"…that's easier. Because then you can just say to the bosses 'guys, we just have one vision, we go that way… with the supply chain partner that just is a little more difficult, the alignment" – Respondent 14.*

The professional culture did form a small barrier to collaboration.
About working autonomously, it was said that in earlier times, people worked more autonomously but that has changed and does not happen so much now *"The Social District Team was first and foremost a separate entity, a stand-alone team and we very invested a lot in ensuring that we collaborate well with each other" – Respondent 15.*
In the CMO, people from the various professions did have different ideas and practices. They explain *"If you are working on providing a benefit, for example, the social assistance benefit, you must be able to apply it in a different way because of a lot of laws, then if you work in the Social District Team for example"* – Respondent 11. There are plans to create a common method for the CMO *"That can result in using a common method" – Respondent 14.*
Furthermore, in the CMO, employees all had quite a big defined role. *"… I think it is really nice that they are now more and more picking up things together. Instead of it being 'you or me, and otherwise we have a problem'" – Respondent 15.*
Specialist language did not come forward in the data as a barrier to collaboration in the CMO.

In the CMO a lack of role clarity was experienced as a barrier to collaboration.
There could be some confusion about objectives for, or responsibilities of a specific role *"there can be some overlap. It is not always crystal clear [whose task it is]" – Respondent 12.* But sometimes that was a premediated strategy, to not have too strict role descriptions *"That means we you'll have to put those tasks closer together… Not that we start redistributing all tasks, but there may be a less sharp demarcation between those tasks and clusters, that is important. And that can promote cooperation" – Respondent 14.* In that way, roles are divided, but purposely have some overlap in order to stimulate collaboration *"Everyone has his duties now. And we also do that in conjunction. And there are also some agreements about how you can do that together now. So, there is some clarity in that" – Respondent 14.*
Furthermore, people tended to take on tasks that were not within their original job description *"then that colleague says 'could you help me'. Actually, it is not really my job at all to finish that" – Respondent 11.* This could lead to the blurring of roles and the tasks corresponding to them.

The data mentioned nothing about formal role descriptions or a lack of formal role descriptions in the CMO.

A lack of trust was not experienced in the CMO. There was the perception that not all parties put in the same effort *"They have the idea that they have to be ready every time for them, but that it is not the other way around, they do not benefit from it" – Respondent 11.* But this was explained to be caused by insecurity rather than opportunistic behaviour. And overall, trust was good.
Assuming a vulnerable position and the positive effect this has on collaboration were even mentioned explicitly*: "So then it is actually the vulnerability that I show at that moment, that makes someone actually become very helpful… So I say 'yes, I really cannot do that on my own, can you help me?" – Respondent 11.* It is that vulnerability that makes people want to help each other and to collaborate *"I do not have all the knowledge, I am not the know-it-all…" – Respondent 11.* Also, there is an openness within the CMO that creates that employees say *"I have the feeling that I can say anything what I feel of what I think" – Respondent 15.*
There were no signs of expectations of actors not taking each other's interests into account. It was actually the contrary, members of collaboration did think about each other. In the CMO this was visible in the mentioning of a so-called *"...we-culture. I like to take everyone's interests into account" – Respondent 13.*

A summary of the results concerning the experienced barriers to collaboration is presented at the end of the next section, section 4.2.4: Other barriers.

4.2.4 Other barriers

Besides the beforementioned barriers, some other barriers to collaboration were also identified in the analysis of the data.

The first barrier to collaboration that stood out, were rules and regulations from national government. This seemed to have a hampering effect on collaboration in all three cases. The new privacy legislation was mentioned as hampering the collaboration, as it makes communication more difficult *"Yes, that [the new privacy legislation] is of course a thing ... You may not be able to send things that easily and there are things that we need to make adjustments for, yes, for sure" – Respondent 1.* And it slows down the collaboration *"With the new privacy legislation it is of course a bit difficult to take action. It is good, the privacy. But it can also slow down the work" – Respondent 12.* In some cases, it is that a patient *"... does not give approval for sharing or showing his data. Even though that really is necessary" – Respondent 11.* So, then the privacy legislation is a barrier to collaboration.
The other legislative barrier was the requirement of having a referral from a general practitioner in order to treat a patient. For example, some referrals are required to go from a general practitioner in De Zorgmolen, to a health care provider outside De Zorgmolen, before the patient can go back to receiving care in De Zorgmolen. A respondent told the following: *"If we receive a referral, we will receive it via the podiatrist, outside the Zorgmolen. So then real collaboration is already less" – Respondent 1.* Also, in Oranjestein the mandatory referrals

were mentioned as a barrier to collaboration *"And with some things you need that referral, so first the general practitioner and only then you can activate those people" – Respondent 6.* Even though there are good reasons behind these rules and regulations, they do hamper the collaboration between health care professionals.

The second barrier to collaboration that was found was individual efforts put into the collaboration. There was for example a difference in the need for contact with others *"...the ones that initiate it [contact] of course have that need, but the others could have that less" – Respondent 3.* Another respondent explained *"Maybe it is part of my personality…that I often go to people and say 'well, let's discuss this'. Of course that differs per person" – Respondent 13.* The efforts put into collaboration also have something to do with someone's character *"...I Think that it [difficulties in collaboration] mostly have to do with the person's character" – Respondent 7. "That [how people collaborate] is dependent not per department, but more per person, I think" – Respondent 9.*

The last barrier to collaboration, or striking finding, was that in all cases it was mentioned that young employees seem to collaborate more easily than older employees. One example has been given by a respondent: *Two quite young girls have been hired... The other two are actually quite old employees. They are just a little bit stuck in how it is. Well, I can imagine that these two are more excited. To find the collaboration" – Respondent 11.* And another respondent tells about younger employees *"Now they learn it [to collaborate] from a very young age" – Respondent 2.* The old people are thus more 'stuck' in their own ways. As it is explained: *"They say… 'we have been doing it like this for years now'. Yes, that is very present" – Respondent 8.*

Besides the five barriers to collaboration from the theoretical framework, these three aspects, national legislation, individual characteristics and age also can be barriers to collaboration.

Below, table 10 presents the results of the analysis of experienced barriers to collaboration in each of the cases.

Table 10: Overview of results – barriers to collaboration.

Case	**De Zorgmolen**	**Oranjestein**	**CMO**
Barriers identified in theory	Lack of time, Organizational culture, Professional culture, Lack of role clarity, Lack of trust		
Barriers identified in case	Lack of time, Professional culture, some lack of role clarity, Lack of trust.	Organizational culture, Some lack of role clarity.	Organizational culture, Some professional culture, Lack of role clarity.

	Rules and regulations from national government, Individual efforts, Age	Rules and regulations from national government, Individual efforts, Age	Rules and regulations from national government, Individual efforts, Age
Comparison with the theory	From theory, it seems that all collaborations would have to deal with the five barriers to collaboration as identified in the theoretical framework. It turns out however, that this is not the case. In each collaboration, different barriers played a role. Also, sometimes not all indicators for a barrier could be found in a case. For example, in the barrier 'lack of time', there was no time allotted specifically for collaboration, but there were no traces that there was a feeling that participants did not put in the needed time for collaboration, as described by Fewster-Thuente and Velsor-Friedrich (2008). So, the indicators used were not necessarily connected to each other. Besides, three other barriers to collaboration could be added to the theory about barriers in healthcare, these being rules and regulations from national government, individual efforts and age.		
Explanation	Apparently, different collaborations can experience different barriers, this could be related to the stage of collaboration, as is proposed in the conceptual model of this study. This possible relation will be explored in section 4.4. Furthermore, the operationalization of barriers to collaboration was created by combining different theories. This could explain the unconnectedness of the indicators in some barriers.		

