Intersectoral collaboration within the Voorstad on the Move project

Evaluation and facilitation of the health brokers network

Yvon Tijhuis

Wageningen University and Research

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Name: Yvon Tijhuis

Registration number: 941021846050

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Supervisor: Dr. Ir. M.A.E. Wagemakers - Wageningen University & Research

Ir. M.A.J.G. de Jong - GGD IJsselland

Examiner: MSc F.K. Garcia – Wageningen University & Research

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Preface

Before you lies my graduation research about the intersectoral collaboration within the network of a health broker. The project Voorstad on the Move served as a casus. I wrote this thesis, in collaboration with the GGD IJsselland, as part of my graduation for the master's specialisation program Health and Society at the Wageningen University. The past six months were a roller-coaster of experiences. I learned a lot about doing action-oriented research, implementation of research in practice and about other professions in the field of health and well-being. I never imagined half a year could feel so short.

For this I must thank a couple of persons. First, I would like to thank Marja de Jong for all her support. In addition, I would like to thank the whole KEC team of the GGD IJsselland. I feel lucky that I was able to write my thesis at this department, besides the fact that it was fun, it also gave me the opportunity to see how research works in practice. Hereafter, I would like to thank Annemarie Wagemakers for her guidance in the process of thesis writing. Giving me the opportunity to figure things out myself, but also giving me specific and very elaborate feedback in the process. Also, thanks to my friends, family and boyfriend, who all had a tremendous amount of patience with me the last couple of months and supported me all the way.

Proudly I present my thesis to you, enjoy reading!

Yvon Tijhuis
July 2018

Summary

Introduction Health brokers have the potential to improve health and reduce health inequities by connecting different sectors and improving intersectoral collaboration. Further insights into the collaboration within a health brokers network in public health is needed. The project Voorstad on the Move (VoM), which is a community health program with two health brokers, is therefore used as a case study. Both action research as social network analysis are important strategies to investigate the role of the health broker in connecting different professions and sectors. Although different network analysis methods exist, it is unclear which method is needed to evaluate and facilitate the health brokers' network from an action research perspective. Therefore, this research addresses the following two research questions: What method can be used to facilitate and evaluate the health brokers' social network from an action research perspective? What factors are important for building up and maintaining collaboration within the health brokers' network?

Methods Action research is applied throughout the whole study. The first research question is answered by a systematic literature review, which resulted in 22 included articles that describe a network analysis method. After applying testing criteria, 6 articles remained. Based on these articles a method was developed including a drawing tool, individual interviews, a questionnaire and focus groups. This Composed Network Analysis (CNA) method is tested within the Voorstad on the Move project to test usability. The second research question is answered using the coordinated action checklist, followed by focus groups and individual interviews during the network analysis. The results were analysed using the factors of the Healthy Alliances framework.

Results The CNA method identified 126 partners in the network of VoM. The types of relations with these partners and amount of influence differentiated. The questionnaire yielded 34 useful replies. Most respondents were positive about the added value of VoM. Health brokers appeared to have different roles within the network, but both tried to create a benefit for the residents in Voorstad. However, the signals, ideas and initiatives of residents is often communicated through other health professionals to the health brokers. The final focus group resulted in several points for actions; such as including schools more into the network.

The use of the CNA method has been positively evaluated. It proved to give insights and good starting points for discussion. Nonetheless, some difficulties emerged: leaving out names in the

final network map hampered the discussion, distinguishing the projects network with that of other professional jobs and the low response rate to the questionnaire proved to be difficult.

Evaluating the factors influencing collaboration within the network of VoM indicates that the institutional factors: policy, planning horizons and funding are important. For (inter)personal factors: attitude and beliefs and personal relation came forward as being essential. For the cluster organisation of the collaboration all factors were important: clear role and task division, clear and shared mission and vision, communication containing regular meetings, flexible time frame, using capacities and skills, management and visibility. In addition, the factors clear view on continuation and positioning of the health broker were found to influence collaboration within the health brokers network. Besides the factors in the clusters, learning environment and context were found to be influential. Regular evaluation moments within this learning environment was found important.

Discussion Applying the CNA method and evaluating the health brokers role within the final network map of VoM, led to the new insight that receiving signals via other health professionals is an important strategy for health brokers to remain working with a bottom-up approach. This extra connection of health brokers is not yet previously shown. In addition, applying the CNA method proved to be beneficial: it proved to be supportive for both the project team, the development and growth of the implemented community approach and research; it made results visible leading to insights through discussion and; it started the reflection individually which led to more self-insight and understanding of others. It is recommended to apply the CNA once more in VoM, and test its applicability in other collaboration networks as well.

Furthermore, some new insights into the factors important for building up and maintaining collaboration within the health brokers network have emerged. First, results indicate that it is recommend positioning the health broker within an existing structure or organization. In addition, it is important to have a clear view on continuation of the health brokers role. To conclude, the planning and executing of regular evaluation moments is important within the learning environment of the collaboration. The CAC and the CNA method proved to be good starting points.

Key words: health brokers, intersectoral collaboration, action research, network analysis

Samenvatting

Inleiding gezondheidsmakelaars kunnen de gezondheid(ongelijkheden) verbeteren en verkleinen door verschillende sectoren met elkaar te verbinden en samenwerking te verbeteren. Verdere inzichten in de samenwerking binnen een netwerk van gezondheidsmakelaars in public health is nodig. Het project Voorstad Beweegt, een community health-programma met twee gezondheidsmakelaars, wordt daarom als case studie gebruikt. Zowel actieonderzoek als sociale netwerkanalyse zijn belangrijke strategieën om de rol van de gezondheidsmakelaar bij het verbinden van verschillende beroepen en sectoren te onderzoeken. Hoewel er verschillende netwerkanalysemethoden bestaan, is het onduidelijk welke methode nodig is om het netwerk van gezondheidsmakelaars te evalueren en te faciliteren vanuit het perspectief van actieonderzoek. Daarom gaat dit onderzoek in op de volgende twee onderzoeksvragen: Welke methode kan worden gebruikt om het sociale netwerk van gezondheidsmakelaars te faciliteren en te evalueren vanuit het perspectief van actieonderzoek? Welke factoren zijn belangrijk voor het opbouwen en onderhouden van samenwerking binnen het netwerk van gezondheidsmakelaars?

Methoden Actieonderzoek wordt in de hele studie toegepast. De eerste onderzoeksvraag werd beantwoord door een systematisch literatuuronderzoek, wat resulteerde in 22 artikelen die een methode voor netwerkanalyse beschrijven. Op basis van testcriteria zijn 6 artikelen opgenomen. Op basis van deze artikelen is een methode ontwikkeld met een tekeninstrument, individuele interviews, een vragenlijst en focusgroepen. Deze Composed Network Analysis (CNA) -methode werd getest in het project VB om de bruikbaarheid te testen. De tweede onderzoeksvraag wordt beantwoord aan de hand van de gecoördineerde actiechecklist, gevolgd door focusgroepen, en individuele interviews tijdens de netwerkanalyse. De resultaten zijn geanalyseerd met behulp van de factoren van het kader Gezonde Allianties.

Resultaten De CNA-methode identificeerde 126 partners in het netwerk van VoM. De soorten relaties met deze partners en de mate van invloed zijn verschillend. De vragenlijst leverde 34 bruikbare antwoorden op. De meeste respondenten waren positief over de toegevoegde waarde van VoM. Gezondheidsmakelaars leken verschillende rollen binnen het netwerk te hebben, maar beiden probeerden een voordeel te creëren voor de bewoners in Voorstad. De signalen, ideeën en initiatieven van bewoners worden echter vaak gecommuniceerd via andere gezondheidswerkers. De laatste focusgroep resulteerde in verschillende punten voor acties; zoals scholen meer opnemen in het netwerk. Daarnaast werd het gebruik van de CNA-methode positief beoordeeld. Het bleek inzichten en goede uitgangspunten voor discussie te geven.

Desalniettemin ontstonden enkele problemen: het weglaten van namen in de definitieve netwerkkaart belemmerde de discussie, het onderscheiden van het project netwerk met dat van dagelijkse contacten, en de lage respons op de vragenlijst bleek moeilijk. Het evalueren van de factoren die de samenwerking binnen het netwerk van VoM beïnvloeden, geeft aan dat de institutionele factoren: beleid, planning horizon en financiering belangrijk zijn. Voor (inter) persoonlijke factoren: houding en overtuigingen en persoonlijke relatie kwamen naar voren als essentieel. Voor de clusterorganisatie van de samenwerking waren alle factoren belangrijk: duidelijke rol- en taakverdeling, duidelijke en gedeelde missie en visie, communicatie met regelmatige vergaderingen, flexibel tijdsbestek, gebruik van capaciteiten en vaardigheden, management en zichtbaarheid. Bovendien bleken de factoren duidelijk inzicht op borging en positionering van de gezondheidsmakelaar de samenwerking te beïnvloedden. Naast de factoren in de clusters bleken leeromgeving en context van invloed te zijn. Regelmatige evaluatiemomenten in deze leeromgeving werden belangrijk gevonden.

Discussie Het toepassen van de CNA-methode en het evalueren van de rol van gezondheidsmakelaar binnen de definitieve netwerkkaart van VoM, leidde tot het nieuwe inzicht dat het ontvangen van signalen via andere gezondheidswerkers een belangrijke strategie is voor zorgmakelaars om te blijven werken met een bottom-up benadering. Deze extra connectie van zorgmakelaars is nog niet eerder aangetoond. Bovendien bleek het toepassen van de CNA-methode nuttig: het bleek ondersteunend te zijn voor zowel het projectteam, als de ontwikkeling en groei van de geïmplementeerde gemeenschapsbenadering en onderzoek; het maakte resultaten zichtbaar, leidend tot inzichten door middel van discussie en; het begon individueel met de reflectie, wat leidde tot meer zelfinzicht en meer begrip voor anderen. Het wordt aanbevolen om de CNA opnieuw toe te passen in VoM en de toepasbaarheid ervan ook in andere samenwerkingsnetwerken te testen. Verder zijn er nieuwe inzichten ontstaan in de factoren die van belang zijn voor het opbouwen en onderhouden van samenwerking binnen het netwerk van gezondheidsmakelaars. Ten eerste geven de resultaten aan dat het aan te bevelen is om de zorgmakelaar in een bestaande structuur of organisatie te positioneren. Daarnaast is het belangrijk om een duidelijk beeld te hebben van de voortzetting van de rol van gezondheidsmakelaar. Tot slot is de planning en uitvoering van regelmatige evaluatiemomenten belangrijk.

Steekwoorden: gezondheidsmakelaars, intersectorale samenwerking, actieonderzoek, netwerkanalyse

Table of content

List of abbreviations

VoM – Voorstad on the Move

SNA – Social network analysis

CNA – Composed network analysis

CAC – Coordinated Action Checklist

1. Introduction

The topic of this thesis is intersectoral collaboration within the health brokers network in the project Voorstad on the Move (VoM). Health brokers are connectors between health and wellbeing organizations and residents in the neighbourhood. They may play an important role in improving population health and reducing health inequities, by connecting different sectors and improving intersectoral collaboration. Focus is the evaluation and facilitation of the collaboration network of a health broker with an action research approach.

In this introduction chapter information about the background and context will be given (1.1). Followed by more information about the importance of intersectoral collaboration, and the potential role of the health broker (1.2). In chapter 1.3 the importance of action research and network analyses are discussed. Lastly, the problem statement, research question and relevance are stated (1.4).

1.1 Background and context

Despite the large gains in health over the past few decades, the distribution of health risks remains unacceptably uneven (Ottersen et al., 2014). In all countries there are wide disparities in the health status of different social groups. The lower an individual's socio-economic position, the higher their risk of poor health. This is a form of health inequity: 'a inequalities in health that are deemed to be unfair or stemming from some form of injustice' (Kawachi, Subramanian, & Almeida-Filho, 2002). Also, in the Netherlands the problem of health inequity is present. Residents with a low socio-economic status (SES) live at average seven years shorter than residents with a high SES. When looked at the healthy life expectancy, this difference is almost 18 years (VTV, 2018).

Although these health inequities have been recognized for centuries (Marmot et al., 1991; Wilkinson, 1997), health policies have been unsuccessful in reducing this health gab (VTV, 2014). Health education and the focus on behavioural change alone has been proven not to be enough (Baum & Fisher, 2014). Therefore focus has been put on the complexity of the health inequity problem (Koelen, Vaandrager, & Wagemakers, 2008). Since health inequities are said to be caused by an interplay between individuals, groups, communities and multiple factors in the social, physical and economic environment (Marmot et al., 2008). Addressing such a complex problem requires us to consider health from a different perspective. There is a need for a combination of solutions, involving different sectors, such as education, spatial planning, public health care, welfare and sports. Because no sector or agency alone has the resources, access and trust relationships to address the wide range of determinants of public health problems (Koelen et al., 2008).

1.2 Intersectoral collaboration

International and local policy makers as well as professional practice therefor call to optimize population health through intersectoral collaboration between a variety of health and other societal sectors (Koelen et al., 2008). Intersectoral collaboration is defined as 'a recognized relationship between (parts of) different sectors of society which has been formed to take action on an issue to achieve health outcomes in a way which is more effective, efficient or sustainable than might be achieved by the health sector acting alone' (Kickbusch & Nutbeam, 1998).

A possible way to achieve and sustain intersectoral collaboration is the employment of health brokers. Health brokers task is to support municipalities in the shaping of collective prevention and to ensure a better connection between residents, local organization and municipalities to promote the health of residents (Fransen, Hosman, Albertz, & Molleman, 2014). Key words related to the approach of health brokers are: agenda setting, creating support, networking with both professionals and residents and improving coherence, effectiveness and sustainability of the integrated approach (Fransen, Van de Riet, van der Ham, Wagemakers, & Molleman, 2017, p1). Previous research has shown the benefits of health brokers in connecting stakeholders from different sectors and subsequently stimulating the integrated approach (Harting, Kunst, Kwan, & Stronks, 2011; Leenaars, 2017; Long, Cunningham, & Braithwaite, 2013).

Long et al., (2013) found in their literature review that the role of a broker in connecting different actors in a network and its contribution to collaboration is studied in a wide range of settings and contexts outside of the health sector. For example Italian Television production teams and Australian hospitals (Long et al., 2013). Within the health sector collaboration within the health brokers network is studied in the dissertation of Leenaars (2017) and the thesis about the health promoting system of Van de Riet (2017). However, these studies into the barriers and facilitators of what works for intersectoral collaboration focus on the perspective of the health broker itself (Van de Riet, 2017), or are merely focused on the collaboration between the primary care and sport sector (Leenaars, 2017). Further studies of health brokers in public health systems seem scarce. Since health brokers have the potential to establish intersectoral collaboration in these systems, and thereby having the potential to decrease health inequities, further insights in the work, significance and challenges of health brokers in all sectors within public health is needed (Leenaars, 2017).

Voorstad on the Move (VoM) is a project that attempts to include all sectors within public health. The project appointed two health brokers to improve intersectoral collaboration and ultimately the perceived health of residents in the socioeconomic deprived neighbourhood Voorstad in Deventer. The

main task of the health broker within this project is to place connections between different partners in the neighbourhood. Moreover, they are part of a network of (health)professionals, citizens and other relevant actors. Since the project focuses on promoting health on all facets it will serve as a case study for the current research.

1.3 Facilitating and evaluating health brokers' network

To gain further insights in the health brokers' role to continually facilitate and build connections between different partners in public health, and to realize what contributes to collaboration between these different partners, both action research and network analysis are promising strategies.

First of all, action research is valuable since it emphasizes both facilitation as well as evaluation (Iivari & Venable, 2009). The value of action research is that it facilitates the development of capacities, learning and empowerment (Rice & Franceschini, 2007) enables those involved to continually optimize their strategies (Rice & Franceschini, 2007; Wagemakers, Koelen, Lezwijn, & Vaandrager, 2010) and offers tools for action, reflection, discussion and decision making (Koelen & van den Ban, 2004). Action research therefor assists health brokers' in their efforts to build stronger network collaborations. The importance of action research is captured by the project VoM, since it is dedicated in the use of action research as a strategy to involve all stakeholders, to capture the different perspectives of citizens and professionals and to improve the project.

In addition to action research, the execution of a network analysis is beneficial to study the collaboration within the network, since a network analysis is useful for demonstrating the connections and relationships between sectors and reflecting the structure and roles of actors within a network (Provan, Veazie, Staten, & Teufel-Shone, 2005).

Several methods for a network analyses exist (Long et al., 2013; Edwards, 2010; Wijenberg et al., 2017). Earlier network analysis containing brokers mainly focused on a broker's position and its impact on a network performance, and measured this with quantitative outcomes (Long et al., 2013). In quantitative methods, the networks are mapped by simplifying social relations in numerical data, in which it is checked whether or not relations are present (Edwards, 2010). However, qualitative designs can also be helpful since the qualitative approach maps the construction, reproduction, variability and dynamics of the relationships. It can also tell something about the meaning of the relationships (Edwards & Crossley, 2009). Qualitative methods are among others the interview method of Provan, Veazie, et al., (2005) or the participatory mapping tool (Wijenberg, Wagemakers, Herens, Hartog, & Koelen, 2017).

Despite the many methods, the acceptance of network analysis in the academic literature, and the value of action research, there have been few reported studies that use the social network analysis to actually assist and facilitate in building networks (Eisenberg & Swanson, 1996; Provan, Veazie, Teufel-Shone, & Huddleston, 2004; Provan, Veazie, et al., 2005; Wickizer et al., 1993; Wijenberg, Wagemakers, Herens, den Hartog, et al., 2017; Leenaars, 2017). This is unfortunate, because a practical understanding of how a health brokers' network operates and how it might be strengthened could be enhanced by network analysis from an action research perspective (Provan, Veazie, et al., 2005).

1.4 Problem statement, research questions and relevance

To sum up, health brokers have the potential to improve public health, by connecting different organizations in the health sector and thereby stimulating intersectoral collaboration. Further insights in the work, significance and challenges of health brokers in all public health areas is needed. The project Voorstad on the Move will therefore serve as a case for this research.

Different methods exist to analyse and evaluate the network around a health broker. However, it is unclear which method is needed to evaluate and facilitate the health brokers' network from an action research perspective. Besides network analysis, further evaluation of the collaboration network is needed to find out what is needed for health brokers to achieve their task to build up and maintain collaboration in the public health sector.

Therefore, the current study seeks to give insight into what is needed to form collaborative networks within public health and give insights into the role of the health broker therein. The aim is twofold, on the one hand further develop and describe a method that contributes to achieving and sustaining collaboration, and on the other hand gain knowledge on the factors that are important for collaboration. To achieve this, the following research questions will be answered:

- What method can be used to facilitate and evaluate the health brokers' network from an action research perspective?
- What factors are important for the building up and maintaining collaboration within the health brokers' network?

Answering these research questions is relevant for science as well as practice. The scientific relevance can be underpinned by the analysis of literature about social network methods from an action research perspective, as this has so far been lacking. Besides, the knowledge of what works in a health brokers' network within all areas of public health has not been earlier studied. The social relevance lies in the fact that other municipalities can learn from the evaluation made in this study and may with this information develop collaboration in public health projects.

1.5 Reading guide

The remaining part of the thesis proceeds as follows: chapter two provides further background information on the project Voorstad on the Move. Followed is chapter three, in which the theoretical framework of the research is elaborated on. Hereafter the fourth chapter is concerned with the methodology used for this study. Chapter five until eight present the findings of the research. Subsequently, chapter nine answers the research questions, reflects upon the results and provides recommendations for future research and practice. The thesis ends with a conclusion.

2. Background information Voorstad on the Move

The project Voorstad on the Move will function as a case for the current study. In this chapter further information about the project will be provided. Starting with the aim of the program and continuing with the partners of the project and the health brokers. The chapter is concluded with an overview of the neighbourhood.

2.1 Aim of the program

Voorstad on the Move (VoM) is a community health promotion program implemented in a socioeconomic deprived city district in Deventer. The main objective of the Voorstad program is: developing with and by residents in Voorstad and implementing an integral and sustainable approach aimed at improving the perceived health. Based on the exploration of the health situation in Voorstad, concurrent views on health promotion and insights from literature, VoM is grounded in a social ecological perspective and puts three action principles at the centre: citizens' participation, intersectoral collaboration and a health supportive environment.

First of all, the citizens' participation is important: the project is trying to work bottom-up and begins with issues of concern to the residents of Voorstad. The second action principle is to stimulate intersectoral collaboration between various health and other societal sectors: this is the main task of the health brokers, who started to work within the project since July 2016. To conclude, the third action principle of Voorstad on the Move is to create a supportive environment by making changes into the physical and social environment. The program aims to improve the perceived health of mostly low socioeconomic status (SES) families in Voorstad and realize changes in the social and physical environment.

2.2 Partners in the neighbourhood

The health brokers must collaborate with many professionals and residents in the district. A special position is taken by the Social Team and sport bedrijf Deventer as they are the core collaboration team within the project.

The Social Team has been active since January 2015. The Social Team consists of professionals from different institutions. The assignment to the Social Teams is multifaceted: they provide residents of the district access to the right help in the area of the social support law (Wet Maatschappelijke Ondersteuning), Participation Act and Youth Care. Also, better coordination between different care providers is realized. Sport bedrijf Deventer is an organization responsible for the support and advice of sports clubs, sports promotion and development of exercise concepts.

In addition, to the Social Team and sport bedrijf Deventer, there are other partners who play an important role in the neighbourhood. For example, Raster - an organization active in welfare and childcare, or WIJDeventer – an organisation from the municipality of Deventer, with one person active in Voorstad. Also, professionals such as general practitioners, practice assistants, physiotherapists and home care institutions are important. To conclude, residents' initiatives, schools and community centres are among the partners in the neighbourhood.

2.3 Background Voorstad

The district Voorstad consists of several small neighbourhoods located in the north of the city centre of Deventer. Figure 1 gives an overview of the city district. The neighbourhoods are often characterised by their small streets with corner and terrace houses. Medical care facilities, such as general practitioners, dentists, physiotherapists and pharmacists, and public transport facilities, such as trains or busses, are generally within short distances (Staat van Deventer, 2017). The Deventer train station, the Deventer hospital, and the Deventer football club Go Ahead Eagles are examples of prominent places within Voorstad.

Figure 1: map of the district Voorstad (Gemeente Deventer, 2017)

Table 1 gives an overview of the neighbourhood compared to the city Deventer. Based on income and employment, the table shows that Voorstad is a district in Deventer with many residents that have a lower socioeconomic status. In addition, resident's perceived health is lower than the average in Deventer.

Table 1: Characteristics of the residents of Voorstad compared to Deventer

	Voorstad	Deventer
Residents (n)	10,752	99,311
Residents younger than 20 years (%)	22.5	23.0
Residents older than 65 years (%)	11.1	17.5
Socioeconomic status		
Household income (€)	28,500	34,200
Residents with income support (%)	12.9	7.2
Residents without employment (%)	10.7	8.8
Residents with a low educational level (%)	25.0	21.0
Perceived health		
Residents who perceive their health as good or very good (%)	75.0	79.0

Note. The table is made on basis of information provided by Centraal Bureau voor de Statistiek [CBS] (2010), Gemeente Deventer (2017) and Staat van Deventer (2017).

3. Theoretical Framework

The theoretical framework of this research consists of two components. First, the concept of a health broker and its theory will be further elaborated. The framework about the purposes of health brokers composed by Willemsen (2017) is used since it provides a clear overview of the various purposes of a health broker in a certain network. Followed is the Healthy Alliances framework from Koelen, Vaandrager, and Wagemakers (2012). This framework is chosen since it focuses specifically on collaboration and on factors that influence the collaborative process. The frameworks together outline what the role of health brokers is in a collaborating network and what factors contribute to this collaboration.

3.1 Brokers role

Theory of the broker roles was developed by Burt's *structural holes* (1992). In his book *brokerage and closure* (Burt, 2005), he places the broker role in the social network theory (Long et al., 2013). According to Burt, brokers are said to be reaching across structural holes. A structural hole manifests between two actors who themselves are not connected. The benefit of the broker in a network is based on the idea that unconnected actors are sources of unique information that can be used by the broker to facilitate access to information and resources, facilitate knowledge transfer, and coordinate effort across the network and thereby increase intersectoral collaboration (Harting, Kunst, Kwan, & Stronks, 2011; Long et al., 2013)

Willemsen (2017) found in her literature review that health broker appeared to have specific purposes in intersectoral collaboration (figure 2). Three different types of brokers, type A, B and C, were identified. The first purpose of the broker role, type A, is to facilitate and manage network of actors to collaborate. This type of broker is not actively involved in achieving the common goal of the collaboration and is internally focused. The second function of health brokers is to function as a point of contact between different sectors. Health brokers with purpose 2 have the goal to create benefits for a third party, for example professionals from a different sector or population group. Two different types could be distinguished within purpose 2. First, type B: health brokers that are positioned between different sectors. Together with the collaborating sectors, broker type B tries to create benefit for the third party. To conclude, a health broker type C functions as a representative of a third party. With this position the health broker tries to connect the third party to different sectors (Willemsen, 2017).

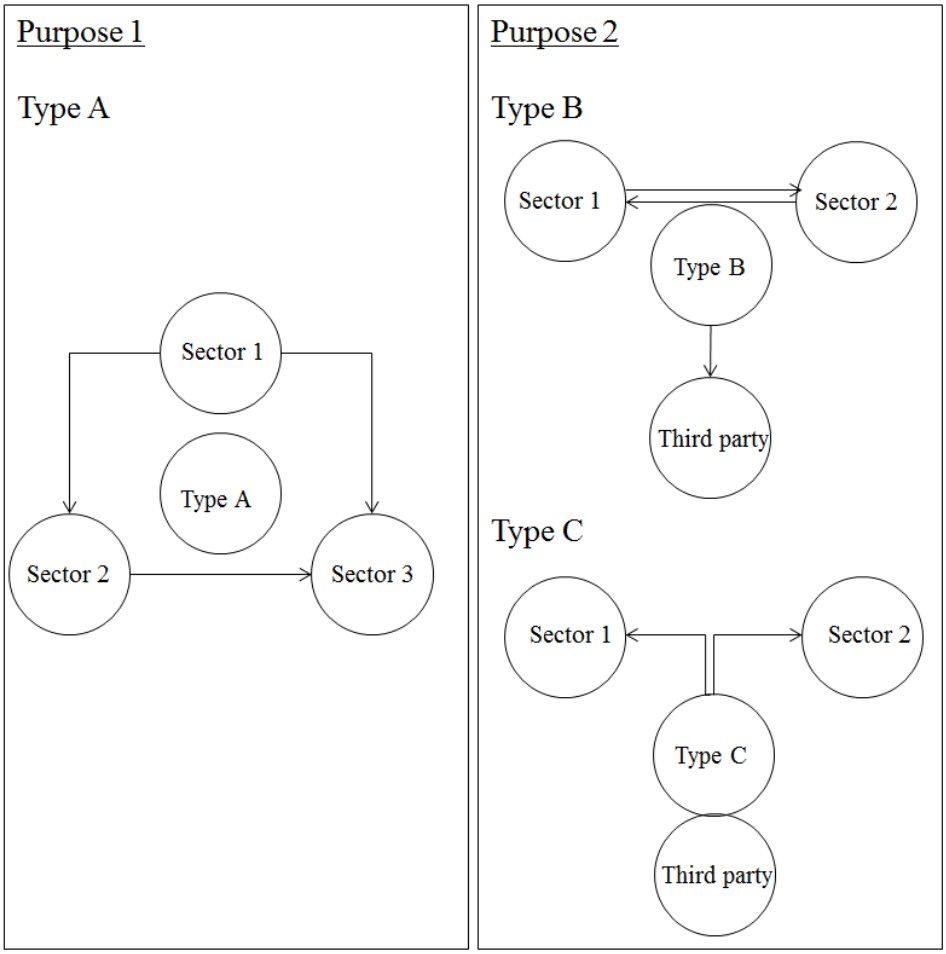


Figure 2: visualisation of the purposes and different types of health brokers (Willemsen, 2017)

3.2 HALL Framework

The Healthy Alliances Framework (HALL) (figure 3) will be used to gain a comprehensive overview on the collaboration within the project VoM. The development of the HALL framework is based on hands on experience and literature about organisation and collaboration within public health and health promotion (Koelen et al., 2012). The framework helps in facilitating and evaluating intersectoral collaborations and identifies three clusters of factors that either hinder or facilitate the success of alliances.

1. Institutional factors
2. Personal factors of participants in the alliance
3. Factors relating to the organization of the alliance.

The first cluster *institutional factors* is about the circumstances within the companies or organisations that take part in the alliances. The factors Policy, Planning horizons and Funding belong to this cluster. All factors have the potential to facilitate or hinder collaborative action. First, policies within different

organisations have a different focus. For example, for some organisations the time spent within alliances is calculated within their job descriptions, whereas for others this is not the case. A second important factor is planning horizons. Some organisations are more used to long-term thinking than others. The third and last important institutional factor relates to funding.

The second cluster, *personal factors* is about partners that bring their own personal characteristics and opinions in collaboration. Personal factors are attitudes and beliefs, self-efficacy, social identity and personal relationships. The first factor; attitudes and beliefs, can be a serious barrier, or facilitator, of successful alliances. As Koelen et al., (2012) mention 'Partners must be willing to invest time and resources in the alliance; but stereotypical views of one another's profession may also hamper the process. Building mutual value is important, as is tolerance, respect and trust' (Koelen et al., 2012, p35). The second factor self-efficacy relates to the belief that partners can make a difference in the team they are in. The factor social identity refers to the identity one partner brings in the collaboration. Partners must feel that being a member of the collaboration is meaningful, and that it contributes to a positive self-image. The fourth and last factor related to personal factors is personal relationships. Whether or not partners feel that collaboration with each other is fun or not determines to a great extent the success of the collaboration.

The factors of the first two clusters are brought in by all partnerships separately. The third and last cluster, *factors relating to the organization of alliances*, are factors that relate to all actors together and play a role once collaboration has been established. These factors are flexible time frame, roles and responsibilities, communication structure, management, shared mission, building on capacities and lastly visibility. The first factor, flexible time frame, relates to the fact that building well-functioning collaboration takes time. The factor ‘roles and responsibilities’ is about the clarity of role definitions. As all the different professions involved bring different skills and expertise, a clear distinction between what all the partners can contribute is needed. The third factor, communication structure, is one important condition for successful collaboration. Both formal and informal communication processes should be considered. Fourthly, management refers to an effective sustained engaged leadership. A management style that leads to participation is needed. The fifth factor, shared mission, is an important factor for successful collaboration. All organisations enter a collaboration with a different mission, taken from their institutional environment. To get a successful collaboration common aims and goals are needed. The factor building on capacities is why collaboration is needed in the first place. Diversity of partners within a collaboration makes that results can be achieved that no one can achieve alone. To conclude, the factor visibility refers to visibility of what is done. This is needed to keep partners enthusiastic about the collaboration.

Van Tol, Wagemakers, & Koelen (2015) expanded the HALL framework and took context and learning envionment into account. Context is important for collaboration structures and processes. Regularly reflecting and evaluating the collaboration helps recognizing the changing context and adapting content or process (Van Tol et al., 2015)**.** Regularly reflecting involves the learning environment. Figure 3 gives an overview of the expanded HALL framework.

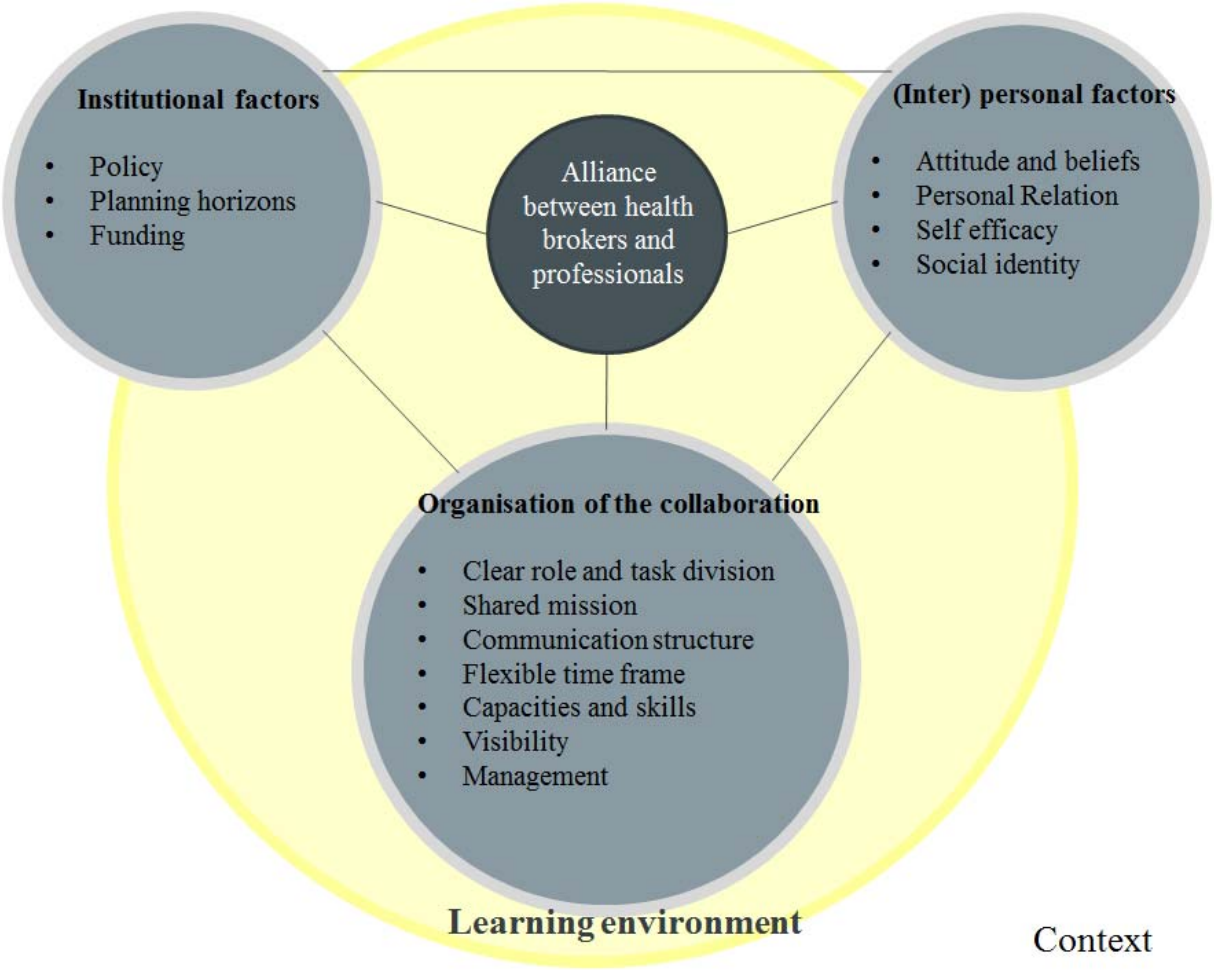


Figure 3: The extended HALL framework, Translated from Van Tol et al., (2015)

4. Methods

This chapter describes the research methods used to answer the research questions. The research has a multi methods approach, mainly qualitative driven, combined with action orientated research. The action research approach chosen since the project VoM is dedicated to this approach, and since action research both facilitates and evaluates research and practice. For an appropriate action research design, a mixed methodology is most suitable as this way practice can influence research and vice versa (Wagemakers, 2010). The several components are graphically displayed in Figure 4. The total duration of the study was 6 months. Further elaboration on what entails action research and what methods were used is described below.

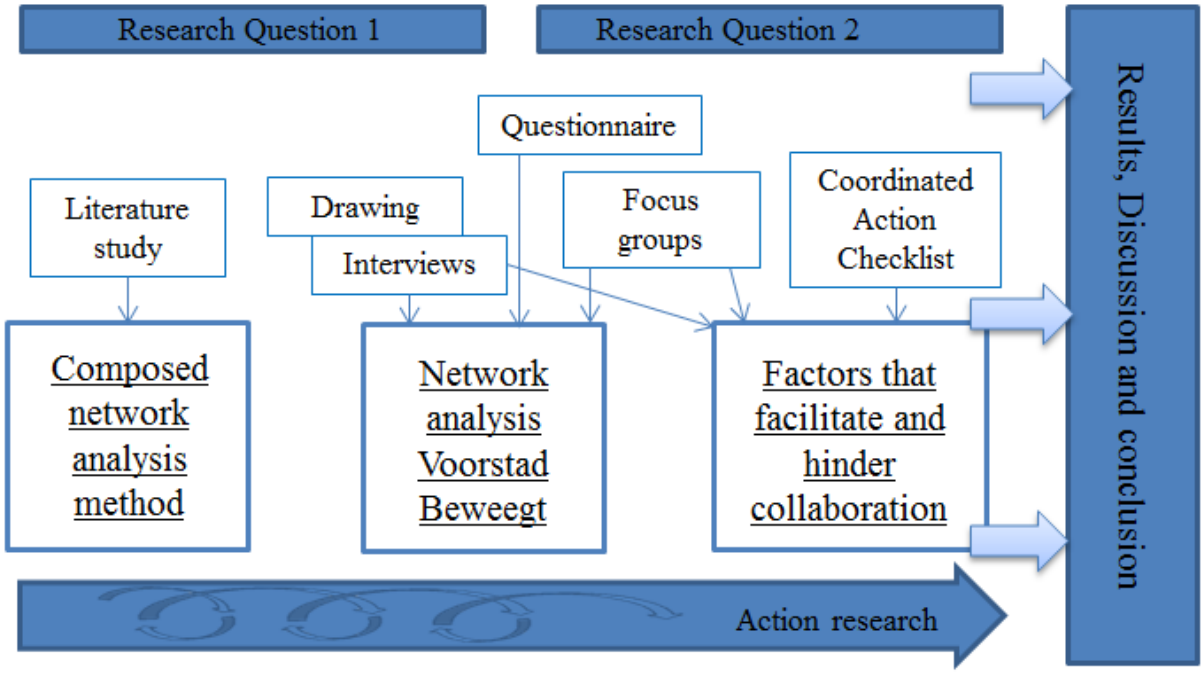


Figure 4: Outline of the research

4.1 Action research

Action research is best defined as '*a participatory process concerned with developing practical knowing in the pursuit of worthwhile human purposes. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solution of issues of pressing concern to people, and more generally, the flourishing of person and their communities*' (Reason & Bradbury, 2008, p4). Which means that action research serves two functions, namely a research function, to show processes, progress and results, and an action function, to facilitate action

and reflection (Koelen & van den Ban, 2004). Four steps can be distinguished: diagnosing, planning action, taking action and evaluating action (McKay & Marshall, 2001).

The purpose of applying action research throughout the whole study was to learn together with the project team from gained experiences, so that they could act were appropriate and at the same time contribute to research with their knowledge. All used methods were intended to support action and to stimulate the progress of the research. Results of the different research methodologies were directly linked back to those involved and discussed was how the research could be continued (Koelen & Van den Ban, 2004).

Figure 4 shows the iterative process of action and critical reflection in this study. The results of different steps will serve as a starting point for the next step of the research. The spirals on the bottom of the figure show that steps follow one another which means that continuous improvement for both practice and science is taking place (Wagemakers, 2010).

4.2 Literature review

To answer the first research question "*what methods can be used to facilitate and evaluate the health brokers' social network from an action research perspective?*" a literature review was conducted. The goal was to find appropriate instruments or methods that provide insight into the network of health brokers.

Three databases were used to find literature about possible network analyses methods. Scopus and Web of Science were used since they are large database that cover a great variety of research areas. The database SocINDEX was used since this database provides journals covering he broad spectrum of sociological studies. The databases were systematically searched for original research published in English or Dutch between January 2000 and February 2018. Literature published before 2000 was excluded of the search since intersectoral collaboration only became a popular topic in health promotion since the start of the 21th century (Roussos & Fawcett, 2000).

4.2.1 Search strategy

The complete search strategy was formulated based on the operationalisations of the concepts: 1) intersectoral collaboration, 2) network analyse and 3) methods. All different operationalisations were included in the complete search strategy, visual in Table 2. Because variety of definitions of collaboration exists, Himmelman's categorisation of collaboration, and Leenaars provided synonyms hereof, were used for the concept intersectoral collaboration (Himmelman, 2002 in Leenaars et al., 2015). Methods was operationalised with synonyms. Network analyse was only operationalised as

network analyse and network mapping, as the scope of this research would not allow to add the search word 'network'. Including 'network' into the search strategy would yield thousands results.
Boolean operators were used to specify the concepts and to separate/link different concepts. The complete search strategy was as follows: (intersector* OR inter-sector* OR partnership* OR alliance* OR cooperat* OR coordinat* OR multisector* OR multi-sector) AND ("network analys*" OR "network map*") AND (tool* OR method* OR Instrument*)

Table 2: complete search strategy

Concept	Search
Intersectoral collaboration	(intersector* OR inter-sector* OR partnership* OR alliance* OR cooperat* OR coordinat* OR multisector* OR multi-sector)
Network analyse	("network analys*" OR "network map*)
Method	(tool* OR method* OR Instrument*)
Other	AND Language = (English OR Dutch) AND document type = NOT (review OR editorial OR conference abstracts OR book OR theoretical arguments)

Initially it was decided to include all research areas that Scopus, WebofScience and SocINDEX covered to get a comprehensive insight in the methods for network analyse. However, the concept network analysis appeared to have different meanings in different research areas. For instance, biochemistry, genetics and molecular biology research, used the concept to refer to chemical connections. Therefore, included research areas were: social science, business, management and accounting, medicine, psychology, nursing, health professions and multidisciplinary. Excluded research areas were: Engineering, computer science, energy, mathematics, biochemistry, genetics and molecular biology, environmental science, agricultural and biological, decision sciences, earth and planetary science, physics and astronomy, neuroscience, economics, econometrics and finance, arts and humanities, materials science, chemistry, immunology and microbiology, chemical engineering, pharmacology, toxicology and pharmaceutics, dentistry, veterinary. Excluding relevant research areas was prevented by reading publications from all different research areas. This made it possible to decide which research areas addressed the concepts as intended.