In the next sector, the boundary spanning activities that were performed in the three cases will be discussed.

4.3 Performed boundary spanning activities

Boundary spanning activities were performed in all cases. Connecting with external partners was the most often mentioned boundary spanning activity in all three cases. Especially opening up, brokering and/ or maintaining existing relationships was executed a lot. Below, for each case, the performed boundary spanning activities and boundary spanners will be discussed.

4.3.1 De Zorgmolen

In De Zorgmolen, there could not be identified one, or multiple people with the specific role of connecting or overcoming differences. Most boundary spanning activity was executed by individual members of the collaboration. In the beginning, when De Zorgmolen was founded, a *"manager or coordinator" – Respondent 2* was appointed to bring parties together. He took the role of connecting with external partners, especially by opening up new relationships and

generating broader visibility. He *"brought the parties together and [asked] the people 'what size room do you want…?" - Respondent 5.* And also *"he did, so to say, the contacts with the contractor company. But also made sure that we did introductory rounds in advance" - Respondent 5.*
Now, when new health care providers are to join De Zorgmolen, they have to get permission from the Tenants Association. So, in that way the Tenants Association plays a role in opening up new relationships *"We have to be able to vote together, so to say, if we want that person to join us" – Respondent 1.*
The boundary spanning activity 'overcoming differences with external partners' cannot be traced in the data. Connecting internally on the other hand, was also done by the beforementioned manager when the parties came together. He then made internal introductions by facilitating "*introduction rounds" – Respondent 2.* Now that is the job of the Tenants Association. Opportunities for people to interact that are now created are for example *"When they say: 'we have a meeting this Thursday at half past twelve', then everyone is present" – Respondent 4.* There is not one person accountable for those connections *"…there is no hostess or anything, or a connector. No that is actually the residents themselves" – Respondent 1.* When the members want a meeting with multiple other health care providers they do that with the help of technology *"Speaking to everyone, that is with online date planners and stuff like that. We then make use of computers and date planners" – Respondent 2.* The boundary spanning activity 'overcoming internal differences' is not being visibly executed in De Zorgmolen.
So in short, in De Zorgmolen the members of the collaboration connect internally and connect with external partners, but not very frequent.

4.3.1 Oranjestein

In Oranjestein, the role of boundary spanner is not executed by formally appointed people, but it is clear that some regularly execute some boundary spanning activities. For example, one respondent explains that she connects with external partners by maintains existing relationships *"I ask colleagues if things are going well, if they want things to be different" – Respondent 7.*
Timely mobilization is taken care of by so-called coordinating care givers *"... we call that a coordinating care giver. So, those people have a group of elderly that they are really responsible for and they take care of all matters around it. Also, for a meeting with the family and all practitioners together…" – Respondent 7.* It are the coordinating care givers then that make sure that whenever for example the family or the general practitioner needs something from Oranjestein, that they are ready.
Overcoming differences with external partners happens mostly through information exchange. For example, *"Every week we send an email with information" – Respondent 6*. This email is sent by the receptionist of Oranjestein. Everyone can send in information to be distributed by that email. Internal introductions are made when for example new employees arrive *"the work supervisor usually does a more extensive introductory round. They'll drink coffee together and then they usually meet the rest of the colleagues" – Respondent 7.* This is then the task of the work supervisor, and partly of the practical trainers, who form the first contacts with students.

Connecting internally seems to be mostly done by temporary employees. Because they do not work on a permanent department but are placed where they are needed. As one respondent *explains "I think that temporary workers play a big role in that [connecting people].* Because they go from one department to the next. They can see things and exchange that. *"And with employees in training we also do that, so they also play a role in that" – Respondent 6.* Besides formally making internal introductions, there is also a relaxation committee that organizes fun getting togethers for its employees. Lastly, in Oranjestein the internal differences are overcome mainly by questioning and challenging assumptions. Also here, the temporary workers and students have a key function, as they express their observations regarding prevailing views. One example is a temporary worker telling *"Sometimes when I'm on a department I say 'oh, on this department we always do it differently, I don't know if that might be handy here too?'" – Respondent 9.* But also, rules and regulations are equalized by the management.

When asked about individuals that perform boundary spanning activities, it are mostly *"just colleagues from the department. Who then just take on the responsibility and are very positive and energetic and want to put time into the future and into improvements. Mostly that are people from the work floor, I think" – Respondent 7.* An example from this is the initiative to start cooking together with employees and residents in one of the departments. But also, the nurses and the occupational therapists are mentioned. About nurses it is being said *"they are allowed to do other things than other employees may, and they are called for help more. And so, can make the connection. And so, we have a few people with an extra role, like the ergo coach… they check all employees, so in that sense you have that connection" – Respondent 6.* The management and the team leaders do not really influence the multidisciplinary collaboration, but the location manager for example maintains contacts with other nursing homes from Pro Senectute.

It are thus mainly certain individuals that take on the role of boundary spanner, for example the receptionist, work supervisor, practical trainers, ergo coaches and nurses. They seem to have taken on that role because they are in contact with more people than the other employees. But also, the temporary workers and students seem to play a role in connecting and overcoming differences.

4.3.2 Centrum voor Maatschappelijke Ondersteuning

At the CMO, three specific people could be identified that performed a lot of boundary spanning. Even though *"actually within all functions, there are always people who connect" – Respondent 15* the three performing the most boundary spanning activities were the manager development CMO (who is also the location manager of the CMO North West- Centre), the quality coach and the case manager(s). They will all be discussed below.

The manager development CMO is responsible has four main roles. First of all, he is responsible for the daily functioning and the fulfilment of the development plans of the CMO. Second, he is location manager of the CMO North West- Centre. This is mainly about practical matters, such as the safety of the building. Then the third role is that of team manager of the Social

District Team, responsible for helping clients with multiple problems getting all the care they need. The fourth and last role is that of district director for care. This role concerns taking care of escalations, for example when the media is getting involved.
As explained by the respondents, the manager for the development of the CMO is good at the boundary spanning activity of connecting with external partners. He opens up, brokers and maintains relationships by making sure all employees get the flexibility and freedom to perform their tasks in collaboration *"Everyone should get a certain degree of flexibility and freedom. And that is actually, the manager development CMO is the only one that can do that" – Respondent 11.* This often took place on quite a personal level. For example, the manager development CMO would say *"when someone has been sick or has been on holiday, you know, just asking 'how was your holiday, did you enjoy it?'. Or making sure a card is sent. Just on that level" – Respondent 15.* Thereby maintaining existing relationships. But he also has a feeling for what in the network is important for other organizations and how to connect between developments in the network and work processes. So, when flexibility within the collaboration was needed for other organizations to be able to collaborate effectively, he took care of that *"And in the beginning it was sometimes the case that, yes, there was some some rigid hold of the support plan and how it should be executed.... The manager development CMO is the one who directs that. And then you also actually see that there is improvement in that" – Respondent 11.* By sensing the development that people held on to the plan too strictly, he changed the work processes and made them more flexible, also because he felt that that was important for the other organizations in the network.