4.2.2 Articles selection

The search strategy resulted in 433 publications in Scopus, 316 publications in Web of Science and 77 publications SocINDEX. Via the personal network of the researcher the publication of Wijenberg, Wagemakers, Herens, den Hartog and Koelen (2017) could be included. These 827 publications were assessed on duplicates, after which 161 duplicates were excluded. 666 publications were assessed by reading title and abstract in the first stage of selection. Most studies were excluded as they did not describe a network analyses method (N=209), or the topic of the research did not describe network analysis the way intended for this research (N=106). Other reasons for exclusion are shown in figure 5.

For the second stage of selection, 92 publications were assessed on full texts. In this stage, most research is excluded as the article did not give a clear description of network analysis method (N= 32). Several articles (N = 18) referred to other methodological articles in their research, of which 14 publications were not included within the results of the primary search strategy. These articles (N = 14) have been assessed based on their full text, which resulted in the "Partner-tool" being included in this study. At the end of this stage, 16 publications were included in the literature review.

For included publications, backward citations (reference lists) and forward citations (via Google Scholar and Web of Science) were checked for additional relevant publications. 45 publications were identified based on reading title and abstract. 5 publications were included for this research, and another 40 publications were excluded after reading full text, mainly since the articles did not have a clear network analysis method description (N = 28). Detailed description of exclusions reasons is found in figure 5.

To conclude, the final literature sample consisted of 22 publications that describe a network analysis method.

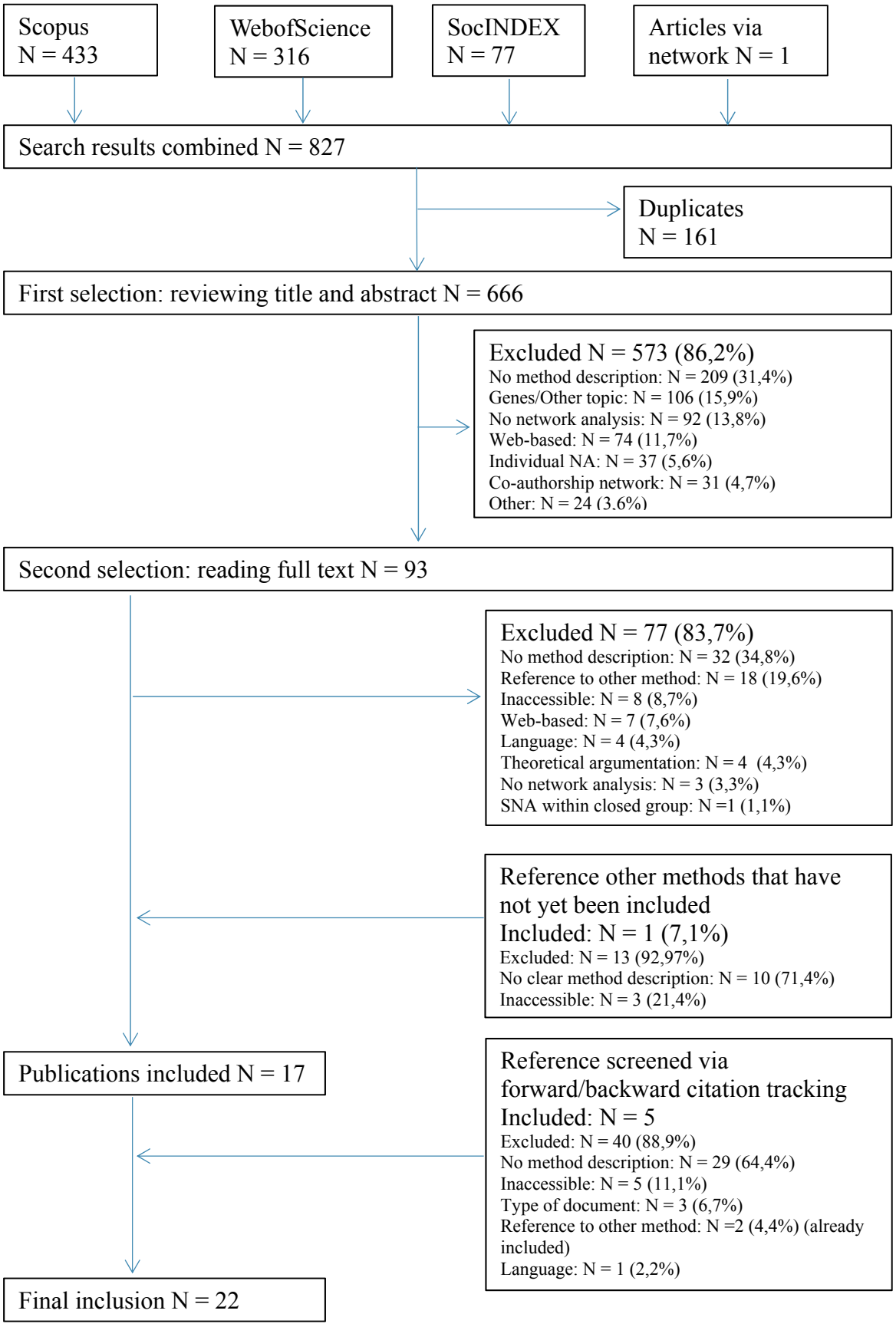


Figure 5: Flowchart literature selection

4.2.3 Assessment of suitability

The assessment of suitability of found social network instruments and frameworks was based on the testing criteria shown in table 3 below. The first three criteria are based on the research of Wagemakers, Koelen, Lezwijn and Vaandrager (2010). They described in their research a tool for measuring intersectoral collaboration applicable for action research. According to them visibility is an incentive for involvement and action. The second criteria, communication, could contribute to the evolvement of the partnerships and facilitates subsequent action and contributes to the validity of results. In addition, to nurture a partnership in all phases, the method must be usable in phases (Wagemakers et al., 2010). The fourth criteria, validity and reliability, is important for the reproducibility of the instrument. The sixth criteria is especially relevant for the current research about the health broker.

Table 3: Testing criteria for methods

1.	Method needs to visualise results
2.	Method needs to facilitate and support communication
3.	Method must be useable in all phases
4.	Proven validity and reliability
5.	Based on empirical research
6.	The 'broker' role is considered

The assessment of the included articles (appendix II) exposed that no single article fulfilled all testing criteria. Testing criteria 4 was only fulfilled by one article. Testing criteria 6 by 5 articles, however no single article mentioned health brokers specifically and 4 out of 5 only described a broker role in data analysis which did not influence the chosen data gathering method. Therefor it was chosen to base the final assessment on testing criteria 1, 2, 3 and 5. Resulting in 5 articles. In addition, one article that only explained a method (leaving out criteria 5), but was used and positively tested in other articles, was included as well. Final assessment included 6 articles, all of which were used to develop and further describe a composed network analysis method (described in chapter 4.3). An elaborate description of the literature review can be found in chapter 5.

4.3 Network analysis

Based on the literature review results (chapter 5) a network analysis method was composed that made use of the final 6 articles that fulfilled the testing criteria described in 4.2.3: Cross, Dickmann, Newman-Gonchar, & Fagan, (2009); Pluto & Hirshorn, (2003); Provan et al., (2005); Schiffer &

Hauck, (2010); Wijenberg, Wagemakers, Herens, den Hartog, et al., (2017); Yessis, Riley, Stockton, Brodovsky, & Von Sychowski (2013). The composed network analysis method (CNA method) consists out of a drawing method, interviews, focus groups and a questionnaire. Since action research asks for constant reflection and action, and all included articles contain different methods, it was chosen to use and combine all these methods in different steps that follow one another. Figure 6 shows the timeline with the included steps for the network analysis of a health broker's network. The network analysis was tested in VoM in a time span of 4 months.

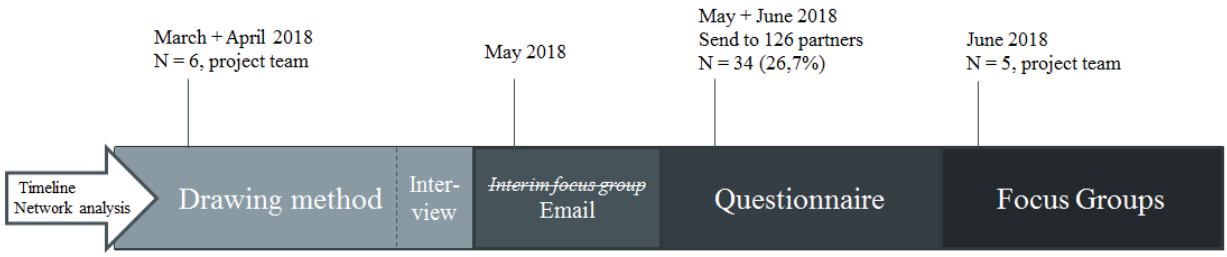


Figure 6: Timeline network analysis

4.3.1 Drawing process

The first step of the CNA method is drawing the network with the health brokers and close related project partners. Both Pluto & Hirshorn (2003) and Schiffer & Hauck (2010) describe a drawing method and are seemingly alike. Nonetheless, the drawing method of Schiffer & Hauck (2010) is described into more detail, makes use of building 'influence towers', and has been successfully used in previous research (Karn, Devkota, Uddin, & Thow, 2017; Rasheed et al., 2017) and will therefore be used in more detail.

Box 1 shows in detail the steps that have been undertaken with the core project team of VoM in March 2018: the two health brokers, two members of the 'social team', an employee of the sport organisation in Deventer and the project coordinator (N=6). It was chosen to apply the drawing method individually, since expected was that all networks were different, and that individual visualisation and evaluation of the network was more effective. The drawing method has first been tested by the researcher and the project coordinator of VoM. While applying the method revisions have been made, such as which colour post-its stands for which actor groups and what potential relations between the respondent and its partners should be defined. The process was recorded after verbal permission of the respondents. Results of the transcribed recordings were used to explain why certain choices for the drawings were made.

Box 1: instructions drawing method

Equipment needed: Large sheets of paper, post-its of different colors, similar flat round disks, different color pencils

1) Let the respondent write down all partners on post-its and stick them on the map. To get a clearer overview the different actor groups – project team, municipality, private organizations, research and civil society – get different colors. The interviewer brings a potential list of partners; and activities performed by the project to probe the respondent. However, not all potential partners of the interviewer have to be included in the map. Who will be included is determined by the respondent.
2) Define different relations and draw network; the interviewer collects data about how the selected actors are linked; this is done by drawing different colored arrows between the actor cards. Relations are; flow of funding, coordinate and manage, giving advice and sharing information, referral of residents and to conclude joint programming.
3) Define influence and put "influence towers" next to the partners; the respondents are asked who how much influence on the issue at stake has: 'how strongly can these actors influence the projects' goals?'
    a. The more influence an actor has, the higher the tower
    b. The towers can be as high as the interviewees want
    c. Two actors can have towers of the same size
    d. If an actor has no influence at all, no tower is added

4.3.2. Interviews

During and after drawing the network, a semi-structured interview took place (interview guideline: appendix III). The results of the drawing formed the basis of the interview. Firstly, the respondents were asked to evaluate his or her network. Then the collaboration with the several partners was evaluated: with whom is collaboration going well/not well, and why? The answers of these questions were used for both answering the second research question as well as giving the respondents insights into where the network is doing relatively well or where points for improvement lay. In addition, the respondents were asked to evaluate the role of the health broker in their network. This question was not from one of the included methods of the literature review but added since reflecting the role of the health broker within the collaboration network was the starting point of this research. To conclude, question related to the added value of the used method and possible points for improvement were discussed. The drawing process together with the interviews took between 85 and 120 minutes.

4.3.3 Interim focus group

Initially a focus group was planned in which the preliminary results of the six network drawings combined would have been discussed. This would give the project team the possibility to make adaptations, additions and deletions after notifications of errors, as is done in the methods of Cross et al., (2009); Pluto & Hirshorn, (2003); Wijenberg, Wagemakers, Herens, den Hartog, et al., (2017) and Yessis et al., (2013).

In addition, the team would have the opportunity to discuss the continuation of the research. Which entails discussing and potentially adapting the questionnaire that will be distributed among all network partners that were mentioned during the first step of the network analysis. Discussing the continuation is important because then it can be ensured that the research corresponds to the expectations, wishes and needs of the project. This is an important step of action research. However, due to time limits, the researcher was forced to cancel the second group discussion. Instead, feedback on the questionnaire was asked via e-mail. The questionnaire was adapted based on the feedback via e-mail, personal communication with the project coordinator (23 April 2018) and input of another researcher of the Wageningen University (26 April 2018).

4.3.4 Questionnaire

After agreement with the project team a questionnaire has been distributed among all partners of the VoM project. This was chosen since a whole network questionnaire gives a complete view of the health broker's network, validates or contradicts the view of the core project team and offers the chance for network partners to get involved in the research. In addition, applying the drawing method with the complete network would be too demanding for both the researcher and the interviewees.

The distributed questionnaire consisted out of 3 general questions and 4 questions about each project team member (appendix VII). A full roster method was found to be impossible, since the first network analysis step showed that the network of VoM contained 126 partners. Instead, it was chosen to only ask about the relation of the network partners with the members of the core team. As the project coordinator was mainly interested in this (M. de Jong, personal communication, 23 April).

First, the respondents name was asked. This information was necessary to make a full network map. Then asked was 'how often do you have contact with [project team member X]: Daily, weekly, monthly, every 3 months, once a year or never. This question is asked in most social network questionnaires (e.g. Gold et al., 2008; Petersen, 2016; Robertson et al., 2012; Varda, 2015). Besides, when respondents indicated to have no contact with a project member, the other questions related to

this project team member were not displayed, making the questionnaire more relevant and shorter for the respondent.

The second question related to the project team members was to further specify the type of relation the partner had with the project team; awareness, communication, cooperation and collaboration. This question is adapted from the questionnaire of Yessis et al. (2013) and Cross et al. (2009). Awareness would filter out respondents that mention to be in contact with project members, but do not actively communicate. Communication is compared with the 'information and advice' relation of the drawing method. Cooperation was not a defined relation in the drawing method, but both health brokers mentioned that they felt this was their most important task and therefor it was chosen to leave this type of relation in the questionnaire. Collaboration is compared with the relation 'joint programming' of the drawing method. In addition, a question was added in which the respondents could indicate if they refer resident (initiatives) towards the project member, or the other way around, and if the respondents is coordinated by the team member or vice versa. Likewise, relations that had been asked during the drawing method. Chosen is to leave out questions about funding, as the project team already had difficulties with that relation and only the project leader was funding project members and activities. Afterwards is the question: "what has the contact with [name project team member] brought you?" was asked. Answer possibilities were: A) organizing new events, namely__ B) Expansion of my network. I have been brought into contact with __ C) knowledge and advice, about __ D) Different, namely __ E) None of the above. Multiple answers were possible. This question reflects the gained results of the network and captures the ability of the project team and the health brokers to bring partners in contact with one another. To conclude, the respondents were presented the following statement: 'the contact with the team members has improved the activities around exercise, healthy lifestyle and experienced health'. The network and the implementation of the health broker has as a goal to improve these activities, this question has therefore been added to evaluate this goal.

The questionnaire is send to all 126 partners mentioned in the first step. The team members were asked to distribute the questionnaire among all their mentioned partners. Partners that were mentioned by multiple team members were only asked via one person. A second reminder email has been sent. The questionnaire had a total of 53 responses. Many responses were not usable as respondents only filled in the first 2 questions. A total of N=34 responses remained, which is a response rate of 26,7%.

4.3.5 Focus group

To conclude the CNA method, a final focus group has been held (instructions: appendix IV). Of the core project team n = 5 were present. In this focus group the results of the questionnaire and the

network drawings were presented and discussed. Questions were based on the methods of Provan et al., (2004) , Wijenberg, Wagemakers, Herens, den Hartog, et al., (2017) and Yessis et al., (2013).

The researcher presented the network analysis results in different steps (appendix V). Firstly, the combined drawing of the project team was shown. All name tags of the partners (nodes) in the network had been removed, since it was found unethical to talk about specific partners that were not present in the focus group. Nonetheless, the position of the project team members was shown and groups of partners from the same organization or project have been highlighted. Then, the map based on the combined drawings was compared with the results from the questionnaire. Since only 34 responses were gathered, the questionnaire results have been used as a signal, no strong conclusions have been made. The final network map formed a basis for the first discussion about the partners in the network. Firstly, the team members had the opportunity to ask questions and clarify uncertainties. Then the opinion of team members towards the current network was examined: what is good/what is not good/what is standing out. After which the central groups in the network were examined based on the method of Provan et al., (2004): are these groups essential? Are there other essential groups? Should these be more included?

Initially it was planned to distinguish the roles of the central groups in the network map. Based on the method of Wijenberg, Wagemakers, Herens, den Hartog, et al., (2017) the roles of the central groups would have been distinguished by asking; who of these partners profits of the project? (users), who of these partners delivers necessities for the project, or has something that is needed for the project (supplier), who is a driving force and takes the project further (partner), Who has the overview, the position and the capacity to do what appears to be necessary to keep the network healthy (a free actor), and to conclude; who connects suppliers and users (broker). Then the respondents would have been asked which roles are not or under represented and how these roles could be included. However, due to time issues these questions have not been asked explicitly, as implicitly most questions were already answered by the team members.

Then, the researcher continued presenting results about the different types of relations that have been asked to the project team and their partners. Firstly, based on the combined drawings and then the results of the questionnaire were added. For each relation the following questions based on the method of Provan et al., (2004) have been discussed; What do you think of current connections? How can current connections be supported and sustained? Are some relationships strong while others are weak? Should those relationships that are weak be maintained as is, or should they be strengthened? How are we going to do that?

To conclude the final step of the method, the following questions were asked: 'Do you see this information as useful? If so, how? If not, why? What would be more useful?' To determine the usefulness of applying this network analyses methods. The final focus group took approximately one hour.

4.4 Coordinated Action Checklist

Besides the results of the semi-structured interview after drawing the network, the coordinated action checklist (CAC) (Wagemakers et al., 2010) and two focus groups related to this checklist were used to answer the second research question '*What factors are important for the building up and maintaining cooperation within the health brokers' network?*'. As the scope of the research did not allow including all actors of the health brokers network, the choice was made to focus on the core of the network collaboration to fulfil the CAC and participate in the focus groups.

Coordinated action checklist

The CAC has been developed to regularly discuss and evaluate the collaboration and to make results visible (Wagemakers et al., 2010). Main topics of the CAC are: suitability of the partners, task dimension, relationship dimension, growth dimension and profiling (Wagemakers et al., 2010). Respondents are asked to rate their agreement with the statement on a 5-point scale. Depending on partnerships, items can be added. For this study, two items have been added that relate to the health brokers role. Namely, 'the health brokers function to full satisfaction' and 'the positioning of the health brokers within the collaboration works well'. In addition, one item that evaluates the preconditions of the collaboration is added. To conclude, it was chosen to remove two items of the original checklist. The final checklist included in total 26 items (appendix I). In November 2018 the professional partners of WIJDeventer, the Social team, sport bedrijf Deventer, the health brokers and the project leader N = 12 completed the CAC. One of the respondents brought a guest that felt unable to evaluate the collaboration as she was not highly involved. Her response has been filtered out the results.

Focus groups

The CAC was used as input for two focus groups. The first focus group took place right after the fulfilment of the CAC in November. In this focus group respondents were asked on which items they answered with a high score (more towards yes/yes) and what success factors of collaboration were. This is a form of appreciative inquiry (Cooperrider, Whitney, & Stavros, 2008). In appreciative inquiry, people investigate what works instead of what goes wrong and shift the focus from complaining and criticizing the current situation towards taking responsibility, ownership and collaboration. This results in creativity, involvement, actions and initiatives that are needed to

successfully implement changes (Cooperrider et al., 2008). The respondents were offered time to discuss how collaboration could have been improved and what specific actions were needed. In addition, the focus group offered the opportunity for the respondents to explain their interpretation of the different items.

The second focus group took place in January 2018, when the researcher had finished analysing the checklists. The results of the CAC were discussed; in particular the high scores (above 80) and the low scores (below 60) were highlighted. In addition, discussions were held about the conditions for a successful continuation of the collaboration. Finally, the respondents looked at concrete actions that had to be taken during the last project year. Both focus groups took approximately one hour.

4.5 Data analysis

4.5.1 Quantitative network results

Amount of connections

The UCINET program has been used for the quantitative mapping of the networks (Borgatti, Everett, & Freeman, 2002). In the drawing method of this research egocentric networks of the project members were examined only including direct connections of the project members with partners. The questionnaire that has been distributed among the project teams' partners also only investigated the direct connection of the partners with the project members and did take the connection of partners with other partners into account. When looking at direct connections and not taking indirect connection into account, only individual social relations can be analysed (Diaz-Bone, 2007). The two methods of analysis that are possible in this type of study are: the size of the network and the number of connections. The number of connections has been calculated for all different types of relations (e.g. funding relation or information and advice relation).

Amount of influence

The amount of influence respondents attributed to their partners in the drawing method has been added together and an average has been calculated. The average is based on the amount of project members that mentioned the same partner: Total influence = (I1 + I2 + I3 + Ix)/X.

Visualisation

The program NetDraw has been used to visualise the results in a network map. Since the method asks to define the type of relation, different maps have been composed for all the different types of relations (appendix V). The found differences between the drawing and the questionnaires are shown with red

lines. The amount of influence is visualised in the map by giving the different nodes a different size according to their amount of influence.

4.5.2 Analysis of interviews and focus groups

The interviews and focus groups were recorded and transcribed. After which the transcripts were analysed using thematic analysis, in order to "identify, analyse and report patters (themes) within data" (Braun & Clarke, 2006, p79). First, the data was read, and a first idea of the results was formed. Then interesting features of the data were coded in an open fashion. This led to an initial number of codes. These codes were categorized in different themes. The different themes were reviewed in relation to the coded extract and the entire data set. Then the different themes were compared to the HALL framework, themes that corresponded to factors in this framework were given the same name. Themes that were not mentioned in the framework were still considered (see appendix VI for final codes). The final description of results includes quotations. The program Atlas.TI has been used to support the analysing process.

4.5.3 Analysis of Coordinated action checklist

The scores of the checklist were calculated per item and per cluster. The clusters are: suitability of the partners, task dimension, relationship dimension, growth dimension, profiling and satisfaction health brokers. The individual scores of the respondents were given the following values:

Nee (no) = 0
Eerder niet (more towards no) = 25
Niet/wel (no/yes) = 50
Eerder wel (more towards yes) = 75
Ja (yes) = 100

The items per score were calculated by adding the scores of all partners (n=12) together and divide the total score by the number of partners. The cluster score was calculated by adding the average of the total item scores and then divide by the number of items in that cluster. Besides general analysis, the scores were compared with the mean scores of six other partnerships in community health promotion from the research of Wagemakers, Van Husen, Barrett, & Koelen, (2015).

5. Results: literature review

This chapter describes the result of the literature review. Twenty-two studies were identified that described a clear network analysis method (See table 4). Appendix II gives an overview of the aim and design of the network analysis. Besides, the testing criteria fulfilled for every method are given in the last column.

5.1 General information

The topic of the network analysis in the included articles are widely variable. Among other start-ups in the glass industry (Coviello, 2005), health promotion of aboriginal well-being (Abel et al., 2014), HIV agencies (Khosla, Marsteller, Hsu & Elliot, 2015) and organisations that form a support network for students (Fox, McCormick, Procter & Carmichael, 2007) are fields in which the network analysis has been applied. The data collection of the included articles is done across the globe, in Ghana, Canada, New-Zealand, The Netherlands, the United States of America, Taiwan, the United Kingdom, Denmark, Mozambique and Italy. Western countries are more present than developing countries.

It became clear that the term 'Social network analysis' (SNA) does not refer to one fixed method of collecting and analysing data, but to a whole set of methods described in different papers. For different projects, different methods were chosen appropriate to the project and network analyses goals. However, all methods are equal in that applying network analyses always starts with the question: 'who are the actors in the network'? Table 4 gives an overview of the included articles with its name or description and the kind of methods included and figure 7 visualises the different methods.

Table 4: overview of the 22 included articles with name/description and kind of methods

Name	***Methods included***
Qualitative data gathering with a bifocal approach to data analysis (Coviello, 2005)	Interviews
Network analysis in a community collaboration (Abel & Gillespie, 2014)	Meeting attendance Document review Group discussion
Participatory network mapping tool (Wijenberg et al., 2017)	Interviews Group discussions
Network analysis to strengthen community partnerships (Provan, Veazie, et al., 2005)	Questionnaires Group discussions
Net-Map (Schiffer & Hauck, 2010)	Drawing method
Network analysis to support strategic collaboration (Cross, Borgatti, & Parker, 2002)	Questionnaires
Mixed methods design to measure development of interagency collaborations (Cross, Dickmann, Newman-Gonchar, & Fagan, 2009)	Group discussions Interviews
Contact diaries (Fu, 2007)	Contact diaries
Drawing mapping task (Fox, McCormick, Procter, & Carmichael, 2007)	Drawing method
Network analysis for understanding knowledge mobilizations (Gainforth, Latimer-Cheung, Moore, Athanasopoulos, & Martin Ginis, 2015)	Questionnaire
Network analysis to understand collaborative effort for disparity reduction (Gold et al., 2008)	Questionnaire
NA as a method to strengthen participation in health promotion programs in vulnerable areas (Hindhede & Aagaard-Hansen, 2017)	Questionnaire Interview
Participant aided sociograms (Hogan, Carrasco, & Wellman, 2007)	Drawing method
Social network analyses and relational coordination combined (Khosla, Marsteller, Hsu, & Elliott, 2016)	Questionnaires
Surveying data on connected personal networks (Kowald & Axhausen, 2014)	Questionnaires
Social network analysis in complex network collaborations (Long, Cunningham, Carswell, & Braithwaite, 2014)	Questionnaire
Network analysis for the informal network (de Toni & Nonino, 2010)	Questionnaire Interviews
Network analysis to advance population health approaches (Yessis et al., 2013)	Questionnaire Group discussions
PARTNER tool (Varda, 2015)	Questionnaire
Network approach for international development networks (Petersen, 2016)	Interviews Questionnaire
Process mapping as a tool for network analysis (Pluto & Hirshorn, 2003)	Drawing method
Network analysis for community change (Robertson et al., 2012)	Questionnaire

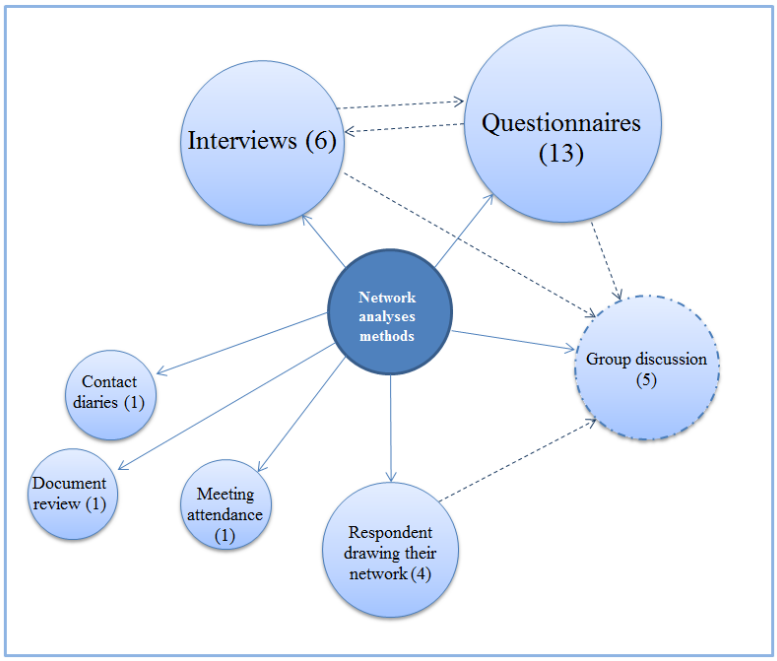


Figure 7: Network analyses methods found in the literature study

The dotted lines demonstrate that some methods follow one another. Bigger circles denote that these methods were more often elaborated on in different studies/methodological explanations (numbers between brackets indicate the exact amount). The method group discussion has only been used in combination with other methods and is therefore shown with dotted lines.

5.1.1 Questionnaires

Overall, the use of SNA questionnaires, or called survey by some of the authors, was found to be most often used. Of the 22 articles, 13 articles described the use of questionnaires. Most of them (10 out of 13) only used questionnaires to map a network, others combined it with interviews simultaneously (de Toni & Nonino, 2010), or discussed the results of the questionnaires in group discussions for further elaboration and verification of results (Provan, Veazie, Staten, & Teufel-Shone, 2005; Yessis, Riley, Stockton, Brodovsky, & Von Sychowski, 2013).

Most SNA questionnaires were found to be straightforward, containing a list of all people in the defined network showed in a roster or matrix (9 out of 13), asking respondents to answer per organisation single or multiple questions. The other questionnaires contained name-generators, asking respondents to write down all organisations/individuals they had contact with.

In all questionnaires, the most important questions were about frequency of interaction, ranging from daily to once a year. In addition, type of collaboration seemed important; ranging from networking; Alliance; Partnership; Coalition till Collaboration, or likewise distinction (Cross et al., 2009; Robertson, Lewis, Sloane, Galloway-Gilliam, & Nomachi, 2012; Yessis et al., 2013). Some

questionnaires contained questions about type of support (Hindhede & Aagaard-Hansen, 2017), shared info on a specific topic and how this information is shared (Gainforth et al., 2015), perceived influence and level of involvement (Varda, 2015), level of trust/importance of other organization in the collaboration/emphasise on collaboration (Robertson et al., 2012), and questions about the informal networks described by Cross, Borgatti & Parker (2002); communication, information, problem-solving, know and access network.

All SNA questionnaires were cross-sectional, taking a snap shot of the current network situation. However, the questionnaires of Long, Cunningham, Carswell and Braithwaite (2014) and Gold, Doreian and Taylor (2008) tried to establish to map the change in the collaboration network by asking questions about the past. In addition of past and current network ties, Long et al. (2014) also mapped perceived future collaborations by asking questions about potential new partners in his methodology.

To conclude, the questionnaire methods typically involved statistical analysis of network structure, on for example size, density, direction of ties, strength of connections and the presence of clusters and cliques. Methods of data analysis were mainly UCINET v6, or Pajek (Borgatti, Everett & Freeman, 2002). In addition, data is visually shown through computer generated sociograms, with for example the program Net Draw (Borgatti, Everett & Freeman, 2002).

5.1.2 Interviews

Interviewing is the second most mentioned method for collecting network analysis data (6 out of 22 studies). Interestingly, only Coviello (2005) describes in-depth interviews as the sole method for data analysis. Others describe mixed-methods of interviews with questionnaires. Where the questionnaire is used as a basis for the semi-structured interviews (Cross et al., 2009; de Toni & Nonino, 2010;) or the other way around (Petersen, 2016). Wijenberg, Wagemakers, Herens, den Hartog, et al., (2017) make use of interviews as the basis for group discussions (described in section 5.1.3 into more detail).

Petersen, (2016) used interviews to develop the questionnaire and to ensure everyone in the network received the questionnaire. Moreover, Coviello (2005) explains the conduction of in-depth interviews based on the following questions: (1) How did the idea for your business come about? (2) When did this happen? (3) Why did it happen? (4) Who was involved? (5) Why were they involved? (6) What specific impact did they have on your business? (7) What happened next? When respondents answered these questions into detail, an overall 'life story' can be generated. Based on the chronologic order of events, a complete network map can be created.

5.1.3 Group discussions

Five studies explain the use of group discussion to create a clear overview of the network of the project/organisation. These do not include the articles that describe groups of respondents drawing their network (see section 5.1.4). The articles do not solely make use of group discussions to map the complete network. Instead, the group discussions are used to discuss and validate preliminary results. Network maps can be adapted to clearly reflect the reality, or/and the preliminary results are used to reflect on the status of the network. During the group discussions questions such as "Which community agencies are most central in the network, and are these agencies essential for addressing community needs?" "Which core network members have links to important resources through their involvement with organizations outside the network?" could be asked (Provan, Veazie, Teufel-Shone, & Huddleston, 2004).

The method of Wijenberg, Wagemakers, Herens, den Hartog, et al. (2017) is slightly different, as in this method the researchers made a general visual map of the network prior to the group discussions based on interviews. During the group discussion the map was used to discuss the composition and functioning of the team and the roles every partner had within the network. Roles are graphically shown in the network map based on circles (partners), rectangles (suppliers), gear wheels (broker; free actor) and/or triangles (users).

Also the method of Cross et al., (2009) is somewhat different. In this network analysis the unit of analysis were intergroup relationships; which entailed that “group discussions were used to establish ratings that identified the depth and complexity of linkages between groups” (Cross, 2009, p316). The relationships were rated based on rating scale from (1) networking, (2) Alliance, (3) partnership, (4) coalition and (5) collaboration, defined by differences in three dimensions – purpose, structure and roles. The level 0 meant no regular contact or relationship. Interviews and narratives were used to check the face validity and concurrent validity of the numeric ratings (Cross et al., 2009).

5.1.4 Respondents drawing their network

Four articles describe methods to draw the respondents network, or visually graph the network on a sheet of paper (Fox et al., 2007; Hogan et al., 2007; Pluto & Hirshorn, 2003; Eva Schiffer & Hauck, 2010). These methods are not entirely the same; therefore each of them is explained into more detail.

First of all, the Net-Map method by Schiffer and Hauck (2010) uses post its and pens to draw the network. Besides, influence or power of different actors in the network is asked by adding similar flat round disks that can be stacked to build a tower. This method can be used individually, or in a group composition. In addition, a list of names can already be provided, or the drawing can be done based

on name-generators. The Net-Map methods described by Schiffer is mentioned in two articles included in the second analysis (Karn et al., 2017; Rasheed et al., 2017). They describe satisfaction of the use of this network analysis method.

The method of Fox et al. (2007) is somewhat simpler and less structured by letting the respondent draw on a piece of paper. The focus is 'to whom, with who, and how to keep in touch and communicate'. The method is based on name-generators and is meant to be done one-on-one instead of group discussions.

Hogan et al. (2007) describe the usability of an interview-based-collection method. This method is like the method of Fox et al. (2007) meant to be done one-on-one instead of in a group composition. The method is somewhat different, as names should be placed on a large template containing circles. This template provides on overview on who is closest and most important to the respondent.

To conclude, the drawing methodology of Pluto et al. (2003) is based on group discussions. The method is similar to the Net-Map (Schiffer & Hauck, 2010) and method of Fox et al. (2007). With a large sketchpad and coloured pens, the facilitator collects information on who performs what actions, when, where and how, and with whom and in what ways do respondents interact. The method describes that results should be discussed within the group once more until the final network map is satisfactory.

5.1.5 Other

Three articles mentioned four methods not found in other articles. Abel and Gillespie (2014) based network maps on meeting attendances and a document review. Fu (2007) clearly explains the use of contact diaries and Petersen (2016) makes use of participant observations to see who meets who.

5.2 Fulfilment testing criteria

All included articles are assessed on their applicability for both evaluating and facilitating the health broker's network based on six testing criteria (described in methods 4.2.3). The table in appendix II shows which method fulfilled which testing criteria. Figure 8 shows graphically which testing criteria are met by most articles. The different testing criteria are described into more detail below.

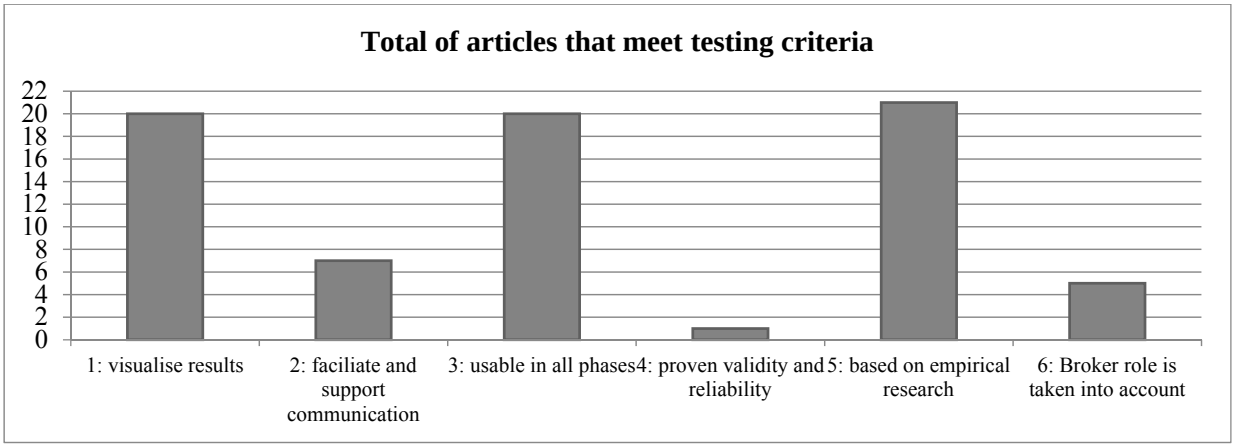


Figure 8: Total of testing criteria met

Testing criteria 1: visualisation of results

Visualising results is often done with sociograms. Literally showing the networks with nodes and attributes and lines between them. However, sociograms are often made after interviews, questionnaires and focus groups have been held. Drawing methods on the other hand immediately visualise results during the process itself and have therefore an advantage. Since it may give the respondents immediate insight in their network.

Testing criteria 2: the facilitation and support of communication

Many methods (15 out of 22) only use data for descriptive results. So, the use of data leads to a result, but neither the data collection nor the resulted network data is used to start a dialogue. Most methods that fulfil criteria 2 contain a group discussion in which preliminary results are discussed or the network is evaluated as a group. These group discussions offer the respondents the opportunity discuss evolvement of the partnership and actions that need to be undertaken.

Testing criteria 3: the method should be usable in all phases of the collaboration

Testing criteria 3 is fulfilled by most methods (20 out of 22). The question 'who contacts who' is also relevant at the early stages of a collaboration process. Even so, most methods applied their network analyses when a partnership, program or project is at a further developed stage and no longer in the starting up phase. The method of Coviello (2005) is an example of a method that is not usable in all phases. Since this method asks you to make a timeline, which means this method is not usable in the early stages of the collaboration process. Also the method of Abel and Gillespie (2014), which contains the meeting attendance as a basis for the network analysis, is not applicable in the early stages. After all, there must have been several meetings for a good basis. On the other hand, the method of Long et al. (2014) is a good example that takes past, current and future situation into account. Also thinking

through which partners could or should be included in the future, which may be especially important for networks at the early stages of collaboration.

Testing criteria 4: Proven validity and reliability

Criteria 4, proven validity and reliability, is only fulfilled with the PARTNER tool (Varda, 2015; described in McCullough, Eisen-Cohen & Salas, 2016; Retrum, Chapman, & Varda, 2013). Other methods - such as the Net-Map tool (Schiffer & Hauck, 2010) - have been used in other articles as well, but no description of proven validity and reliability has been given.

Testing criteria 5: Based on empirical research

Almost all articles describe a method clearly and apply this method to test usability (in different situations described under general information). Only, the method of Provan, Veazie, et al. (2005) - "network analysis to strengthen community partnerships" is not based on empirical research, and merely describes a potential approach of how to use network analysis. However, while reading articles for the systematic review, several articles use this method and describe its applicability (Fuller, Hermeston, Passey, Fallon, & Muyambi, 2012; Kamya et al., 2017; Loitz, Stearns, Fraser, Storey, & Spence, 2017).

Testing criteria 6: The 'broker' role is considered

No found article describes a method for mapping the network of a health broker specifically. Most methods do not mention a broker role at all. In only 5 articles the term broker, or something likewise based on the synonyms of health brokers of Long et al. (2013) is mentioned. Of these 5 articles, 4 articles refer to a broker in the data analysis part. For example Yessis et al. (2013) states that someone is a broker when that person is connected to most organizations in the network (degree centrality), and is positioned to broker information, services and resources (betweenness centrality). The calculation of degree centrality and betweenness centrality, however, can only be made after conducting a whole network analysis (with a roster method or name-generator).

Only the method of Wijenberg, Wagemakers, Herens, den Hartog, et al. (2017) uses among others the role of broker in the data collection: on the basis of interviews with initiators the research made a general visual map of the teams and their networks, describing all actors, their linkages, and their roles in terms of partners, brokers, suppliers and users. This map is the basis of a group discussion.

Conclusion testing criteria

No single article fulfilled all testing criteria. When leaving out testing criteria 4 (proven validity and reliability), since only one article fulfilled this criterion, and testing criteria 5 (the 'broker' role is

considered) since no article describes the health brokers roles specifically, 5 articles remain. In addition to these five articles, the article of Provan, Veazie et al. (2005) fulfilled all testing criteria when it is considered that this method has empirical data in order articles (Kamya et al., 2017; Fuller et al., 2012). The six remaining articles are: the participatory network mapping tool (Wijenberg, Wagenmakers, Herens, den Hartog, et al., 2017), network analysis to advance population health approaches (Yessis et al., 2013), the Net-Map method (Schiffer & Hauck, 2010), the mixed methods design to measure development of interagency collaborations (Cross et al., 2009), the process mapping tool (Pluto & Hirshorn, 2003) and the network analysis method to strengthen community partnerships (Provan, Veazie, et al., 2005). All included articles use different methods (interviews, group discussions, drawings and questionnaires), and all contributed to the composed network analysis (CNA) method: described in chapter 4.

6. Results: Network Analysis

In this chapter the results of the CNA method are discussed. Furthermore, the role of the two health brokers in the network is described. The chapter concludes with results of the evaluation of the applied methods.