The second boundary spanner is the quality coach, whose job it is to make sure the executed work is of good quality, that people use their qualities, that people develop themselves and it is their job to find out what things could be done differently. This work is executed on the level of the CMO as a whole. The boundary spanning activities that the quality coach executed was overcoming internal differences. This was done by signalling shift from the status by questioning and challenging assumptions. A shift from the status quo should be signalled from their helicopter view on the CMO *"they can signal it if they see things… so if all goes well, they are kind of helicopter that sees things happening… Those are the people who connect the most, or have the best position to do so" – Respondent 12.* It is also their function to question and challenge assumptions. Which they also did by giving others instructions to ask critical questions *"A lot of times I tell the orthopedagogue 'even if there is not a case specifically for you, I expect from you that if there is a youth, you ask critical questions'" – Respondent 11.* Because *"If you want that everyone stays focused and keeps thinking about his or her own choices and vision and actions, then you need to ask critical questions" – Respondent 11.* A critical stance was thus important for the quality coach.

The third and last boundary spanning role is at the case level, where the case manager makes sure partners work together by contacting all involved health care providers of a specific case and organizing a multidisciplinary meeting. The case manager also makes sure that information is exchanged, and opportunities are clarified. About clarifying opportunities, a respondent says: *"[It is] often also removing a bit of ambiguity, I think. That it is clear what we are working*

towards, how we will do that. Instead of being very vague and discussing very much, but no real concrete changes. I have the idea that that often leads to ambiguity. And then people stop collaborating, because then they think 'we're talking about it, but nothing happens. I'm going to focus on my own work again'" – Respondent 15. Information exchange is facilitated by organized meetings *"And usually I actually just propose, if I have spoken to everyone, that we all go around the table in a mdo, a multidisciplinary consultation" – Respondent 15.* Thereby she acts as a translator of perspectives or knowledge if necessary.

Connecting internally happens also within the CMO, although not by a formally appointed boundary spanner. Moving individuals is done by the individuals themselves *"some employees just sit wherever" – Respondent 15.* And some members of the welfare network are obliged to be present in the CMO office at least one daypart each week *"Some employees said 'on these days I will be at the office standard" – Respondent 15.* Opportunities for people to interact are created, such as in the Team of the Day meeting. It seemed however that not one person was responsible for this meeting, but that the schedule of members present and the fixed time and place made it easy to discuss the cases.

Thus, at the CMO all four types of boundary spanning activities are performed, of which three types are also part of a specific function.

Boundary spanning activities can thus be performed by formally appointed people, or it can be executed by all of the members of the collaboration separately from each other. Also, there is some variation in the amount of boundary spanning activities that are executed. In De Zorgmolen the members of the collaboration connect internally and connect with external partners, but not very frequent. In Oranjestein some specific employees perform boundary spanning activities regularly. And in the CMO appointed people who have it included in their job descriptions, perform boundary spanning activities frequently.
What influence this has on the stage of collaboration will be discussed in the next section.

In table 11 on the next page, the results of the analysis of the performed boundary spanning activities is summarized for each of the cases.

Table 11: Overview of results – performed boundary spanning activities.

Case	**De Zorgmolen**	**Oranjestein**	**CMO**
Activities identified in theory	Connecting with external partners, Overcoming differences with external partners, Connecting internally, Overcoming internal differences.		
Activities identified in case	Connecting with external partners, Connecting internally.	Connecting with external partners, Overcoming differences with	Connecting with external partners, Overcoming differences with

		external partners, Connecting internally, Overcoming internal differences.	external partners, Connecting internally, Overcoming internal differences.
Activities executed by	Regular employees alternatively. Boundary spanning roles were not clearly defined.	Some of the regular employees regularly. Boundary spanning roles were not formally defined.	Appointed employees regularly. The boundary spanning activities are included in the formal role descriptions.
Comparison with the theory	The boundary spanning activities as identified in the theoretical framework were eventually all identified in the research. However, not all four were present in each case. The theory did not mention if all four activities are always carried out at the same time, the research showed this does not have to be the case. Furthermore, the profiles of the individuals performing boundary spanning activities seemed to greatly comply with the existing literature about boundary spanners (e.g. Tushman & Scanlan, 1981; Williams, 2002). Just as Williams (2010) mentioned, some boundary spanning activities were performed by formally appointed boundary spanners and some were informal boundary spanning The one exception to not comply with the theory was the role of temporary workers and students in Oranjestein. They seem to carry out connecting activities, it is however very unlikely that they actually are boundary spanners. As explained in the theoretical framework, boundary spanners should possess a certain skill set (Sennet, 2012), should understand the language of both sides of the boundary (Tushman & Scanlan, 1981) and know which actors are important (Williams, 2002). Especially for temporary workers it is almost impossible to know the important actors and understand different languages if they are (relatively) new to Oranjestein.		
Explanation	As it turns out, when one of the boundary spanning activities is performed, that does not mean that the other boundary spanning activities are also always carried out in the same case. Besides, being a formal or an informal boundary spanner seems to not influence the performed boundary spanning activities. Furthermore, in Oranjestein the temporary workers and students play a role in the collaboration by questioning and challenging assumptions, although probably not as boundary spanner. It might be just curiosity or dissatisfaction with the situation that they voice their observations, without the goal of connecting internally.		

Next, the results from the data concerning boundary spanning activities, overcoming barriers to multidisciplinary collaboration and the stage of collaboration will be connected and analysed.

4.4 Connecting findings

In this section, the link between boundary spanning activities, overcoming barriers to multidisciplinary collaboration and the stage of collaboration will be explored. According to the seven stages of collaboration, collaboration evolves from coexistence to communication, to cooperation, to coordination, then coalition, then to collaboration and finally to coadunation. In this research the cases were found to be in the stages of coalition, coordination and collaboration. By looking at the evolution of the collaboration in the three cases, at the barriers to collaborations that have been overcome or are still encountered and at the boundary spanning activities that have been performed, this section will try to connect boundary spanning activities to overcoming barriers and establishing collaboration. Per case, it will be described how the barriers relate to the stage of collaboration and to what extent boundary spanning activities or roles have been executed and developed.

4.4.1 De Zorgmolen

The collaboration within De Zorgmolen started in the phase of coexistence. From there on, it was on the initiative of a general practitioner that De Zorgmolen was established. He hired a coordinator, who took on the role of boundary spanner. It was the boundary spanning activity of connecting with external partners that opened up the new relationships between members of the collaboration. He also generated a broader visibility of the organization by creating a shared website for De Zorgmolen. The boundary spanning activity of connecting internally formed the basis for the collaboration. By moving the individuals to a new location and creating opportunities for them to interact, such as meetings, the collaboration took the form of a cooperation. Changes with the coexistence stage were that in the cooperation stage, there was formal communication between members of the collaboration in meetings, information was provided to each other in these meetings and roles were somewhat defined by introduction rounds organized by the coordinator. Decision making was already mostly shared by the members of the Tenants Association.