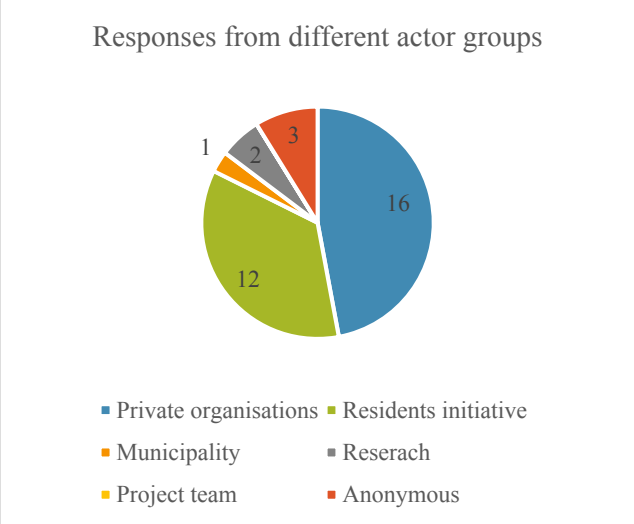
6.1 Findings network analysis

6.1.1 General findings

A total of 126 partners were identified through six individual drawings by the project team. On average 39 names were included, with a variation from 21 till 85. A distinction was made on five categories, including: project team, resident's initiative, municipality, research and private organizations (figure 9). All 126 partners received the questionnaire. The questionnaire has been filled in 53 times, of which 34 replies were useful (figure 10). The results of the questionnaire were compared with the results of the network drawings.

Figure 9: Total of partners identified

Figure 10: responses questionnaire



The questionnaire revealed additional connections between project team members and their partners compared to the network drawings combined. These additional connections can be explained by the time difference between the drawings and the questionnaire. Furthermore, additional connections are from partners within a committee. This committee has been mentioned by all project team members, but not all specific names were included. To conclude, additional relations can be explained by the partners from the actor group research. For some of the project members this part of the project was given no attention. The final network map, including all partners and all relations, is shown in figure 11.

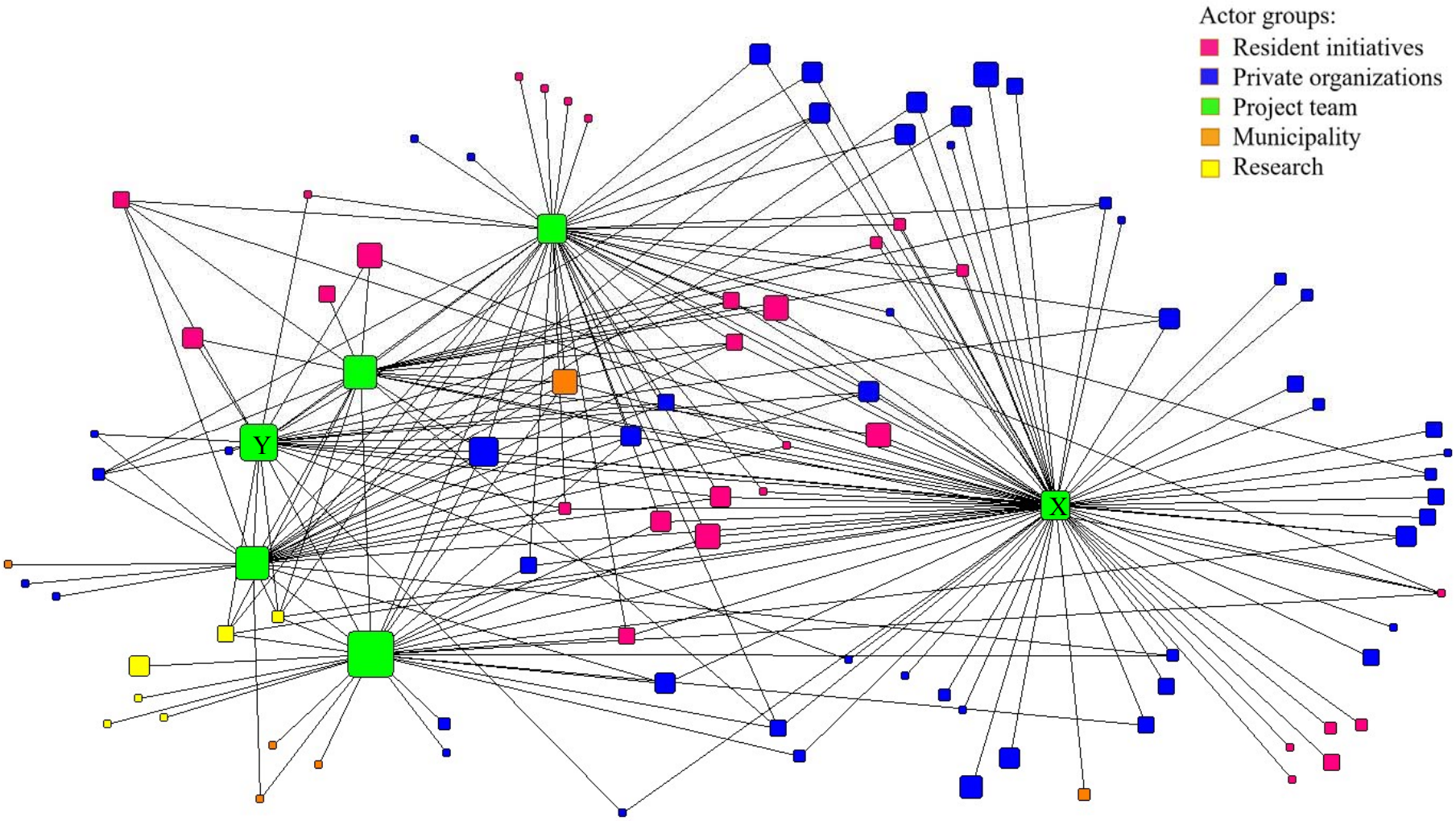


Figure 11: Final network map Voorstad Beweegt 2018 – The X and Y represent the health brokers in the network – the different sizes of the nodes reflect the influence the project team members thought their partners have

Different network maps have been produced for the different types of relations - distinguished in the questionnaire and in the drawings: funding, coordination, shared programming, referral and awareness (appendix V).

6.1.2 Influence of partners

The varied size of partners (nodes) in the network map (figure 11) represent the relative level of influence the team members scored their nodes while drawing their network. The smallest node being least influential to the largest node as the most influential towards the projects goal. The main reason for high influence was the position of the partner in the neighbourhood: having contact with the residents was found to be most important in reaching the goal of the project. Second highest influence was given to people that took part in the execution of programs. The larger the target population, the higher the influence towers. Also, continuation deemed to be important, partners that would continue working on the theme after the project funding had ended scored high. Other reasons for high influence are shown in table 5.

Table 5: Reasons for high influence

Reasons for high influence	**Mentioned by X respondents**
Positioning in the neighbourhood	6
Program execution	4
Continuation after funding ends	4
Enthusiasm	4
Coordination	4
Working towards the goal of the project	3
Funding	3
Positioning in the project team	3
Vision is equal to that of the project	2

During the final focus group, respondents mentioned that schools and community centres also have high influence on the projects goals, as they serve as stage for the project team to reach residents and offer a good location for activities and communication to the neighbourhood.

6.1.3 Added value of VoM

Of the 34 respondents, 27 respondents found that the contact with the VoM project team members has brought them something. Either organizing new activities, expanding networks, knowledge and advice or other, or multiple of these benefits (see figure 12). Only seven respondents answered that the contact

with VoM project team members has brought them nothing at all. Moreover, respondents were moderately positive about the influence of the team members and the network on activities related to exercise, healthy lifestyle and perceived health (figure 13).

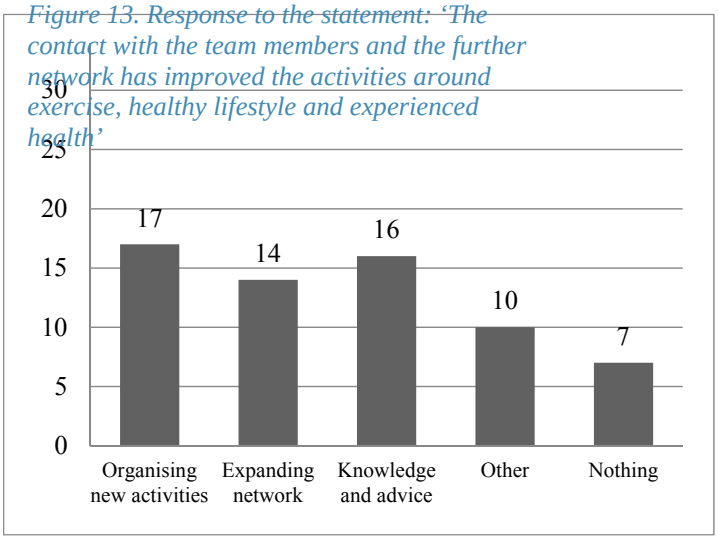


Figure 13. Response to the statement: 'The contact with the team members and the further network has improved the activities around exercise, healthy lifestyle and experienced health'

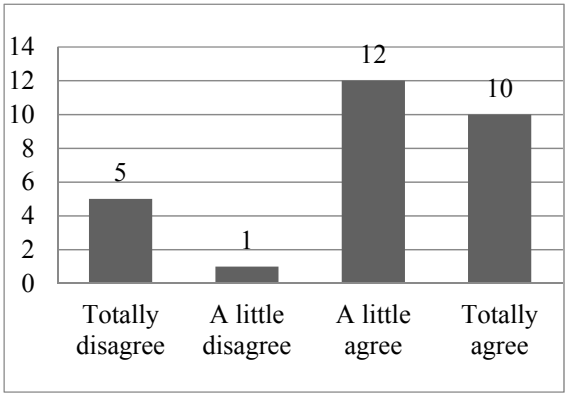


Figure 12. Respondents answer to what contact with VoM has brought

6.1.4 Focus group – actionable knowledge

The results of the drawings and the questionnaire formed the basis of the final group discussion (appendix IV + V). The goal of the focus group was to give insights in the current network and to facilitate action in building the network. The discussion yielded several points of actionable knowledge:

Central partners in the network

The network map revealed that some partners have contact with all team members and have a central position in the project. The project team discussed whether this centrality was essential for all and the potential to include one partner in the project team. Instead, to prevent overburdening partners, the team decided to limit the contact project members have. In addition, community centres were central partners in the network. They were perceived influential to the projects goal and the central position should therefore be kept and strengthened.

Including not central partners

Partners within schools were found not central in the network. In addition, when going through the different types of relations (appendix V), it seemed that the collaboration was of a limited level. Since the influence schools could have on the project was found to be high, the project team decided to talk with the combination officers who work at the school to increase partnership with them.

Additionally, the centrality and presence of the municipality was debated. Decided was that the partners one project member already had needed to become more central. This is going to be achieved by bringing other project team members in contact with these partners. In addition, as soon as the district alderman is known, it is planned to involve him into the project. Lastly, the council of the municipality was found to be lacking in the current network. Steps are planned to involve them in the project.

Roles of partners

The network map showed that the project team members approached many partners and that these partners turned into ‘users’ of the project. However, they did not become a partner in the project. One stays on 'own base' and 'there is consumed but little participated'. The project needed more partners in the network: one who takes the project further. Including schools and community centres more in to the project was recognized to be a potential approach for action.

6.2 Health brokers in the network

During the network analysis it was attempted to reflect on the role of the health brokers within the network. Figure 11 demonstrates the position of health broker X and Y.

Health broker Y

Health broker Y (mentioned 21 partners) was mainly responsible for all physical activities within the project. She is an employee of the Deventer sport company and works 8 hours a week for VoM.

Health broker Y thought her main responsibility was the support and assistance of initiatives; she interpreted this as information and advice relation. Which indeed are the most lines in her network. In addition, she mentioned that other welfare professionals refer residents with an idea to her; this indeed came forward in most of the other respondents’ network maps and in the results of the questionnaire. However, contact with residents’ initiatives on her behalf was lacking (only three mentioned). As soon as residents had contact with her about physical activities, she linked them to other professionals within her company or work network or she participated in the programming.

During the focus group the few contacts of health broker Y with residents (initiatives) came forward. It was mentioned that the goal of the project is to reach the residents ‘bottom up’, and this was in her case unclear. However, it was concluded that when other professionals active in the neighbourhood, such as the Social team, receive a signal about the needs of residents and refer this to the project team it was also understood under this principle. Since receiving signals from residents can only happen when a trust relation has been built up, and this needs time.

Health broker Y is related to health broker with purpose 2, described by Willemsen (2017): to create a benefit for a third party, trying to coordinate delivery and services and/or programs that meet the third party's needs. In this case the third party are residents with a low SES in the neighbourhood Voorstad. However, the signal of the residents needs comes via other professionals.

Health broker X

Health broker X's (mentioned 85 partners; from which some are grouped together in the drawing) main responsibility were the non-physical active activities of the project. These activities included the set-up of a toy lase-lend bank and a sense-experience course. She is an independent contractor with a background in pedagogics as well as an active resident in the neighbourhood. Health broker X mentioned most contacts with residents for this project compared to the other team members. Besides, her network contained most partners of the actor group private organizations compared to other team members.

Like health broker Y, health broker X mentioned her main role was the support of initiatives. Which she interpreted as the information and advice relation. Besides supporting and assisting initiatives, she mentioned being active in the organizing of two programs. Six questionnaire respondents indeed mention planning communal activities, another six mention they use knowledge and resources of the health broker to plan and guide activities.

> *"X: No, but together, residents do a lot themselves and I only occasionally support them where necessary. Only 'voorstad Kids' is done together, really in collaboration. So, for me really only a lot of support and advice"*

Connecting individuals with one another is additional role she mentioned. Indeed, nine questionnaire respondents mentioned health broker X referred residents (initiatives) towards them, four also mention they refer residents (initiatives) towards health broker X. During the focus group the role of health broker X in referral was shortly discussed. Other project team members did agree this was part of the role she as a health broker should have.

When examining the purposes of health brokers described by Willemsen (2017), and comparing it to current results, the role of health broker X is also related to purpose 2; the creation of benefit for third parties. However, she both gets signals via other welfare professionals and is active as a representative of the residents in Voorstad (type C).

6.3 Method evaluation

After the interviews and the group discussion respondents reflected on the use of the network analysis. Several advantages have been mentioned. Nonetheless, also points for improvement have been discussed.

Drawing

All six participants reflected on the drawing method, and all them thought the used method was helpful in visualizing and giving an overview of one's network.

> *"What did I think about drawing this network.. Yes, I think it's fun anyway, I always like this kind of thing. And it also helps, if I actually speak out loud that this area has not really had my priority or focus, it is also sharpening me again. You're thinking about it again, who is actually in my network, but also why. "*

After drawing the network 5 out of 6 participants saw chances in broadening the network and improving current relations for the project VoM. This means that the drawing method yields knowledge, which the participants immediately can use after applying the method.

> *"Cooperation with youth work is another chance. Which is not on this right now. And that is of course in my other work, but I would very much like to connect the idea to the VoM program"*

Reflection of the role of the health broker in the network of the participants was thought to be helpful, as it made participants reflect and think of the current situation in the network. However, some participants mentioned they had no idea what the role of the health brokers was in their network and how it was differentiated from the task they were doing (this was also mentioned in the CAC focus group).

The importance of discussing the results in a plenary meeting was highlighted by 4 out of 6 participants. Which suggests that discussing the network map in a plenary meeting is needed before actions can be undertaken.

> *"Well that I want to let that depend on what comes out of the joint discussion, you know? With the total, because the intention is also that I do not have that very much, but it must be there for the project, so if it is also a fairly limited spot so to say for the rest then we need to discuss that with each other."*

One participant was relatively new in the project team. She mentioned that for her the method was currently quite difficult, because with many partners she had not had the chance to meet. However, during the interview she wanted to write down a list of 'soon to be network' partners, as she saw the need to expand her network, which made the method helpful for her. One other participant also felt

the urge to write down the name of partners that she thought would be helpful to have in her network. This indicates that the method is useful in different stages of the project.

Despite the methods advantages, some points of improvement have been suggested. First, two participants had troubles with understanding how to divide their partners into the different actor groups suggested by the different coloured post-its. One participant suggested to add an actor group 'Welfare', as many organizations were not private organizations but also did not feel entirely a part of the municipality. Also, the colours and definitions of the different relations caused sometimes confusion. The two health brokers mentioned especially that the relation 'supporting and assisting' was not enough differentiated in the current shown relations. This relation should be added when repeating the method. Besides, the line 'funding' seemed to be difficult for project members, as only the project coordinator had the possibility to approve finances for the project. To conclude, three of the participants mentioned they found it difficult to write down all the names without preparation, as they thought the network was too big and had troubles distinguishing their own work network with that of the project. In addition, for two participants the method took longer than 1,5 hours, which makes clear the method might be too intensive. Suggested is that respondents may prepare themselves before the individual drawings with a list of partners that they have.

Final focus group

The discussion of the final network map has also been reflected upon by the team members. The method was found to give good insights and starting points for discussions and led to actionable knowledge (chapter 6.1.4).

> *"But well it has given me some eye-openers"*

> *"So indeed, I think that it gives a critical view on who does what, that could be a follow up action, in response to this. So, what do we do with partner X actually, all of us do that different, think different about it, but actually I also know we ask to much of partner X,. So yes, that kind of insights gives it yes.*

> *"If you start looking again in two years, you will get completely different names.. They are light communities and light initiatives, so I would put it on yes, what do professionals do"*

Nonetheless, many critical points have also been mentioned. First, the team members found it very difficult to reflect on the network map when the names of the nodes where not shown in the network map. The start of the discussion went laborious when figuring out which nodes stand for which groups.

Moreover, the resident initiatives were found to clutter the network map. Proposed is that the next network analysis should focus more on the professionals in the network, as they have higher chances to stay and be involved in different activities over the years and they are contact points for resident

initiatives. In addition, it was proposed to involve the professionals more by contacting them face-to-face rather than using a questionnaire. This was offered a solution for the low response rate of the questionnaire. The researcher should discuss with the project team which health or well-being professionals should be approached for an in-depth interview.

To conclude, the two members of the project team that were active in the neighbourhood for their other job (the social team) found it difficult to distinguish between their job and the network of the project Voorstad on the Move. Since it is planned to shift the role of the health broker towards the social team, it was found interesting to see whether this difficulty becomes less when applying the network map again over time.

7. Results: Collaboration in the network - CAC

In the following chapter the results of the coordinated action checklist are described. The CAC has been completed by the core project team to get insights into the collaboration between the professionals involved in VoM (Wagemakers et al., 2010). The average scores are compared to the results of previous collaborations (Wagemakers et al., 2015). An overview of the results can be found in table 7.

Comparison with the results of six other Dutch partnerships shows that the scores in this study were relatively low; 66 (14.9) compared to 78 (11.0). The successes and points for improvement within the collaboration that might explain the scores are discussed below.

7.1 Successes

On some statements the project team scored relatively high. The highest score has fallen on statement 5: "I have a direct interest in my job/organization to be involved in the cooperation". This statement has a score of 98 (7.2). Other partnerships score an average of 86 (6.2). The positive effects of the partnership are therefore recognized. This is also evident in statement 1.

In addition, statement 3: "good cooperation in this form stands or falls with the equality of the partners" also scored very high (94 (10.8) compared to 84 (4.1)). During the focus group everyone agreed with the statement but wondered whether equivalence also applied within this partnership.

7.2 Points for improvement

Statement 11: "the cooperation functions well (working structure, working method)" scored on average much lower than previous partnerships (56 (27.2) compared to 71 (10.2)). This statement indicates that there are still areas for improvement within this collaboration.

Explanation could be the low scores on the following items. Statement 4: "the input of the various partners involved is to full satisfaction", scored very low (43 (15.4)), this is almost 20 points lower than the average of other collaborations (71 (8.5)). During the focus group it emerged that when the preconditions, and the missions and goals are clear, the input of all those involved is also better. People know what is expected of them and carry this out. When looking at proposition 9, it indeed scored much lower than previous collaborations. Also, statement 13 scored low.

In addition, the statements within the relationship dimension of the CAC all score much lower than previous partnerships. Especially proposition 14: "the involved of the cooperation meaning open in their communication", and statement 17 "within the cooperation is constructively dealt with conflicts" score low.

Table 7: Results coordinated action checklist

		Average Voorstad on the Move *N* = 11	**Average 6 Dutch Partnerships**
General		89 (19.6)	93 (5.7)
1	The collaboration is an asset for health promotion	89 (19.6)	93 (5.7)
Suitability of the partners		78 (16.3)	80 (9.8)
2	To attain the goals of the collaboration, the right people are involved	75 (22.4)	73 (7.0)
3	Equity of the partners is essential for good collaboration	93 (11.1)	84 (4.1)
4	The contribution of the different partners is to everyone's full satisfaction	43 (15.4)	71 (8.5)
5	I have a special interest in participating in this collaboration because of my position or organization	98 (7.2)	86 (6.2)
6	I can contribute to the collaboration in a satisfactory way (time, resources etc.)	77 (22.5)	74 (11.5)
7	I feel involved in the collaboration	75 (31.6)	86 (7.7)
8	I can contribute constructively to the collaboration because of my expertise	82 (28.4)	85 (7.5)
Task dimension		62 (14.2)	73 (10.0)
9	There is an agreement on the mission, the goal and the planning among the partners	45 (14.4)	70 (9.3)
10	The collaboration achieves regular (small) successes	77 (16.7)	78 (9.9)
11	The collaboration functions well (working structure, working methods).	57 (28.4)	71 (10.2)
12	The collaboration evaluates progress in the interim and, if necessary, carries out adjustments.	80 (24.5)	*
13	The preconditions for the existence of the collaboration are satisfactory.	50 (27.4)	*
Relation dimension		59 (4.8)	72 (11.5)

14 The project partners communicate in an open manner.	55 (27.8)	72 (13.5)
15 The project partners work together in a constructive manner and know how to involve each other when action is needed.	60 (22.9)	76 (13.1)
16 The project partners are willing to compromise.	61 (26.9)	75 (10.8)
17 Within the collaboration conflicts are dealt with in a constructive way.	52.5 (23.6)	60 (4.5)
18 The project partners will carry out decision and action loyally.	66 (16.1)	76 (9.0)
Function health brokers	60 (2.1)	*****
19 The health brokers function to full satisfaction.	62.5 (28.0)	*
20 The positioning of the health brokers within the collaboration works well.	58 (26.35)	*
Growth dimension	74 (3.7)	77 (5.0)
21 The collaboration is prepared to recruit new partners in the course of time.	78 (24.8)	82 (5.3)
22 The collaboration succeeds in mobilizing others for its actions.	70 (23.4)	72 (8.6)?
Profilering	55 (8.4)	*****
23 The collaboration accurately maintains its external relations.	42.5 (19.5)	67 (11.2)?
24 The collaboration is seen by external partners as a reliable and legitimate actor.	57.5 (27.5)	65 (6.7)?
25 The collaboration has a good image in the outside world.	55 (24.5)	68.5 (10.6)
26 The collaboration ensures continuation after the end of the project period	66 (26.7)	*
Average score of all items	66 (14.9)	78 (11.0)
Average score of all comparable items	67 (13.6)	75 (6.4)

Note: The numbers are the average scores of all completed answers by the individual partners on the Likert scale; no (score 0), not previously (score 25), not - yes (score 50), rather (score 75), yes (score 100). Standard deviation is indicated between brackets. Items 2, 7, 12, 13, 15, 17, 19, 23, 24 and 25 have been filled in by 10 professionals. Items 20 and 21 by 9 professionals. * no data from previous collaborations.

To conclude, within the cluster profiling of the CAC, the scores are also lower than the average of previous collaborations. Especially statement 23: "the cooperation accurately maintains its external relations" scores low (42.5 (19.5)).

7.3 Collaboration with the health brokers

The items about the health broker are specifically added for this partnership and are therefore interesting to mention. The people involved are moderately positive about the health brokers, with an average score of 62.5 (28.0) (statement 19). The positioning of the health brokers is still open for improvement (statement 20), because only 58 (26.35) has been scored. During the focus group, the low score on this item is explained by the low score on item 26: "the network ensures continuation after the end of the project period". This continuation is still lacking, due to the temporary role of the health brokers. Continuation appears to be a tricky theme. Again, it is stated that the preconditions are unclear for sustainability, and that there are opportunities here. Nonetheless, item 26 has scored relatively high (66 (26.7)).

7.4 Focus groups - Actionable knowledge

The results of the coordinated action checklist have been discussed within two focus groups. The results led to insights about conditions that needed to be changed for a successful continuation of the collaboration (table 6). These insights have led to actions. The mission and vision (point 4) is further defined in focus group two until all party's present were satisfied. This mission and vision is described and further developed in a work plan in which also task and responsibility division is discussed into detail (point 3). To get a clear view on continuation it was chosen to shift the role of one health broker towards the social team (point 2). First partly, and once the projects funding has ended the role of the health broker is planned to be in the social team completely. In addition, during the first focus group the scheduled meetings were already changed to meet more regularly (point 1). To conclude, the project team leader said to contact someone from youth health care (point 5).

Table 6: Actionable knowledge

	Conditions that must be changed for a successful continuation of the collaboration	Mentioned in focus group
1.	Meeting often; finding each other	FG1
2.	Clear view on continuation (of the health brokers role) after the projects funding	FG1 and FG2
3.	Clear arrangements on the preconditions; task and responsibility division are clear	FG1
4.	Clear mission and vision	FG1 and FG2
5.	Involving external parties, such as youth health care in the project.	FG1

7.5 Experience of the use of the coordinated action checklist

The use of the CAC is reflected upon. All respondents thought the completing and discussing of the CAC was valuable. Even though the approach of the discussion was in the first place to mention statements that went rather well, statements and points for improvement became immediately apparent. The discussion offered chances and insights for improved collaboration.

"I myself think that such a checklist there also helped a lot, because we made it very concrete. Because it's also people who are us and we think too, who can easily get stuck in abstract, and it has become a bit more concrete because of that CAC, and just that you have a checklist and you can just peat that percentage says this and so many percent says this, and then you get the outliers so that has definitely helped and indeed time and attention put into it that we then discuss it with each other okay how are we going to do that then."

"I notice that I see a lot of opportunities right away, because now when you start working in such a way it becomes much clearer who for whom, who stands for what"

A point of attention however is that some respondents have completed the questionnaire differently and more critically then others. In addition, some statements were seen by some as a statement in general and by others as a statement about the current collaboration. This reflects that the group discussions are important for respondents to comment on their score and to create actionable knowledge.

8. Results: Collaboration in the network

In the following chapter the factors contributing to maintaining collaboration within the health brokers network are discussed. The focus groups together with the results of the interviews with the project team led to the following results, described and analysed based on the factors from the Hall Framework: institutional factors, (inter) personal factors and organization of the collaboration (Koelen et al., 2012).

8.1 Institutional factors

Policy

Openness for other organizations

During the interviews it became clear that the Social team did not have a policy that allowed them to be open and able to collaborate with the health brokers and external partners prior to the start of the project. Both the organization itself and the partners found this troubling for the collaboration. During the months of the research, the policy of this organization changed which made collaboration more effective.

> *"It is also related to the fact that they are also changing their working method, so that they have also been given more room to start talking about how we work together with the projects and the organizations around us. So that they are also more outwardly oriented, and that that team leader is now also more outward-looking…. that has all helped tremendously"*

> *"So that equivalence is there, and I have a strong question whether that… it is not only about the preconditions, but whether you are facilitated, whether you are so supported by your organization that you are free to look for that collaboration. so, I doubt about that…"*

Facilitating collaboration

During both the interviews and the focus groups respondents mentioned that facilitation of time and resources for collaboration from their own organization was necessary for having the ability to collaborate within the project and with the health brokers. It also came forward that the facilitation from different organizations was differently; this influenced the equivalence in the collaboration.

Funding

Funding is related to being facilitated for the collaboration. Being paid and offered 'hours to work' on the collaboration was needed for a good collaboration. In addition, the health brokers have only been funded for 8 hours of work a week. Some respondents mentioned this was too little to gain a good collaboration and a good role performance of the health broker.

> *"Well we get paid a part, so the pressure of finances is a part of whether it works together or not"*

Planning

Booking interim results was important for the whole team to stay enthusiastic (short-term planning horizon). The results of the collaboration that led to actions and projects that have been undertaken were shortly considered before the first focus group.

In addition, one health broker mentioned that it was her job to align volunteering groups and private organizations. Organizations and volunteering groups have different 'working cultures' and planning horizons, and therefore ask extra attention to gain good collaboration.

> *"What also makes it very complicated for me is if you work with residents that go in eh very slow pace, I mean they are all volunteers who have a very different ethos than the professionals have and a very different pace and that is very nice just occasionally pff it frets on all sides"*

Concluded, the factors policy, funding and planning of the institutional factors in the HALL framework are found to be important in the current collaboration.

8.2 (Inter)personal factors

Attitude and beliefs

Open and enthusiastic attitude

Attitude of partners was found to be very influential on the collaboration by all respondents. First, the respondents mentioned that an open attitude to the project and its ideas and potential was needed. Instead of seeing problems, the partners that saw chances in the project and the health broker's role had a positive working relation with the respondents. This is related to being positively critical mentioned by one respondent. Partners that were enthusiastic and wanted to put a lot of effort into the project had a good working relationship with the respondents.

> *"I work well with a number of residents' groups because they are actually full of enthusiasm for yes for such a neighborhood so for an idea and they ask me then" jo how can you add to that or help with something", So then you see that that is two ways"*

Ownership

In both the focus groups as in the interviews it became clear that the feeling of 'ownership' over the project was very important for good collaboration. When partners had the feeling that they were partly

'owner' of the project their effort became greater. Partners that had a high feeling of ownership were also assigned higher influence towers.

"That is necessary, I think, find that if you do not feel like an owner, then you only see it as a subsidy item or as a burden. So, you have to go together for that."

Personal Relation

History played a crucial role in the collaboration with some partners. Earlier experiences of collaboration have not always been positive, and this became clear in the attitude towards the current relations within the collaboration. On the other hand, a positive history with partners was found to be promoting of a good working relationship.

"Well this collaboration, which has already gone wrong in the beginning, it had to do with a previous uh trifle I had absolutely nothing to do with, but yes.."

"…and the collaboration is going well because there is a very good reciprocity, and we are very much complementary to each other. Yes."

A positive collaboration was also found with partners that had a relation that contained a certain amount of reciprocity. Relations in which the interaction went two ways were rated as constructive relations.

Concluded, the factors attitude and beliefs, personal relations of the HALL framework have been found to be of importance in this research. Partners that had an open, enthusiastic attitude and a belief of ownership over the project were found to collaborate well. Self-efficacy, and social identity have not come forward during the interviews and focus groups.

8.3 Organization of the collaboration

Clear role and task division

All respondents mentioned that it was important to have a clear role and task division. When roles and responsibilities were clear, the project benefitted. Whenever this was not clear, the collaboration struggled.

"Connecting people, yes I see clearly that I do that, so we do things, but I started putting extra effort in the project last year, and then I do not see it as my core task and I find it difficult to say this is my responsibility or this is the responsibility of the project or of the people that got extra hours for that [the health brokers]. That sometimes bothers me"

During the focus groups and one interview it was mentioned that especially the role of one health broker needed a further

clarification. As its role now was so similar with some of the partner's role descriptions, the added value of employing the health broker and its collaboration was put in question.

> *"No, but I wanted to say.. we are in the same building, let's meet, because then things will just work out"*

Clear and shared vision and mission

Having a clear mission and vision was one of the most forward coming results. Absence of a clear and shared mission had a hindering effect on both the collaboration and enthusiasm of partners. In the interviews it came forward that having no clear and shared mission resulted in partners working on the project from different concerns and different angles. In addition, questions were raised about the projects goal of working bottom-up from inside the neighbourhood. It was found to be unclear when health brokers and partners could implement a project top-down, and when the focus should be on bottom-up projects. Likewise, this was found to hamper the collaboration and enthusiasm. An overarching shared mission is needed for good collaboration. The positive effect of a shared mission and vision was indeed often mentioned. Partners that shared the same vision on the approach of the project, the health broker and the work that needed to be done had a pleasant collaboration.

> *"That is also why I just asked the project coordinator, just like what is the course and what is the vision and where do you go in 2018. I notice that when I have that clear, that the collaboration is going better, if you know in what direction all our noses point so to say"*

Clear view on continuation

Another critical factor of good collaboration was having a clear view on continuation. In both focus groups and during five interviews this topic has emerged. Continuation was found to be especially important when talking about the role of the health brokers. Continuation after the subsidy was over was still uncertain, and this affected the collaboration, since collaboration with someone that 'leaves anyway' was found to be ineffective, a waste of time and money and not worth investing in. Therefore, to gain good collaboration in a health brokers network a clear view on continuation is needed. In addition, during the allotment of influence towers, respondents with a clear view on continuation were divided higher influence towers.

> *"Where I am really worried in the safeguarding of the role of the let me not mention it by her name, but the health broker, that assurance is simply insufficient. .... yes, the cooperation suffers under it yes, because that way, he is so vulnerable you know"*

Communication - Regular meetings

Clear communication and feedback was important for good functioning collaboration. All respondents mentioned that collaboration went better with partners with whom they had regular contact. Also,

during the focus groups respondents mentioned that they 'just needed to communicate and see each other more'. It became apparent that their previous strategy of communication and meeting each other was not sufficient, therefore a new communication strategy was opted in which partners meet each other more.

Flexible time frame

Establishment of a good relationship needs time to build trust and knowing 'how to find each other'. This especially came forward when respondents talked about one of the two health brokers, who had just started this project approximately two months ago. Flexible time frame is not only needed to achieve all projects goals, but also to establish a sustainable relation.

Using everyone's capacities and skills

It came forward that the collaboration should be built in such a way that everyone's skills, specializations and orientations are used. This was related to a clear role and task division during the focus groups. The roles and responsibilities everyone gets assigned should be according to their skills. In one interview it was mentioned that especially for the health broker it was important that the role description is accordingly to their skills.

> *"Yes, collaboration is less, because of course she is not so long in the project team. So that line feels less self-evident for me than for others. But that just has to grow, I think."*

Visibility

The factor visibility of results has not come forward explicitly as influencing the collaboration. However, during the first focus group shortly is discussed what has been achieved so far, and all participants found this important for enthusiasm. In addition, visibility of the process of collaboration has been found to be important, this came forward during application of the CAC and the discussion of these results.

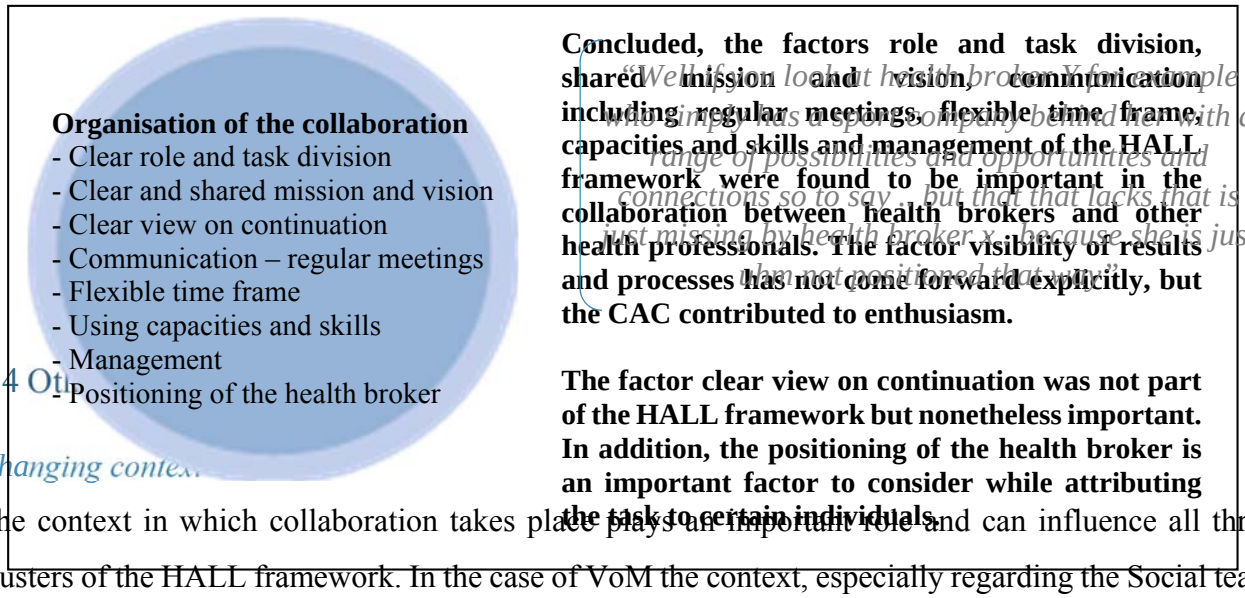
> *"That is why we also complement each other very well. She also simply has that connection from well-being…"*

Management

Collaboration within the current project team seemed to not always go well. It was said that when assignments are not specified enough and are not clear enough the project coordinator or the health brokers should manage and steer the group. A clear management and project leader was desirable. This also came forward during the allotment of influence towers: the project coordinator got more influence due to her position in the team and her ability to manage the project. However, some respondents mentioned that they did not want to have a top down feeling. The project leader should only steer when it was not clear who was responsible for what assignment.

Health brokers positioning

One reoccurring item in both the focus groups and five interviews, but not integrated in the HALL framework, is the positioning of the health broker in the collaboration. One of the two health brokers was an independent contractor, chosen to work on the project due to her many contacts in the neighborhood. This was found to be an advantage for close collaboration with the residents. However, this meant that this health broker had no organization or company structurally connected to her. During the interviews several disadvantages to this approach were mentioned. First, positioning the health broker this way is linked to the factor *continuation* and collaboration. Safeguarding continuation after the subsidization ended deemed more promising for the health broker who worked at an organization necessary for the projects goal. Another point of attention, mentioned by one respondent and linked to the *capacities and skills* of a health broker, is that a health broker who works at an organization is thought to have more expertise, or knowledge, herself or via her colleagues, in a specific topic that is necessary for the fulfilment of the health brokers tasks. Besides, a health broker that works at an organization has more *visibility* in the neighborhood due to their other work activities, which might positively influence the impact of the project and the logic to seek collaboration. To conclude, the health brokers tasks now overlapped with the *tasks* of some of the professionals in the Social Team, which caused difficulties. Positioning the health broker within the social team was found to be a possible solution.



8.4 Ot

Changing context

The context in which collaboration takes place plays an important role and can influence all three clusters of the HALL framework. In the case of VoM the context, especially regarding the Social team is changing continuously. Leading to a different project team composition (organisation of the collaboration) and different policy concerning collaboration with external partners (institutional factors). Since 2018 the team members experience this changing context regarding the Social team as

a positive influence ((inter)personal factors), leading to more chances for intensive and structured collaboration and sustainability in the future.

Learning environment with regular evaluation

Within the changing context, the healthy alliances form within a learning environment. During the interviews it became clear that this learning environment is crucial to adapt the collaboration and the network to the constant changing context. Especially the use of the coordinated action checklist came up several times (chapter 8). The use of evaluation moments related to the collaboration caused the project to improve, adapt and grow towards a more sustainable collaboration. Therefore, regular and systematic evaluation moments are needed to gain a sustainable collaboration, to fulfil expectation management and to change course when needed. It is suggested that learning moments should be planned and organized regularly.

Other: - Learning environment – regular evaluation - Changing context	**Learning environment and context seemed to be important for collaboration with the health broker and other professionals. Regular evaluation is needed to adapt to the changing context and to adapt to changing expectations.**

9. Discussion

The aim of this thesis was twofold, on the one hand further develop a method that can be used to facilitate and evaluate the health brokers' network, and on the other hand gain insights into the factors that contribute to achieving and maintaining collaboration within this network. The main results are reflected upon based on previous research and theory. In addition, the strengths and limitations of this thesis and the implications for practice and research are elaborated.

9.1 Answer research questions

The first research question, which aimed to identify and further develop a method that facilitates and evaluates a health broker's network, was answered by a literature review. The findings resulted in several articles that were composed into a multi-method approach with different steps that follow one another (Cross et al., 2009; Pluto & Hirshorn, 2003; Schiffer & Hauck, 2010; Wijenberg et al., 2017; Yessis et al., 2013; Provan et al., 2005). The composed network analysis (CNA) method was tested within the network of Voorstad on the Move, in which the method provided insights into the current network, the role of the health broker, and provided actionable knowledge to achieve and maintain the network of the project. Actionable knowledge was obtained such as: including schools and the municipality and decreasing contact with central partners to prevent overloading them. Hence, the CNA method seemed promising and beneficial for both evaluating and facilitating networks.

The second research question, which was aimed at gaining insights into the factors that contribute to achieving and maintaining collaboration within the health brokers network, was answered based on focus groups and interviews. The Coordinated Action Checklist served as a basis for the discussion groups. For the interviews the drawn network maps served as a basis for evaluating collaboration. Results were described in line with the factors of the HALL framework (Koelen et al., 2012). Findings indicate that most institutional factors, (inter)personal factors and the factors related to the organization of the collaboration were important. In addition to the factors of the HALL framework, a clear view on continuation and positioning of the health broker were found to influence collaboration. Furthermore, learning environment and changing context were influential, planning regular evaluation moments was found essential.

9.2 Reflection on main findings

9.2.1 The network results

Applying the CNA method in Voorstad on the Move resulted into a complete network overview. Unfortunately, no consensus on critical directories for a given network exist (Provan et al., 2005). The network structure most useful for a network may vary depending on the focus of the network (Yessis

et al., 2013). Nonetheless, the complete overview of the network of Voorstad on the Move was found to be useful by the project team members in giving insights and starting points for discussions into potentially adapting the network. Evidence from other social network analysis research indeed indicates that a network informed program is more effective than a non-networked one (Wijenberg et al., 2017).