The coordinator was hired for the time to start a collaboration and when it was in the phase of cooperation, his job was done, and he left. It was now the task of the members of the collaboration to further develop De Zorgmolen. However, barriers to collaboration had come up. Because the members did not know each other for that long, roles, abilities and specialties of the professionals were not fully clear, that was only later, when they better got to know each other. And what might have been the biggest barrier, the trust in the collaboration had been damaged. The coordinator had created distrust, as he turned out to be a fraud. One respondent explains *"Al those people that have been in the health care centre from the start on have experienced something like this. And that is no great base for the collaboration" – Respondent 2.*

However, the participants of De Zorgmolen continued to interact and the relationship between the health care providers in the centre was managed by the Tenants Association. This was done by performing the boundary spanning activities connecting with external partners and connecting internally. Connecting with external partners mostly existed of brokering and maintaining existing relationships between the participants and connecting between developments in the network and work processes, in this case creating support processes now that the coordinator was gone. By continuously executing these activities, which were also partly performed by members of De Zorgmolen themselves, such as by proposing meetings or joint lunches, the collaboration overcame the lack of trust and roles became clearer. Also, interaction intensified, and the collaboration changed to the stage of coordination.

De Zorgmolen is currently in the coordination stage of collaboration. The main barriers that it now faces are a lack of time, the professional culture and to a small extent a lack of role clarity. In a lack of time, the biggest problem is having no time allotted especially for collaboration. In the professional culture, it is mainly the working autonomously that creates a barrier to collaboration. And the lack of role clarity is created by not being up to date on each other's trainings and new education. Boundary spanning activities that are being performed are connecting with external partners and connecting internally and they are performed by the members of the Tenants Association and several other participants of the collaboration. However, the boundary spanning activities are not being performed regularly or frequently. For example, meetings are organized only four times a year.

There is however a wish to improve the collaboration, although this wish is not shared across all members of De Zorgmolen. Some members would like to have more frequent and prioritized communication, for example in the form of a regular multidisciplinary consultation. Others stated that they would like to have more mutual contact or that they just wanted to improve collaboration, without specifying how exactly. But there were also some respondents that expressed to have no wish for further collaboration.
If they want to get from the coordination stage to the coalition stage, a shared vision should be created, communication should be prioritized, and all members of the collaboration should have a vote in the decision making. At the same time, the barrier which are now present, a lack of time, the professional culture and some lack of role clarity are also still in the way of collaboration. It seems that the boundary spanning activities that are being performed at the moment do not help overcoming these barriers, or at least not yet.

Table 12 on the next page, provides an overview of the findings in the case of De Zorgmolen.

Table 12: Overview of findings – De Zorgmolen

Stage of collaboration	Experienced barriers to collaboration	Executed boundary spanning activities	Remarks
Coexistence	-	-	-
Cooperation	Professional culture, Some lack of role clarity, Lack of trust.	Connecting with external partners, Connecting internally.	Continued interaction between participants of the collaboration restored the lack of trust that was created.
Coordination	Lack of time, Professional culture, some lack of role clarity.	Connecting with external partners, Connecting internally.	Boundary spanning activities executed by both the participants and the Tenants Association, although not regularly.

An explanation for the evolution of the collaboration in De Zorgmolen could be found in both the overcoming of the lack of trust and continued interaction between the participants. The connecting of partners led to an increased trust between the participants of the collaboration, enabling it to be further developed, which was stimulated by continuous interaction between the participants. Besides, the Tenants Association got involved and took on the role of boundary spanner, although they do not perform boundary spanning activities very regularly.
An explanation of the stage of collaboration that De Zorgmolen is in now, could be found in both the dividedness among participants about whether to take the collaboration to the next level and the fact that only little boundary spanning is being executed and few barriers are overcome. Only two of the four possible boundary spanning activities are being performed. It is in line with the expectations of the research that when more boundary spanning activities take place, the collaboration can reach a higher point of collaboration.

4.4.2 Oranjestein

Oranjestein is the only collaboration in the collaboration stage of the seven-stage model of collaboration. Experienced barriers are the organizational culture and some lack of role clarity. The lack of role clarity only applies to the temporary workers and the students working in Oranjestein. It is often unclear what their objectives and responsibilities are. The barrier created by the organizational culture is that there of contrasting perceptions, practices, procedures and protocols among the different teams or departments in Oranjestein. All four types of boundary spanning activities are being executed in Oranjestein. These are connecting with external partners, overcoming differences with external partners, connecting internally, overcoming

internal differences. The boundary spanning activities are not executed by appointed people, but by mainly executed by some of the employees. Temporary workers and students also seem to help making connections, although that cannot be claimed to be real boundary spanning. The other employees that execute boundary spanning activities do that regularly, for example the receptionist sending an information email every week.

To get to the coadunation stage, all organizations within of the collaboration should merge. Oranjestein could eventually grow to the stage of coadunation. They are actually fairly far in doing so, with having nurses and carers working for Pro Senectute. The general practitioners and physical therapists however are still independent from Oranjestein *"They have their own practices somewhere else and come to here" – Respondent 7.* There was no wish expressed to get to the coadunation stage. The collaboration is now mostly busy with experiments regarding the organization of service provision, for example by executing a pilot on working with less employees per floor.

Table 13 below, displays the overview of the findings in the case of Oranjestein as described above.

Table 13: Overview of findings – Oranjestein

Stage of collaboration	**Experienced barriers to collaboration**	**Executed boundary spanning activities**	**Remarks**
Collaboration	Organizational culture, Some lack of role clarity.	Connecting with external partners, Overcoming differences with external partners, Connecting internally, Overcoming internal differences.	There are no formal boundary spanners, however much connecting and boundary spanning activities are being performed. This did not lead to overcoming the organizational culture or the lack of role clarity.

The current stage of collaboration that De Zorgmolen is now in, could be explained by the high amount of interaction among employees, the little barriers to collaboration that they face and the fact that they are satisfied with the stage of collaboration that they are in now. As predicted by the conceptual model, collaborations in a higher stage experience less barriers than collaborations in higher stages. That seems to be true here. Boundary spanning is being executed regularly by specific people, although they do not have the obligation to do so. All four types of boundary spanning activities are being performed, but the theoretical expectation

that these activities help overcome the experienced barriers, did not prove to be true in this case as there are still the barriers of an organizational culture and a lack of role clarity.

4.4.3 Centrum voor Maatschappelijke Ondersteuning

The collaboration within the CMO can be traced back to the stage of coordination. In the coordination stage, information and resources were shared, roles were defined, there was frequent communication and some shared decision making. The biggest barrier experienced at that time was the organizational culture. Organizations from the collaboration worked mostly separately from each other. When a shared vison was created with the vision document for the CMO, the CMO created prioritized communication and shifted to the coalition stage of collaboration. Carrying out the vision from the document and prioritizing communication were steered by the manager development CMO. He and the creators of the vision performed the boundary spanning activity of connecting with external partners, after which the collaboration moved up a stage.

The CMO is currently in the coalition stage of collaboration. Experienced barriers are a lack of time and to a limited extend organizational culture and a lack of role clarity. The difficulties with the organizational culture have been solved partly by creating a shared vision. However, there are still some contrasting practices and protocols. The lack of role clarity is caused by confusion about objectives or responsibilities of roles and by taking on new tasks that do not match the predesigned job description. Boundary spanning activities that are being executed are connecting with external partners, overcoming differences with external partners, connecting internally and overcoming internal differences. To get from the coalition stage to the collaboration stage, the members of the CMO should come to belong to one system, communication should be characterized by trust and consensus should be reached on decisions. Also, partnership should be created.