In addition to the overall network, the role of the health brokers within the network has been assessed. Assessing the broker role and comparing these with the roles described by Willemsen (2017) revealed to be challenging. Since both health brokers in VoM served different purposes and health broker X appeared to have different roles within different situations. Nonetheless, the results show that both health brokers are related to the second purpose; to create a benefit for a third party, in the current study the residents of Voorstad. This is in line with earlier research by Leenaars (2017), who states that brokers in the public health sector mostly focuses on benefits for a third party. Health broker Y is best described by health broker type B. However, she mentioned to have no or few connections with residents herself. Since one of the goals of VoM is to serve the residents bottom up, her relationship with professionals active in the neighbourhood was found to be important. These professionals communicate signals, ideas and initiatives of residents towards the health broker, who in turn continues with bringing other professionals together to create an activity or initiative for these residents. Figure 14 shows this type of relation, with the blue line indicating the signal towards the health broker. Health broker X seemed to receive this signal occasionally as well. Though, being a resident herself and having many contacts with locals, she also could take the role of a representative and bring the residents into contact with other professions (Willemsen, 2017). However, the professionals from the Social team are planning to take this role, due to their close connection with residents in the neighbourhood.

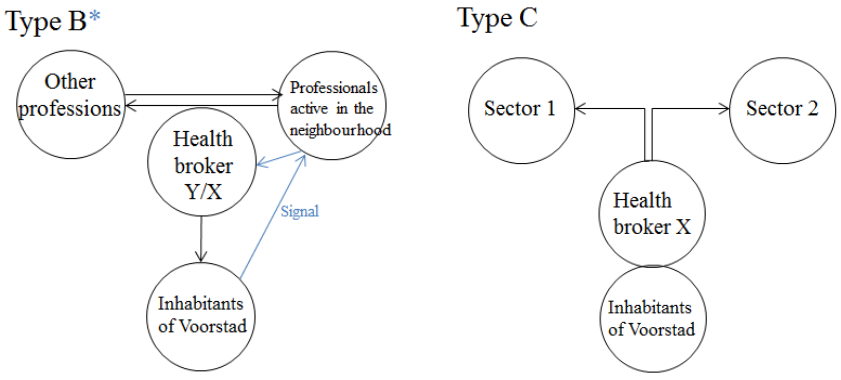


*Figure 14:. Visualisation of the types of health brokers in Voorstad on the Move, based on the research of Willemsen (2017). *With the proposed extra line indicating 'signals'.*

9.2.2 The Composed Network Analysis method

The CNA method was found to offer a variety of advantages to more commonly used methods, such as the use of a singular questionnaire (e.g. Gainforth, Latimer-Cheung, Moore Athanasopoulos, & Martin Ginis, 2015; Gold et al., 2008). First, the action research approach of the method indeed supported action and actionable knowledge as well as stimulated the progress of the network analysis by offering the project team members the opportunity to contribute to the content of the questionnaire.

Secondly, the method provided visible results immediately at the first step, and later during the group discussion, offering participants the chance to get insights in their network and potential opportunities right away. In earlier research it has been confirmed that the use of visual instruments in combination with the encouragement of network partners' active participation has an advantage, as the problems can be reframed, and encouragement of mutual learning takes place (Wijenberg, Wagemakers, Herens, den Hartog & Koelen, 2017).

Thirdly, the NetMap based drawing method offered the project members the opportunity to reflect on their network from their point of view, leading to more self-insight and understanding of other views. Previous research only implemented the NetMap method in group discussions (Karn et al., 2017; Rasheed et al., 2017). However, applying the method individually was found to have an advantage as the views of the project members did not always correspond, especially when reflecting on the role of the health broker.

Despite the variety of advantages and the positive evaluation by respondents on the use of the CNA method, there are few points for improvement. Three main changes are suggested. First, it is suggested to include partners into the network analysis by conducting short semi-structured interviews rather than distributing an online questionnaire, as this could increase the response rate. Dillman et al. (2009) indeed found that respondents are more positive towards aural modes of research. In addition, partners' permission should be asked to use their name in the final network map. During the final group discussion, it was found nearly impossible to have an in-depth discussion and clear insight into the network when the partners in the network were anonymously presented. Thirdly, an increased focus on health professionals in the network analysis is suggested for two reasons: 1) many contacts between residents and health brokers originates from the collaboration with other professionals in the neighbourhood, 2) resident initiatives are bound to volunteers, and the turnover rate of volunteers is perceived high. This would result in different resident initiatives involved when applying the CNA method again, whereas health professionals involved in the neighbourhood have a higher possibility to stay involved and are therefor important to include in the research. Previous research indeed

indicates that the durability of volunteering is of limited time: on average around 1,5 years, with 35% people leave before finishing 1 year of volunteering (Dávila, 2007 in Carmen Hidalgo & Moreno, 2009). To conclude, some minor adaptations of the CNA method should be made: an additional colour post-it should be added to define the actor group welfare and the relation 'supporting and advising' should be added into the drawing method as respondents missed these.

9.2.3 Collaboration within the network

The results found in this research advances our understanding of the factors contributing to collaboration within the network of a health broker. Additional to the factors previously described in the HALL framework and other previous research (Corbin & Mittelmark, 2008; Koelen et al., 2012; Tooher et al., 2017), some new insights have emerged.

Having a *clear view on continuation* is found to be an important theme, but not a factor in the HALL framework. In other research into community health partnerships the term sustainability is used and indeed found to be a key requirement for partnership success (Alexander et al., 2003). Despite the critical importance of sustainability to the success of partnerships, there is little knowledge to provide partnerships with clear guidance for long-term viability (Alexander et al., 2003).

Secondly, the *positioning of the health broker* within the network influences collaboration. Although hiring an independent contractor with close connections to the residents has it advantages, such as close connections and a trust relation with residents, the results of this study point into the direction of a health broker being positioned within another organization or company. Mostly because positioning a health broker within an existing organisation is said to offer opportunities for a clear view on continuation. In addition, this positioning increases visibility of the health broker, potentially increases knowledge and capacities and potentially gives a clearer role distinction between health brokers and other professionals. This is in line with Brinkerhoff (2002), who found that within partnerships one should not want to look like each other but complement each other.

Additionally, the learning environment was found to be imperative for the project because it was still in the early stages, existing for approximately 1,5 year and it was still looking for the right working structure and the role of the health broker within. Besides, the VoM project experienced a fast changing context to which it needed to adapt. This potentially explains the significantly lower score on the Coordinated Action Checklist (CAC) when comparing it to previous partnerships (Wagemakers et al., 2015).

The use of the (CAC), related group discussion and action research to create a learning culture, has been positively evaluated. It contributed to new insights for development and potential steps for action.

In the research of Van Tol et al., (2015) and Wagemakers et al., (2007) learning structure also deemed crucial. Discussing and providing feedback has the potential to involve and motivate partners in the collaboration process (Wagemakers et al., 2007). Therefore, planning regular evaluation moments appears to be crucial for the well-functioning of collaboration. The use of CAC, the CNA method and the use of action oriented research where researchers serve as facilitators, are potential starting points for creating this learning environment.

The results of the focus groups and interviews did not include the factors self-efficacy and social identity of the HALL framework. This is possibly explained by the fact that the interviews focused on what other partners brought into the collaboration rather than focusing on what the respondents brought into the collaboration themselves. In addition, the lack of the factor 'self-efficacy' might be explained by the fact that the statements in the CAC about this topic were answered very positively and respondents did not take the time to further discuss what expertise everyone brought into the collaboration (statement 8). Instead, they focused on other statements that still needed improvement. Assumed is that these factors do play a role within collaborations.

The insights from the current study led to the proposal to adapt the HALL framework with two factors that can have a stimulating or impeding effect on good collaboration between the health broker and other professionals and expand the factor learning environment with regular evaluation moments (figure 15).

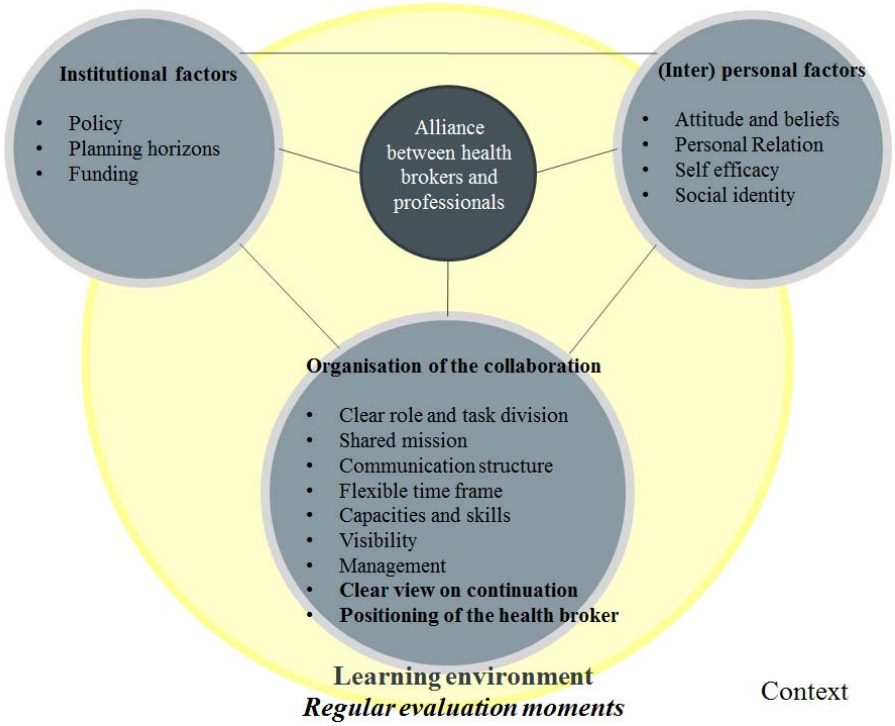


*Figure 15: the adapted Healthy Alliance framework based on the results of the current study. *added factors are presented in bold.*

9.3 Strengths and limitations

Several strengths and limitations of the current research have been identified. A first strength is that the network analysis executed in this research is based on an elaborate and detailed literature review. The literature review resulted in six articles with high potential. Appropriate elements of these articles together formed the strong basis for the CNA method.

In addition, method triangulation has been applied, using interviews, focus groups and questionnaires (Bowling & Ebrahim, 2005). Moreover, the results of the CAC are combined with insights of the network analysis to further describe factors that influence the alliance between health brokers and other professionals. The results of the different methods are complementary, form together a complete overview and improve the validity of the data. Also, data-triangulation has been applied, including both the view of the health brokers as their partners (Bowling & Ebrahim, 2005).

A limitation is that the *interviews* were coded and analysed by one researcher. Analysing results by multiple researchers leads to different insights and a higher validity (Bowling & Ebrahim, 2005). Another limitation of the interviews is that originally the CNA method planned an interim focus group in which the results of the interviews would have been fed back and cross-checked with the project team. This member check could have improved the validity of the results (Cohen & Crabtree, 2008).

A limitation of the *questionnaire* is that, due to time limits, there has been no discussion with the project team about the content of questionnaire. SNA questionnaires should be carefully designed and adopted to precisely get the information the project team needs (Robertson et al., 2012). To overcome this limitation, all project partners were given the opportunity via e-mail to offer suggestions for adaptation. Another issue with the questionnaire is that the names of respondents are needed to finalize the network map. Respondents who wish to fill in the questionnaire anonymously might have biased the results, as the position of these partners could not be cross-checked with the view of the project team members.

A final limitation of the last *focus group* is that it was decided to leave out the names of partners in the network map. This was chosen to ensure anonymity of the respondents of the questionnaire and to prevent that the focus group would focus on specific persons rather than groups of people. However, leaving out the names was perceived difficult and resulted into less specific steps for action to be undertaken.

9.4 Recommendations for practice and research

To conclude, the results and discussion of this research led to several recommendations that are important considerations for future research and projects with health brokers involved.

9.4.1 Recommendations for practice

First, both the health brokers, the project team members and the partners see the added value in the project Voorstad on the Move and its attempt to improve the perceived health of residents of Voorstad by increasing collaboration. However, as seen in this research and in previous research (Leenaars, 2017), developing a sustainable collaboration needs time and resources. The low scores of the CAC in the project VoM can only be improved if the partners get the opportunity to implement the suggested steps for action. Therefore, recommended is:

- Facilitate and create space, opportunities and time for collaboration between health brokers and other health professionals

Secondly, it is recommended to plan regular evaluation moments. In VoM the CAC, CNA method and action oriented research showed to be important and contributed to the learning process and collaboration: opportunities and challenges were highlighted and adaptations for a positive collaboration were made. Recommended is that in future collaborations the evaluation moments are regularly planned, for example every 12 months, to ensure that partners take the time needed for these evaluation moments.

- Plan regular evaluation moments within existing and future collaborations

Moreover, besides taking the previously known factors of the HALL framework into account, it is important to have a clear view on continuation, on especially the health brokers role after subsidization ends, as this was a recurrent theme through all research methods. Having a clear view on continuation was said to increase motivation, dedication and collaboration within the project.

- Have a clear view on the continuation of the health brokers role

In addition, it is recommended to think clearly about the health brokers positioning. Even though health broker X, being an independent contractor and resident herself, had some advantages in the beginning of VoM, such as close connections and a trust relation with residents and the ability the act freely, it is recommended to position health brokers within existing organisations and structures since this could increase a clear view on continuation. In addition, it is assumed to increase visibility and knowledge and skills and decrease overlap in job descriptions.

- Position health brokers within an existing organization or structure

9.4.2 Recommendations for research

The results of the study also led to recommendations for research. First, it is recommended to adapt the CNA method with the gained feedback. Even though the method was positively evaluated, the adaptations should increase response rates, increase the validity of the network maps and increase the usability of the final network map discussion. Adaptations recommended are: include more health

professionals by holding short semi-structured interviews instead of the questionnaire, include (after permission of respondents) names in the network map and include the additional actor group 'welfare' and the relation 'supporting and advising' into the drawing method.

- Adapt the CNA method to increase the usability and validity

Assumed is that the actionable knowledge gained during this research has been applied to practice and that improvements and changes of the network and its collaboration structure within will take place. The CAC and the CNA method should be carried out again before the end of the project to compare and see whether the network has changed, the collaboration has improved, and if the used methods were helpful in achieving this. Additionally, reapplying these methods yields new starting points for the project to improve, achieve and sustain collaboration.

- Execute the evaluation and facilitation methods again in the project Voorstad on the Move

In addition, the described network analysis method should be applied in different collaboration structures. The current research has gathered very context sensitive and specific data, what immediately has contributed to practice (Wagemakers, 2010). However, assumed is that the current method is also applicable and useful in evaluating and facilitating other health brokers' networks. To test and validate this assumption, further research needs to be done in different project and different sectors containing health brokers.

- Apply the CNA method in different collaboration structures containing health brokers to test applicability in different situations

To conclude, different methods have been used to evaluate and facilitate the health broker's role to achieve and maintain collaboration. However, the starting point of this collaboration is to improve the perceived health of the residents in Voorstad. The broader evaluation study, executed by Marja de Jong, should show whether the project and the gained collaborations are effective in achieving this goal.

10. Conclusion

The composed network analysis (CNA) method described and tested within this study seems promising and beneficial for both evaluating and facilitating health brokers networks. It provided insights into the role of the health broker, provided actionable knowledge and gave an overview of the current network. Besides the previously known factors of the HALL framework, a clear view on continuation and positioning of the health broker are factors that influence collaboration within this network. Furthermore, this study underlines once more that planning regular evaluation moments are essential for creating a constructive learning environment and to adapt the network and collaboration to changing contexts. The CNA method and the CAC proved to be good starting points for this.

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Appendix I: Coordinated Action Checklist

Wagemakers A, Koelen MA, Lezwijn J, Vaandrager L. Coordinated action checklist: A tool for partnerships to facilitate and evaluate community health promotion. Global Health Promotion 2010;17(3).

Annemarie.Wagemakers@wur.nl

	! Waar 'de samenwerking' staat wordt bedoeld: de samenwerking tussen VB, WIJDeventer en sociaal team *!! Met de gezondheidsmakelaars worden Mariëlle, Mark en Meriel bedoeld.*	nee	eerder niet	niet - wel	eerder wel	ja
1	De samenwerking is een aanwinst voor gezondheidsbevordering.	☐	☐	☐	☐	☐
2	Om het doel van de samenwerking te bereiken zijn de juiste mensen vertegenwoordigd.	☐	☐	☐	☐	☐
3	Goede samenwerking in deze vorm staat of valt met de gelijkwaardigheid van de partners.	☐	☐	☐	☐	☐
4	De inbreng van de verschillende betrokkenen is naar volle tevredenheid.	☐	☐	☐	☐	☐
5	Ik heb er vanuit mijn functie/organisatie direct belang bij betrokken te zijn/te werken binnen de samenwerking.	☐	☐	☐	☐	☐
6	Ik ben in staat mij voldoende in te zetten (tijd, middelen) voor de samenwerking.	☐	☐	☐	☐	☐
7	Ik voel mij betrokken bij de samenwerking.	☐	☐	☐	☐	☐
8	Ik kan een deskundige bijdrage leveren aan de samenwerking.	☐	☐	☐	☐	☐
9	Er is overeenstemming onder betrokkenen over de missie, het doel en de planning.	☐	☐	☐	☐	☐
10	De samenwerking boekt tussentijds (kleine) successen.	☐	☐	☐	☐	☐
11	De samenwerking functioneert goed (werkstructuur, werkmethode).	☐	☐	☐	☐	☐
12	De samenwerking evalueert tussentijds de voortgang en voert zo nodig bijsturingen door.	☐	☐	☐	☐	☐
13	De randvoorwaarden voor het bestaan van de samenwerking zijn naar tevredenheid.	☐	☐	☐	☐	☐
		nee	eerder niet	niet - wel	eerder wel	ja

14	De betrokkenen van de samenwerking zijn open in hun communicatie.	☐	☐	☐	☐	☐
15	De betrokkenen van de samenwerking werken constructief samen en weten elkaar te vinden als er iets gebeuren moet.	☐	☐	☐	☐	☐
16	De betrokkenen van de samenwerking zijn bereid tot het sluiten van compromissen.	☐	☐	☐	☐	☐
17	Binnen de samenwerking wordt constructief omgegaan met conflicten.	☐	☐	☐	☐	☐
18	De betrokkenen van de samenwerking voeren besluiten en acties loyaal uit.	☐	☐	☐	☐	☐
19	De gezondheidsmakelaars functioneren naar volle tevredenheid.	☐	☐	☐	☐	☐
20	De positionering van de gezondheidsmakelaars binnen de samenwerking werkt goed.	☐	☐	☐	☐	☐
21	De samenwerking is bereid in de loop van de tijd andere/nieuwe partners op te nemen.	☐	☐	☐	☐	☐
22	De samenwerking slaagt erin anderen te mobiliseren voor haar acties.	☐	☐	☐	☐	☐
23	De samenwerking onderhoudt nauwkeurig haar externe relaties.	☐	☐	☐	☐	☐
24	De samenwerking wordt door externe samenwerkingspartners als een betrouwbare en legitieme actor gezien.	☐	☐	☐	☐	☐
25	De samenwerking heeft een goed imago in de buitenwereld.	☐	☐	☐	☐	☐
26	De samenwerking draagt zorg voor continuering na ‘afloop projectperiode’.	☐	☐	☐	☐	☐

Hartelijk dank voor het invullen!