Table 14 below shows the findings of the CMO, concerning its stage of collaboration, experienced barriers, executed boundary spanning activities and the linkage between boundary spanning and overcoming barriers to collaboration.

Table 14: Overview of findings – the CMO.

Stage of collaboration	Experienced barriers to collaboration	Executed boundary spanning activities	Remarks
Coordination	Organizational culture.	Connecting with external partners.	The barrier of organizational culture was reduced by overcoming differences with external partners.

Coalition	Some professional culture, Some organizational culture, Lack of role clarity.	Connecting with external partners, Overcoming differences with external partners, Connecting internally, Overcoming internal differences.	Boundary spanning is executed by appointed people, there is in general a great willingness to collaborate.

A main explaining factor for the evolution of the collaboration in the CMO seems to be the creation of a shared vision, belonging to the boundary spanning activity overcoming differences with external partners. However, it should be noted that this boundary spanning activity did not fully overcome the barrier of organizational culture, as it is still noticed by the participants. Furthermore, the collaboration seems to be stimulated by the fact that all members are very willing to take part in the collaboration. As explained by Konings (2010) and mentioned in the theoretical framework of this study, collaborations require all members to put in the needed resources. When that happens, a collaboration is more likely to be successful.

4.4.4 Comparison

Now the findings in each case have been connected to each other, this paragraph will compare the findings of the three cases and connect the performed boundary spanning activities to encountered barriers and stages of collaboration. First, the individual concepts will be compared and then the connections will be made.

Stage of collaboration

Concerning the stage of collaboration that each case is in, it seems that there is a difference in the way that collaboration is being perceived and internalized in the organization's culture. In De Zorgmolen, there is not one clear goal for the collaboration and it seems like it is not yet part of the organization's culture. In the CMO they appear to be very conscious of the collaboration and are working hard to improve it, having created a plan for the future development of the CMO including possibilities for common methods to collaborate even more and more easily. That is again very different in Oranjestein, where the collaboration is already part of the culture and people do not have to be consciously aware of it, it almost happens on itself. This might be explained by the fact that Oranjestein is the oldest collaboration of all three cases and is part of a larger company, Pro Senectute. Pro Senectute thinks highly of collaboration and that has had its effect in Oranjestein. In that sense, the stronger and clearer the organization's vision, or plan for the future, the easier an organization goes through the stages of collaboration. The expectation is that the CMO will develop themselves easily to the next stage, if they continue paying attention to the collaboration.

Barriers to collaboration

Comparing the barriers faced in each case, it can be stated that all three collaborations encounter different barriers in different strengths. The barriers that have the biggest influence in De Zorgmolen now are the lack of time and the professional culture. In the CMO this is the lack of role clarity. In Oranjestein the most present barrier is the organizational culture. It might be that in different stages of collaboration, different barriers play a greater role than in other stages. The barriers found in this research that were overcome, were in De Zorgmolen a lack of trust and in the CMO the organizational culture.

These findings are remarkable, it would be logical that that organizations face the same barriers in the same stage of collaboration, but the organizational culture that the CMO has (partly) overcome, is still present in Oranjestein. It thus seems that the barriers do not belong to specific stages of the collaboration. An explanation for this finding could be the differences in the kind of collaboration of the three cases. As explained in the theoretical framework, there are different types of healthcare collaborations to be distinguished in the Netherlands. As Konings (2010) explained, these are collaboration on the base of coordination agreements, working together on a project base, supply chain collaboration and primary care organizations. Konings (2010) also mentions that depending on the goals and ambitions of the members of the collaboration, and depending on the care requests and characteristics of the patient groups, a specific type of collaboration is chosen. So maybe the barriers experienced in the different cases are not related to the stage of collaboration, but more to a specific kind of collaboration. It then seems that De Zorgmolen is a collaboration on the base of coordination agreements, Oranjestein would most likely be a multidisciplinary care group and the CMO a supply chain collaboration. The kind of collaboration was however not included as a variable in this research and thus requires further research as to determine if it can explain the different barriers faced in the three cases.

Besides, it stood out that in both the CMO and Oranjestein, organizational culture was found to be a barrier to collaboration. De Zorgmolen, however, did not experience this as a barrier even though the collaboration in De Zorgmolen was the least of all cases. An explanation could be that because the collaboration in De Zorgmolen is in a lower stage, organization cultural issues don't play as much of a role (yet). That there is room for difference in organizational practices in collaborations in the lower levels of collaboration and not anymore in the higher levels.

Boundary spanning activities

When comparing the executed boundary spanning in all three cases, there is a clear difference visible in the way the boundary spanning is executed. In the lowest level of collaboration, little boundary spanning activities are being performed and there are no formally appointed boundary spanners. In the middle level of collaboration, boundary spanners are appointed, have a formal role description for performing boundary spanning activities and perform these frequently. In the highest stage of collaboration however, there are no formally appointed boundary spanners, but some people have taken on them a function of boundary spanning. Interesting here is to see that also non-boundary spanners, such as temporary workers and students contribute to the exchange of knowledge. As explained before, it is theoretically unlikely that these employees are performing real boundary spanning activities. However, they do seem to have a positive influence on collaboration,

Connecting the findings above, several things stand out. Each of them will be discussed and then summarized in a table.

Boundary spanning activities & Stage of collaboration

Firstly, the amount of boundary spanning activities performed seems to be connected to the stage of collaboration and the way in which collaboration is internalized in the organizational culture. In the two higher stages of collaboration, more boundary spanning is being performed than in the lower level. Where in De Zorgmolen only the boundary spanning activities of connecting with external partners and connecting internally were executed, in the higher stages of collaboration all four boundary spanning activities were being performed. There thus appears to be a direct relation of boundary spanning activities on the stage of collaboration. This could be explained by the fact that boundary spanning activities create opportunities for people to interact, leading to more interaction and eventually collaboration. This is all presented in table 15 below.

Table 15: Link between boundary spanning activities and the stage of collaboration.

Case	De Zorgmolen	Oranjestein	CMO
Theoretical influences of boundary spanning activities on the stage of collaboration	Based on the conceptual model of the study, the performance of boundary spanning activities should have a positive effect on the stage of collaboration. So, more boundary spanning activities could enable for more intense collaboration, meaning a higher stage of collaboration.		
Detected influences of boundary spanning activities on the stage of collaboration	2 types of boundary spanning activities were performed, but not very often. Boundary spanning roles were not clearly defined. The collaboration reached the stage of coordination.	4 types of boundary spanning activities were performed regularly by various people. Boundary spanning roles were not clearly defined. The collaboration reached the stage of collaboration.	4 boundary spanning activities were performed regularly by appointed people. The boundary spanning roles were defined in role descriptions. The collaboration reached the stage of coalition.
Comparison with the theory	The results from the study match the theoretical expectations. The more boundary spanning activities (types and frequency) are being performed, the higher the stage of collaboration a collaboration is in.		
Explanation	Boundary spanning activities create opportunities for people to interact, leading to more of the needed interaction for collaboration.		

Experienced barriers to collaboration & Stage of collaboration

Connecting the stage of collaboration and the experienced barriers to collaboration, it can be stated that in the lower stages of collaboration, more barriers to collaboration are experienced than in the higher levels of collaboration. In the cooperation stage, De Zorgmolen encountered four barriers to collaboration and in the cooperation stage only three. In the cooperation stage the CMO experienced three barriers to collaboration and in the coalition, only two. Oranjestein also encounters two barriers to collaboration while they are in the collaboration stage. Barriers to collaboration thus hamper the collaboration, by preventing or making it difficult to interact. Without having contact, collaboration cannot be established. So, barriers do have a hampering effect on collaboration. This relation is also emphasized by the fact that both De Zorgmolen and the CMO moved to a different stage of collaboration, after one of the barriers to collaboration was overcome. In De Zorgmolen this was a lack of trust and in the CMO the organizational culture. Table 16 below schematically displays these findings.

Table 16: Link between experienced barriers to collaboration and the stage of collaboration.

Case	**De Zorgmolen**	**Oranjestein**	**CMO**
Theoretical influences of barriers on the stage of collaboration	In the theoretical framework of the study, it is stated that barriers to collaboration have a hampering effect on the collaboration. It was expected that the more barriers a collaboration faces, the lower the stage of collaboration that it is in.		
Detected influences of barriers on the stage of collaboration	4 barriers were encountered in the collaboration, it is now in the stage of coordination.	2 barriers were faced in the collaboration, it is now in the stage of collaboration.	3 barriers were encountered in the collaboration, it is now in the stage of coalition.
Comparison with the theory	The findings seem to comply with the theoretical expectations. Higher stages of collaboration face less barriers than lower stages.		
Explanation	Barriers have a hampering effect on collaboration, as they make it difficult for participants to interact with each other.		

Performed boundary spanning activities & Barriers to collaboration

The performed boundary spanning activities and the barriers faced in the three cases could also be linked to each other, although this relationship is not very clear. The research showed that in De Zorgmolen, the case where only two boundary spanning activities took place, three barriers to collaboration were experienced and in Oranjestein where four boundary spanning activities were being performed, only two barriers to collaboration were encountered. However, in the CMO also four types of boundary spanning activities have taken place and still three barriers to collaboration were still faced. It thus seems that more boundary spanning activities help overcoming barriers, but only to a limited extent.

Regarding the influence of specific boundary spanning activities on specific barriers, the research brought forward to interesting findings. In De Zorgmolen, where the boundary spanning activities of connecting with external partners and overcoming internal differences did not take place, the barriers 'a lack of time' and 'a lack of trust' were present, barriers that were not present in any of the other cases. It might thus be that connecting with external partners and overcoming internal differences decrease the negative influence of a lack of time and a lack of trust on the stage of collaboration.
Furthermore, the two barriers that were found to be overcome in the research were a lack of trust and organizational culture. In De Zorgmolen, a lack of trust has been overcome by connecting with external partners and connecting internally, even though little boundary spanning activities took place. In the CMO, the differences in organizational culture have been overcome by performing the boundary spanning activity 'overcoming differences with external partners' by creating a shared vision. This boundary spanning activity directly matches one of the indicators for the coalition stage of collaboration.
It could thus well be that the boundary spanning activities of connecting with external partners and overcoming internal differences have a hampering effect on the lack of trust and that the boundary spanning activity 'overcoming differences with external partners' helps overcome the barrier of organizational culture. Table 17 below summarizes and explains these findings.

Table 17: Link between boundary spanning activities and barriers to collaboration.

Case	**De Zorgmolen**	**Oranjestein**	**CMO**
Theoretical influences of boundary spanning activities on barriers	Boundary spanning activities theoretically span boundaries. And as boundaries cause barriers to collaboration, it was to be expected that boundary spanning activities reduce barriers to collaboration.		
Detected influences of boundary spanning activities on barriers	A lack of trust was overcome by connecting with external partners and connecting internally.	4 types of boundary spanning activities were performed regularly but two barriers are still being faced.	The boundary spanning activity of overcoming differences with external partners was overcome by the creation of a shared vision.
Comparison with the theory	In two cases there was proof that boundary spanning activities had helped (partly) overcoming barriers to collaboration. That boundary spanning activities help overcoming barriers was to be expected. Linking specific activities to specific barriers is a new finding.		
Explanation	Boundary spanning activities help overcoming barriers. An explaining factor here could be that boundary spanning activities help connect people and facilitate interaction, which reduces the differences between the participants of the collaboration that cause the barrier.		

Boundary spanning activities & Barriers to collaboration & Stage of collaboration

Finally, linking the stage of collaboration to the barriers faced and the boundary spanning activities, it can be stated that several relations exist. First of all, the performance of boundary spanning activities has a direct influence on the stage of collaboration. Secondly, boundary spanning activities have some influence on barriers to collaboration and via that way also a moderating effect on the stage of collaboration. Thirdly, barriers to collaboration have a hampering effect on collaboration.

What seems to be an explaining factor here, is *interaction*. The higher the stage of collaboration, the more interaction there is between employees. At the same time, the more barriers to interaction there are, the more difficult it is to have interaction, the less interaction there is and thus the lower the stage of collaboration. And also, the effect of boundary spanning activities can be explained in this way. Boundary spanning activities both create opportunities for interaction and can only take place in interaction. So, the more boundary spanning activities take place, the more possibilities to interact, the more interaction and thus the higher the stage of collaboration. And also, the more opportunities to interact there are, the more opportunities for boundary spanning activities arise, as these activities always take place between people.

What other finding was striking, is that the further the stage of collaboration, the more moments for communication and collaboration are scheduled opposed to ad hoc. In Oranjestein, there are scheduled moment of communication in the morning and in the evening and also a lot of information exchanged by written down communication. In the CMO there is a daily meeting scheduled, in which the participants rotate their participation. Besides the daily meeting, there are a lot of meetings organized ad hoc around specific cases. In De Zorgmolen, there are no scheduled meetings with all participants of the collaboration, only the Tenants Association meets on a regular basis. Further all communication is ad hoc. It could be that more scheduled moments of collaboration leads to a higher stage of multidisciplinary collaboration, as it allows for more contact moments and thus more opportunities for the execution of boundary spanning activities, such as information exchange, challenging assumptions, etc.

5 CONCLUSION AND DISCUSSION

5.1 CONCLUSION

This researched tried to answer the question: *What is the influence of boundary spanning on overcoming barriers to multidisciplinary collaboration in health care?* In order to answer this question, a comparative case study has been executed.
After a literature review, it was determined that collaboration in health care can be seen in a seven-stage model that ranges from coexistence to coadunation. There are barriers that prevent the collaboration to go to a next stage and there are boundary spanning activities that help organizations to overcome these barriers and to develop the collaboration.

The data obtained from semi-structured interviews in three healthcare collaborations confirmed the positive influence of boundary spanning activities on the stage of collaboration. This aligns with existing literature on the positive relation between boundary spanning and collaboration from for example Williams (2002) and Meerkerk and Edelenbos (2014). The research showed that more boundary spanning was performed in the higher stages of collaboration than in the lower stages of collaboration. This matches with the earlier work of Needham et al. (2017) who also showed that these is an increased prevalence of boundary spanning practices as collaboration is more intense and occurs more frequently. Hence, it can be concluded that the stages of collaboration are, indeed, influenced by boundary spanning activities.
Concerning the relation between barriers and the stage of collaboration, the research showed that in the lower stages of collaboration, more barriers to collaboration are experienced than in the higher levels of collaboration. This indicates, as expected, a hampering effect of the barriers on the stage of collaboration. Accordingly, it can be concluded that the lower the level of collaboration, the more barriers are to be overcome.
Finally, the relation between boundary spanning activities and overcoming barriers to collaboration was tested. The analysis showed no findings for a direct influence of the amount of boundary spanning activities on overcoming barriers to collaboration. However, in two cases a specific boundary spanning activity seemed to have helped overcoming a specific barrier. In one case, a lack of trust has been overcome by connecting with external partners and connecting internally. In another case, the barrier of organizational culture has been overcome by overcoming differences with external partners. But even though these influences were clear, no types of boundary spanning activities could be determined to be generally used only to overcome specific barriers. Hence, it can be concluded that boundary spanning activities in general help overcome barriers. This research could not yet determine in what specific ways.
These conclusions might be further understood by using the concept of interaction. As all concepts of this study seem to have an influence on interaction, this might be the explaining variable. The more barriers are faced, the harder it is to interact. And the harder it is to interact, the harder it is to establish collaboration. At the same time, the more boundary spanning activities, the more opportunities for interaction and the more opportunities for overcoming barriers.

The results of the study are not fully according to the expectations. It was expected that boundary spanning activities would have a stronger or more visible effect on overcoming barriers to collaboration. However, it is possible that other aspects also have an influence on these barriers to collaboration. It can thus be concluded that boundary spanning activities do not fully account for overcoming barriers to collaboration. Besides, the expectation that at different stages of collaboration, different barriers would play a role also turned out to be not true, as the lack of role clarity, organizational culture and professional culture did not only play a role in the lower stages of collaboration, but also played a role in the higher stages of collaboration. Hence, there it can be concluded that the different barriers to collaboration are not related to specific stages of collaboration.

Further relevant findings include the identification of scheduled moments for collaboration as an important influence on the stage of collaboration. Having more scheduled moments of communication, instead of ad hoc communication, turned out to have a positive effect on the stage of collaboration. Having structured moments for information, rather than ad hoc communication, thus enhances collaborative performance.
Furthermore, drawing on the data presented in this study, the barriers for collaboration to come about as identified in the theoretical framework, can be argued to fall short. This study identified three new barriers to collaboration, being rules and regulations from the national government, individual work ethic and age (younger employees seem to collaborate more easily than older employees.

What was also remarkable, is that specialist language did not seem to play a role in any of the cases. This was to be expected from the theory, in which it was stressed that speaking different languages forms a barrier to collaboration (e.g. Fewster-Thuente & Velsor-Friedrich, 2008; Tushman & Scanlan, 1981). This finding could be explained by the fact that all health care providers worked in primary care. Maybe this is only a problem in more specialized care (secondary or tertiary care), or in the relation between primary care and secondary or primary and tertiary care. This finding offers new insights in the established theories, as the differences in language apparently don’t always play a role in multidisciplinary collaboration or are resolved by other explaining factors.
Finally, what was remarkable is that temporary workers and students seemed to have taken on a boundary spanning role in the case of Oranjestein, even though theoretically, that could not be. As it is unlikely that all other theories are wrong, there must be another factor explaining the influence that these employees have on the collaboration. It can thus be concluded that non-boundary spanners can also positively influence collaboration, although not in the role of a boundary spanner.

All in all, it can be concluded that the notion of boundary spanning activities, and its influence on stages of collaboration, is an empirically useful yet ambiguous relationship. Interaction appears to play a mediating role when it comes to the direct interrelatedness of boundary spanning and collaboration. Nonetheless, this study underlined the findings that barriers to

collaboration are felt in day-to-day practice and that they have a negative effect on the stage of collaboration. Also, boundary spanning activities can help overcome barriers. The concept of boundary spanning does thus provide a helpful framework to further understand, study, and eventually overcome these barriers.

5.2 DISCUSSION

In this research, data from semi-structured interviews and a document analysis was used to examine and explore the influence of boundary spanning activities on overcoming barriers to multidisciplinary collaboration.

The conclusions from the research as described above, partly answer the research question, but also leave open some room where further research is needed. Overcoming barriers to collaboration was found to be not fully explained by the executed boundary spanning activities. Other explaining factors could possibly be found in the literature about collaboration and include theories about for example organizational culture (Schein, 1990; Niezen & Matthijsen, 2014). The barriers would then be reduced by having a stimulating organizational culture. Because if an organization's culture promotes collective behaviours, collaborations are more likely to be successful. Furthermore, there are many other influences to be thought of which influence collaboration. For example, the creation of psychologically safe environments (Salas et al., 2008) or the implementation of knowledge management efforts such as team training (McDermott & O'dell, 2001), as these factors have proven to influence collaborations. This research thus not fully covers all factors that might have influenced the collaboration.
Connecting boundary spanning activities to overcoming specific barriers to collaboration was a new field in the literature on healthcare collaborations and is still to be explored. Interesting would be to link further research with the concept of interaction.

Other findings that need further explanation are that specialist language did not seem to play a role in any of the cases and the role of temporary workers and students in connecting employees. First, the absence of any indication that specialist language played a role in the collaboration was striking and could be explained by the fact that the collaborations all took place within primary care. This finding contradicts the established theories, as the differences in language apparently don't always play a role in multidisciplinary collaboration or are resolved by other explaining factors.
The connecting role of the temporary workers and the students in one of the cases can be fit in the existing theory about internal and external communication stars, as identified by Tushman and Scanlan (1981). Tushman and Scanlan (1981) came up with the concept of an informational boundary spanner as a person that is both an internal and an external communication star. This means that this person can both gather information from others or other organizations and translate it to its own organization. Only individuals who are both internal and external communication stars, can be regarded as boundary spanners. It would thus be logical that the temporary workers and students in the case of Oranjestein were no real boundary spanners, but that they were communication stars, either internal or external.

Lastly, the limitations of this study will be discussed. Even though the research was set up to be as valid and reliable as possible, it has some limitations.
Maybe the most important limitation of this research is the number of variables in the cases. Each of the cases was determined to be in a different stage of collaboration and could also be regarded as a different kind of collaboration with a different context. In each organization different disciplines work together and also the way the collaboration was established varies. Besides, the topic of the collaboration also differs in each case, as the CMO focuses on multi-problem cases and families and De Zorgmolen and Oranjestein care for one patient at the time. Because of the varying circumstances in each case, it is not possible to fully assign specific influences to the researched concepts, as the abovementioned aspect could have also influenced these relations. A stricter selection of cases could prevent this problem in future research.
A second limitation is the number of interviews that have been conducted in this research. In total, fifteen interviews have been conducted, which comes down to five interviews per case. There is a chance that the data from these five interviews did not collected all possible information on the cases or that they led to a one-sided view on the case. Because in none of the interviews data saturation did occur yet, it is unclear if information is left behind. Besides, and that is also a limitation of the method of interviews, it is possible that the respondents in the interviews were all very positive about the collaboration as a result of self-selection. As my research request included the topic of the research, it is possible that only enthusiastic employees were willing to take part in the interviews.
Thirdly, as in the existing literature there could not be found an existing set of boundary spanning activities for healthcare, a new typology was created. These four types of boundary spanning activities each were made up out of different indicators that could determine if, or to what extent, that activity had been performed. Although most of the time it was clear to which indicator a finding belonged, sometimes there seemed to be some overlap between the indicators of different activities. For example, the indicator 'information exchange', belonged to the activity 'overcoming differences with external partners'. But if there is a meeting in order to exchange information, this could also be an opportunity for people to interact. And 'creating opportunities for people to interact' belongs to the activity of 'connecting internally'. There is thus to a little extend some ambiguity in the partition of the boundary spanning activities.

5.3 Recommendations

On the basis of the results from this research, several recommendations can be proposed.

5.3.1 Theoretical recommendations

It is recommended for further research in collaboration, to explore the possibility of having 'interaction' as a mediating variable in the theoretical model as presented in this research. It is also recommended for research on collaboration in health care, to take into account the newly found barriers to collaboration. These are rules and regulations from the national government, individual work ethic and age. It might also be recommended to research the difference between collaborations with a lot of ad hoc communication and collaborations in which communication

is mostly scheduled. As this research found indicators that more scheduled moments of communication resulted in a higher stage of collaboration. But this possible relation needs more research. Hence, based on this study, directions for future studies can further examine:

- The importance, density and quality of interaction in collaboration, possibly linked with than boundary spanning;
- The importance of national regulations, individual work ethics and age in inter-organizational collaboration;
- Comparing cases based on very structured and loosely structured or ad hoc communication;
- The specific ways in which boundary spanning helps overcome barriers.

5.3.2 Societal recommendations

Specific recommendations have been formulated for three organizations that participated in the research.

It is recommended to De Zorgmolen, to develop a common view on the future and a direction in which they want to develop themselves. There now seem to be different expectations of the how the collaboration should be shaped. When a clear goal is being agreed upon by its members, the collaboration could undertake specific actions to move on to a further stage of collaboration. The barriers to collaboration that De Zorgmolen now faces are a lack of time, professional culture and to a limited extend a lack of role clarity. These could be overcome, or at least reduced by having more time allotted especially for collaboration, for example by a regular multidisciplinary consultation. A regular meeting could also help overcome the lack of role clarity, as it is often not clear what new trainings, specializations and extra education the health care providers have now. Finally, the professional culture is a barrier to collaboration, mostly because the bigger practices work autonomously from the one-man practices. In order to improve the collaboration, members should work less autonomously and share more information with the other disciplines. What might be helpful in improving the collaboration is focussing on the performed boundary spanning activities. Only two of the four boundary spanning activities were carried out in De Zorgmolen and as the activities seem to have a positive influence on the collaboration, it is advised to introduce the boundary spanning activities of connecting with external partners and overcoming internal differences. Maybe the Tenants Association could decide who would be best suited to take on these boundary spanning activities.

It is recommended to Oranjestein to create some clarity about the role and responsibilities of temporary workers. Now, it is often unclear what they are supposed to- and allowed to do. They do have a booklet that shows which skills they possess but needing to ask for this every day is time-consuming. Maybe an online registry of temporary workers and students could help getting a clear overview of skills and abilities. Then when making the schedule, the skills that the workers have could be written down immediately. Of course, for this to work, it is needed that the employees themselves keep the schedule makers informed about their newly gained

skills and for example send a proof of their abilities. Furthermore, the differences in organizational culture could be overcome by equalizing procedures and practices. Especially small things like how to lay the table for lunch, could be determined to happen in one way, instead of different ways.

Lastly, for the CMO it is recommended to pay attention to the barriers to collaboration that they still face, in their plans to improve and further develop the CMO. Barriers to collaboration for them are having different protocols and practices between organizations and having unclear roles that sometimes overlap. It is important to develop common method of working, in order to overcome the barrier of organizational culture. Although it should be noted that there are already plans for developing such a method. Also, for the ambiguity of roles it should be made explicit who has which tasks and when multiple people have the same task, so it is clear when opportunities for collaboration arise.

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7 APPENDIX: INTERVIEW SCRIPT

Based on the operationalization scheme below, the following interview script has been composed.

Intro
- Voorstellen
- Introductie onderzoek
- Bespreken duur en strekking van het interview
- Garanderen anonimiteit
- Vragen of het interview opgenomen mag worden
- Vragen of de respondent de resultaten van het onderzoek wil ontvangen

1. Kunt u iets vertellen over uw functie en het samenwerkingsverband waarin u deelneemt?

2. Hoe is de samenwerking tot stand gekomen?
- Verloop van de totstandkoming
- Kunnen verschillende fases worden onderscheiden?
- Verliep de totstandkoming stapsgewijs?
- Hoe ziet de respondent de huidige samenwerking?
- Is die nu op gewenst niveau (waarom wel/niet)?
- Kan/moet de samenwerking nog doorontwikkeld worden (waarom)?

3. Hoe wordt er nu samengewerkt? / Op welke manieren wordt er nu samengewerkt?
- Is er een bepaalde rolverdeling?
- Hoe verloopt de communicatie tussen de partners?
- Worden informatie/middelen/ideeën gedeeld?
- Hoe verloop de besluitvorming? Gezamenlijk/ iedere organisatie apart
- Wat zorgt voor een goede samenwerking?

4. Zijn er op bepaalde momenten barrières tot samenwerking opgekomen en zo ja, welke?
- Tijd
- Cultuur
- Professionele standaarden
- Rolverdeling
- Vertrouwen
- Kunt u hier voorbeelden van noemen?
- Hoe hebben deze elementen een rol gespeeld in de totstandkoming en het verloop van de samenwerking?

5. Hoe zijn deze barrières overwonnen?
- Kunt u hier voorbeelden van noemen?

6. (Hoe) zijn verbindingen met externe partners gemaakt?
- Worden relaties gestart, gemanaged en behouden?
- Worden ontwikkelingen in het netwerk met werkprocessen verbonden?
- Wordt grotere zichtbaarheid gecreëerd?
- Is er een gevoel voor wat in het netwerk belangrijk is voor andere organisaties?
- Wordt de organisatie tijdig gemobiliseerd?

7. (Hoe) zijn verschillen met externe partners overwonnen?
- Worden perspectieven en kennis vertaald?
- Wordt informatie uitgewisseld?
- Worden kansen duidelijk gemaakt?
- Worden eisen opgevangen?

8. (Hoe) zijn interne verbindingen gemaakt of versterkt?
- Worden interne introducties gemaakt?
- Worden er mogelijkheden gecreëerd voor interactie tussen mensen?
- Worden individuen naar nieuwe locaties verplaatst?

9. (Hoe) zijn interne verschillen overwonnen?
- Wordt een verschuiving van de status quo gesignaleerd?
- Worden regels en voorschriften gelijk gemaakt voor iedereen?
- Worden assumpties bevraagd en uitgedaagd?

10. Wie zou u benoemen als belangrijkste personen die de samenwerking mogelijk gemaakt hebben/ mogelijk maken? En waarom waren zij belangrijk?
- Zijn er personen die zorgen voor verbindingen met externe partners?
- Zijn er personen die verschillen met externe partners overwinnen?
- Zijn er personen die intern verbinden?
- Zijn er personen die interne verschillen overwinnen?
- Welke concrete activiteiten voerden deze personen uit?
- Waarom zijn deze activiteiten belangrijk (geweest)?

11. Heeft u nog vragen of aanvullingen?