Appendix II: Overview characteristics included articles

Article	Authors	Title	Aim and method	Criteria
1.	Hindhede & Aagaard-Hansen (2017)	Using social network analysis as a method to assess and strengthen participation in health promotion programs in vulnerable areas	Aim: providing an example of how social network analysis can be applied as a tool to assess and strengthen community participation in development and health promotion programs. Methods: Study design includes the following steps (1) mapping of formal and informal groups (2) questionnaires; type and nature of support (material, emotional). Most of the questionnaires were filled in by well-known and trusted community workers based on face-to-face interviews. For each interview, the respondents were provided with a list of the relevant group members' names, in addition a name generator was used. Personal (egocentric) network maps were created for each respondent. Based on nature of the social relation, the nature of their interactions and flows. The level of socializing was measured by regularity of face-to-face contact on a 4-point scale ranging from daily to monthly. (3) SNA of the data; UCINET (4) qualitative in-depth interviews of members with high centrality score No specific mention of a broker role; although central players in the network are asked to perform an additional interview	1, 3, 5 6:
2.	Wijenberg, Wagemakers, Herens, Hartog, & Koelen (2017)	The value of the participatory network mapping tool to facilitate and evaluate coordinated action in health promotion networks: two Dutch case studies	Aim: to determine the value of the participatory network mapping tool (PNMT) to partners in health promotion networks. Methods: To gain a comprehensive insight into the value of PNMT, a qualitative secondary analysis was conducted. - Based on interviews with initiators the research made a general visual map of the teams and their networks, describing all actors, their linkages, and their roles in terms of partners, linkers, suppliers and users. The map was used in four group interviews as a basis to discuss in-depth the composition and functioning of the team and the viability of the network. The research asked question such as: - are the right actors involved?	1, 2, 3, 5, 6

			- what roles do actors take? - which roles are not represented - How does this work? - Roles are indicated with circles (partners), rectangle (suppliers), gear wheel (broker; free actor) and/or triangle (user) The PNTM enables partners in health promotion networks to clarify positions and roles, stimulating learning, and eliciting actionable knowledge.	
3.	Petersen (2016)	Facilitators and obstacles to cooperation in international development networks: a network approach	Aim: attempt to show that mixed methods social network analysis provides a useful tool for making the social structure visible, as well as the dynamics of interaction in development networks. An illustrative case is used. Methods: Data is collected in three stages. 1. Understanding the larger program: important actors were identified and invited to participate in an interview. Thereafter, snowball sampling was used to interview other actors in the network. Interviews had open ended questions with as aim to understand how the project was organized. 2. Based on the interviews, one project was selected for further research as a case study. Ethnographic research (semi-structure depth interviews and participant observations) was conducted for four months. 3. Administer an online survey on interaction. Data on the existence of ties and frequency of interaction were obtained from responses to the question 'on average, how often do you communicate with each person below about project-related topics Frequency of interaction was measured on a scale from 0 till 5. Participants reported their ties in the network by selecting from the list of project members provided, based on a roster method. Data analysis was done with the program Pajek. Combining quantitative and qualitative methods in a complementary way. To identify the network, and factors facilitating and hindering cooperation	1, 3, 5
4.	Khosla, Marsteller, Hsu, & Elliott (2016)	Analysing collaboration among HIV agencies through combining network theory and relational coordination	Aim: to contribute to the limited literature on coordination among HIV agencies by combining the two theories of social network analysis and relational coordination. Network analysis is used to capture the web of relationships that exist among HIV agencies. Relational coordination is used to provide a meaningful scale to compare the quality of relationship ties among HIV agencies.	1, 3, 5

			Methods: Data collection happened in two phases. In phase I data is collected on frequency of interagency collaboration. With a survey containing of one question: 'please indicate how frequently your agency worked with each of the following agencies for HIV/AIDS related issues, over the past 12 months. Response choice were: daily, weekly, monthly, quarterly, yearly, never and don't know. The question was followed by a roster of 62 agencies. Additionally, agencies were given the option to nominate up to six agencies for inclusion. Feedback was requested on the sample adequacy and appropriateness to main actors. In phase II of the data collection, agencies were contacted that had contact with at least 1/3 of the network. These agencies were administered a relational coordination survey. After which a socio gram was drawn. The survey contains seven questions with respect to other agencies. Each question covers a dimension of relational coordination; frequency of communication; timeliness of communication; accuracy of communication; problem-solving, shared goals, shared knowledge and mutual respect. Responses were recorded on a five-point liker scale.	
5.	Gainforth, Latimer-Cheung, Moore, Athanasopoulos, & Martin Ginis (2015)	Using network analysis to understand knowledge mobilization in a community-based organization	Aim: The purpose of this paper is to demonstrate the value and feasibility of using network analysis as a method for understanding knowledge mobilization within a community-based organization (CBO) by (1) presenting challenges and solution to conducting a network analysis in a CBO, (2) examining the feasibility of our methodology, and (3) demonstrating the utility of this methodology through an example of a network analysis conducted in a CBO engaging in knowledge mobilization activities. Methods: A cross-sectional design and whole-network design were used to investigate all the relations between the members and volunteers. Questionnaires contained: Demographic information Network instrument; participants were asked about sharing information, to avoid recall bias the organization asked staff and volunteers to keep written and digital records of information sharing. The network instrument was divided into four sections. 1. Clients; participants were asked to indicate the number of clients that they a) had spoken to about PA b) had asked them about PA c) they had worked with.	1, 3, 5

			2. People within the CBO + 3. People outside the CBO; name generator. About each name indicate participants were asked to indicate a) the role the person played and b) how they shared information with the person. 4. resources; the first three questions asked participants whether they had a) read the articles about PA b) used the CBO's website to access information about PA c) accessed the website. D) list any other resources they had used to access information about PA	
6.	Abel & Gillespie (2015)	Network analysis in co-productive research with a multi-sector community collaboration	Aim: discussing community practitioners' perceptions on the relevance and usefulness of methods of network analysis to their work. Two methods of network analysis and visual representations of the data that were used in a case study are elaborated on. Methods: 1. Longitudinal analysis of multi-sector participation focused on meeting attendance based on attendees' identified affiliation. Meeting minutes constituted the primary data source. These data were collated into a matrix. The traditional socio gram was rejected, instead a graphic with distinct colours representing each community sector and concentric circles representing the various years was used. 2. Analysis of the case utilized a process of backward mapping. Data were gathered primarily from existing documents. Reviewing of the documents was done with a focus on the questions: what was the intended collective impact? What were the components? What actors were involved in these components? What contributions were made to the vigil? After the analysis the data was visualized. - With both cases results were presented to the network, and after the presentation the following questions were asked: Do you see this information as useful? If so, how? If not, why? What would be more useful?	1, 2, 5
7.	Varda (2015)	Partner tool: program to analyse, record, and track networks to enhance relationships via partnertool.net	Aim: The PARTNER Team (Program to Analyse, Record, and Track Networks to Enhance Relationships) and its supporting technical assistance and quality improvement process, is recognized as a beneficial component of understanding and enhancing collaborative efforts. PARTNER was launched as a social network analysis tool in 2008 with support from the Robert Wood Johnson Foundation. The tool is now the centre of a process of assessment, analysis, systems building enhancement, and relationship strengthening This tool measures key aspects of partnerships and connectivity and has been previously used in many public health collaborations. Each organization was surveyed along eight dimensions regarding their organization's relationships (if any) with every other HIPMC	1, 3, 4, 5

			member organization: (1) frequency of interaction, (2) level of collaboration, (3) perceived power and influence, (4) perceived level of involvement, (5) perceived resource contributions, (6) perceived reliability, (7) extent of shared vision, and (8) openness to discussion.	
8.	Long, Cunningham, Carswell & Braithwaite (2014)	Patterns of collaboration in complex networks: the example of a translational research network	Aim: to examine factors that influence collaboration among the members of a new translational research network, affecting past collaborative ties, as well as current and future collaborations. Methods: - An online whole network survey. The survey was informed by interviews with 1 network stakeholders and feedback from a pilot of the survey by ten participants from equivalent clinical or research backgrounds. The survey established respondents' place of work, main tasks, years of experience, and if they had previous involvement in translational research. The second section of the survey asked social network questions; each question provided a roster of members' name as an aid to memory. Past, current and future intended network graphs (socio grams) were constructed from these questions. Q1: Work your way down the list of members and select the description that best fits that person (type of tie); Q2 Select the current strength of relationship with the people you say you know (strength of tie); Q3 Work your way down the list of members and select any that fit the following description; Q4 Work your way down the list of members and select any that fit the following description. - Social network answers were analysed using UCINET v6. No specific mention of a broker role in data collection methods: but broker role is distinguished in the results	1, 3, 5 6:
9.	Kowald & Axhausen (2014)	Surveying data on connected personal networks	Aim: This survey study combined name generators with snowball sampling to collect information on personal leisure networks and underlying global network structure. The paper examines both survey methodology and instrument in detail. The instrument is tested. Methods: The survey instrument had four sections designed to collect detailed information on egos' and alters' personal characteristics and topologies of personal leisure networks. 1) respondents' characteristics, 2) two name generators; space to report up to 40 names. 3) name-interpreter; asking egos to report some demographics of each alter mentioned, and	1, 3, 5

			some information on the ego-alter relationship. 4) socio gram; asking respondents to mention those social contacts from the name generator who make plans to spend free time together. New participants were reached through snowball sampling.	
10.	Yessis, Riley, Stockton, Brodovsky & Von Sychowski (2013)	Inter organizational relationships in the heart and stroke foundation's Spark Together for health Kids: insights from using network analysis	Aim: Test the utility of network analysis as a method for evaluation, and to inform collaborations of organizations involved in programs and advocacy. Methods: The network analysis included complementary data collection using quantitative and qualitative approaches. - The main method of data collection was on online interorganizational network survey. The network analysis survey included 85 items: 4 organizational questions (i.e., jurisdiction, sector, organizational focus, involvement in healthy eating/physical activity or something else), a question about each of the organizations included in the network (62), ability to nominate up to five other relevant organizations (5 questions), 8 questions about the benefits, and 6 questions about the drawbacks about organizational connections. - Participants were asked to choose the type of interaction that best described their relationship; awareness; communication; cooperation; collaboration; integration - Participants provided feedback on their experiences with completing the survey and participated in facilitated group discussions about the benefits on their current connections, and how their collective action could be supported and sustained. - Data analysis was done with UCINET, on the following measures; intensity, centrality, degree centrality, betweenness centrality, density and centralization. The broker role is not explicitly mentioned during data gathering, but in the result the speak about a broker that is connected to the most organizations (degree centrality), and was positioned to broker information, services and resources (betweenness centrality)	1, 2, 3, 5 6
11.	Robertson, Lavonna, Sloane, Galoway-Gilliam & Namchi (2012)	Developing networks for community change: exploring the utility of network analysis	Aim: demonstrating how network analysis can be used to develop a better understanding of community-based networks and to show steps that might be taken to facilitate network development. The network of the AABLH advisory committee is used as a case study. Methods: A quantitative survey questionnaire was constructed to collect information regarding the types of linkages that exist. The survey consisted out of:	1, 3, 5

			- List of organizations that the staff had identified as being past, current or potential members of the coalition. - Questions regarding seven aspects of the relationships to these organizations (if one existed); how regularly they were involved (little = 1 till very = 4); which involvement with the other organization Shared information, shared resources, joint programming, and policy advocacy); if the other organization was important to their work; which level of trust in the other organization (little = 1 till high = 4); how much emphasizes their organization places on getting involved in collaborative efforts to reduce health disparities, promote physical activity and better nutrition, and support and market organizational wellness interventions (no emphasis at all = 1 till major emphasis = 4); and to conclude their level of agreement with statements related to the organization. Results were analysed using UCINET software.	
12.	Schiffer & Hauck (2010)	Net-Map: collecting social network data and facilitating network learning through participatory influence network mapping	Aim: Offering a new methodology that is low-tech and low-cost and usable by researchers, facilitators and implementers. The method is tested in the Challenge program for water and food and the with volta basin board. Methods: Net-Map is a method whose strength lies in visualizing and making explicit several phenomena that structure decision-making arenas. During the interview process the following equipment is needed: - Large sheets of paper (were the network is drawn upon) - Multi-coloured actor cards (post-its) - Similar flat round disks that can be stacked to build influence towers - Optional; figurines to represent the different actors - Different colour felt pens 1) Assemble all stakeholders on map; write names on post its, to allow for an amore defined visual structure, different colour actors' cards can be used for different actor groups 2) Define different links and draw network; the interviewer collects data about how the selected actors are linked; this is done by drawing different coloured arrows between the actor cards. 3) Define influence/power and put actors on influence towers; the interview partners are then asked who has how much influence on the issue at stake. E.g. 'how strongly can these actors influence the achievements of the basin board's goals?'	1, 2, 3, 5

			4) Add goals of actors; informants are asked to provide information about the perceived goals of the members in the network, which are noted on the paper next to the number cards and their influence towers. 5) Analysing Net-Maps	
13.	De Toni & Nonino (2010)	The key roles in the informal organization: A network analysis perspective	Aim: Identifying the key roles embedded in the informal organizational structure, and to outline their contribution in the companies' performance. A framework for an in-depth informal structure analysis based on social network analysis (SNA) methodology is structured and applied in a case study of a knowledge-based enterprise operating in the information systems industry. Methods: Three key roles can be distinguished: Central connector, Boundary spanner, Information broker, Peripheral specialist. The five informal organizational networks described by Cross (2002) are used as well. The methods are explained in different steps. Preliminary step: presentation of the analysis process to the top management Step 1: definition of the objectives of the analysis Step 2: Definition of the objects of the analysis Step 3: Data gathering: questionnaires; to measure the relations among actors, and semi-structured interview. Questions use the informal networks described by Cross. Semi-structured interviews are not explained. Step 4: Data organization Step 5: Data visualization Step 6: Explanation and hypothesis formulation	1, 3, 5
14.	Cross (2009)	Using mixed-method design and network analysis to measure development of interagency collaboration	Aim: discussing the issues in evaluating interagency collaboration, describing the mixed-methods approach used for the evaluation of interagency collaboration and reporting of results of the collaboration evaluation of one case study. In addition, advantages of the use of this method are discussed. Methods: Mixed-methods approach. - Numeric ratings of the strength of interagency collaborations, to measure the strength the linkages matrix by Hogue is used. Where networking is the lowest level and collaboration is the highest level. Each of the five levels of linkage, (1)	1, 2, 3, 5

			Networking, (2) Alliance, (3) Partnership, (4) Coalition, and (5) Collaboration, is defined by differences in three dimensions—purpose, structure, and roles. A rating of 0 identifies that the two agencies coexist in the community network and that they have no established relationship. Group discussions were used to establish ratings that identified the depth and complexity of linkages between groups. - This is done at four points in time - Results are shown in network graphs - Narrative descriptions of interagency relationships collected via mail - Interviews with key leaders in community agencies Mentioned broker in results, but not specifically in methods	6:
15.	Gold, Doreian & Taylor (2008)	Understanding a collaborative effort to reduce racial and ethnic disparities in health care: contributions from social network analysis	Aim: Complementing traditional qualitative approach with formal analyses of a collaborative structure by using social network analysis to provide additional insights on collaborative processes. Methods: - Network items were asked to each participating organization to rate all other participants; the SNA methods examine estimates of relations prior to the formal collaborative participation → questions asked are given in the article. - Additional nine questions were asked to provide feedback on the collaboration effort as a whole. These items can give a benchmark that provides context for assessment of participating organizations. - Data collection via mail; only lead contacts of organizations, the ones most involved in the collaboration, were asked to fill in the questionnaire.	1, 3, 5
16.	Fox, McCormick, Procter & Carmichael (2007)	The design and use of a mapping tool as a baseline means of identifying an organization's active networks	Aim: Because of the lack of ready-made techniques, the authors developed and discuss the development and use of a mapping tool, including its trailing (within schools), and the first stages of analysis. Methods: - Respondents were initially asked to carry out a warm-up tasks, to familiarize them with the style of the task and to practice representing relationships visually 'present the communications you make as an individual on a piece of A3 paper'. The focus was 'to who with whom, and how you keep in touch and communicate'.	1, 3, 5

			- After the warming up, the respondents were asked to carry out the main task: 'show how you visualize the networks your school/LA/VEAZ are involved in. Show with whom all communications are made involving the organizations and how they are made'. Prompted when respondents seemed to have run out of things to add. - Maps can be analysed based on nodes, links and structure of the overall network.	
17.	Hogan, Carrasco & Wellman (2007)	Visualizing personal networks: working with participant aided sociograms	Aim: to describe the usability of an interview-based data-collection procedure for social network analysis designed to aid gathering information about the people known by a respondent and reduce problems with data integrity and respondent burden. Description of an extension of the name-generator method for such real-time visualization during data collection. Connected lives study was used as a case study. Methods: Using a name generator, interviewers ask respondents (referred to as 'egos') to name other people (referred to as 'alters') with whom ego has a specific connection. After enumerating a set of alters, ego describes the attributes of these alters and reports on both ego-alter connection and connection between alters (in ego's eyes). The full process of generating names, sociogram layout and in-depth discussion take between 40 till 90 minutes. 1. Present name template (both for very close and somewhat close) 2. Elicit names (free recall + prompt by role) 3. Label names by role 4. Remove plates so name tags can be arranged 5. Organize the network on large template containing circles (Only ties) 6. Denote cliques and dyads	1, 3, 5
18.	Fu (2007)	Contact diaries: building archives of actual and comprehensive personal networks	Aim: To demonstrate the use of contact diaries as a tool to collect network data. Advantages, potential and limitations are discussed. Methods of contact diary: Contact diaries offers a very different approach to collecting network data. Instead of relying on network proxies, the contact diary offers a comprehensive approach that records and yields actual information about personal networks. - Containing: the basic diary log; covering characteristics of contacted persons, circumstance of each specific contact and characteristics of the relationship between ego and each alter. Possible answer categories are given.	3, 5

			- Sample informants: given that the task of diary keeping may be highly demanding and thus require a strong commitment form the participants it is not unusual for research to recruit their own network members. - Decide what, whom and when to record, and how long the research continues.	
19.	Provan, Veazie, Straten & Teufel-Shone (2005)	The use of network analysis to strengthen community partnerships	Aim: offering a brief explanation of network analysis and how it might be conducted in a community-based setting. However, the primary focus of the article is to demonstrate how the information obtained from network analysis could be used by communities and their leaders to build community capacity through the development of stronger network of collaborating organizations. Methods: - Typically, data are collected from every network member (from the agency head, program director, or both) using questionnaires or structured interviews. In the appendix a network data-collection instrument described. Questionnaires could examine the number of other organizations to which one organization is linked, the total number of links in the network, the types of interactions between organizations (client referrals, shared resources, shared information etc.) and the extend or strength of each relationship. In addition, data on the level of trust, perceived benefits and drawbacks of network involvement and information about the services that each organization provides in the community can be collected. - A series of eight question can be used to guide communities in using the results of network analysis to build partnerships. 1) Which community agencies are most central in the network, and are these agencies essential for addressing community needs? 2) which core network members have links to important resources through their involvement with organizations outside the network? 3) are critical network ties based solely on personal relationships, or have they become formalized so that they are sustainable over time? 4) Are some network relationships strong while other are weak? Should those relationships that are weak be maintained as is, or should they be strengthened? 5) Which subgroups of network organizations have strong working relationships? How can these groups be mobilized to meet the broader objectives of the network? 6) Based on comparative network data over time, has reasonable progress been made in building community capacity through developing strong network ties?	1, 2, 3

			7) What is the level of trust among agencies working together, and has it increased or decreased over time? If it has declined, how can it be strengthened? 8) What have been the benefits and drawbacks of collaboration, have these changed over time, and how can benefits be enhanced and drawback minimized? These questions can be used as a springboard for discussion meetings at which network data are presented. No specific mention of broker role; however, questions 1, 2, 3, are important to realize who a broker in the network is.	6:
20.	Coviello (2005)	Integrating qualitative and quantitative techniques in network analysis	Aim: Introducing a method for assessing network dynamics over time. Therewith integrating a qualitative approach to data collection with a bifocal approach to data analysis: where data are interpreted with both qualitative and quantitative lenses. An entrepreneurial firm is analysed as a case study. This article suggests that since networks encompass both qualitative and quantitative dimensions (e.g. processes and structure), network research methodologies should be able to accommodate both 'soft' and 'hard' data. Furthermore, since networks are relationship-based and consequently dynamic, network research is alto time-bound. FLUX Glassworks international is used as an illustrative example. Methods: While quantitative data is uni-dimensional, qualitative data is unique in that it can be analysed and interpreted both qualitatively and quantitatively. This is a critical advantage for qualitative data and means that network analysis can be conducted by applying what we refer to as a "bifocal lens". That is, an approach that integrates the interpretation of qualitative data with statistical analysis of that data. 1. Data collection; in-depth interviews. With the following predefined set of questions: (1) How did the idea for your business come about? (2) When did this happen? (3) Why did it happen? (4) Who was involved? (5) Why were they involved? (6) What specific impact did they have on your business? (7) What happened next? The overall process involved generating the 'life story'.	1, 5

				2. Data preparation process: From the full transcribed case, an excerpt of the life's story of the firm was prepared along with a preliminary chronology of events and relationships. Using the chronology as a base, a complete network map can be created. Network map can be revised when necessary until the informants believe it to be comprehensive, detailed and accurate. 3. Data analysis process: Focus on tie content, direction and durability.	
21.	Pluto Hirshorn (2002)	&	Process mapping as a tool for home health network analysis	Aim: the article aims to give a clear description of process mapping, exploring its utility as a practice and research tool, illustrating its use in describing service-providing networks and discussing some of the issues that are key to successfully using this methodology. This is demonstrated by an illustrative study in Hawaii. Methods: Process mapping is a technique for developing a graphic picture of an organization or of a network of organizations. There are two end products of process mapping – a map and a written narrative. By making relationships and processes visible, process mapping can increase communication and understanding and provide a common reference point from which to proceed. Process mapping is an iterative process in which a team of two or more individuals designs and facilitates a series of group sessions and analyses the resulting information to create the map and accompanying narrative. The process can be described in the following four steps 1) Preparation: the mapping team meets with two or three key stakeholders, to discuss the goals of the process mapping endeavour. The team identifies eight to twelve organizational representatives to participate in the group sessions. 2) Facilitation: A two-person team facilitates the group sessions. One person focuses on the map, using a large sketchpad or flip chart, coloured pens or markers, and a large table or easel while the other takes notes for the narrative the facilitators must collect as much detailed information as possible about "who" performs "what" actions, "when," "where," and "how." They also must gather information about who interacts with whom and in what ways. In subsequent sessions, this information is validated and refined. 3) Product creation: after the first session, the team creates the initial version of the map and narrative by reviewing sketches, notes and recordings.	1, 2, 3, 5

			4) Review and revision: in another group session participants review the map and narrative. Changes, additions and deletions can occur.	
22.	Cross, Borgatti & Parker (2002)	Making invisible work visible: using social network analysis to support strategic collaboration	Aim: 1) define scenarios were conducting a SNA would likely yield sufficient benefit to justify the investment of time and energy, 2) develop generalized insight into analyses that are informative and actionable for practitioners. Methods: Review of situations were SNA revealed to be of certain use. Collecting network data is found to be of use for: 1) Communication network, 2) Information network, 3) Problem-solving network, 4) Know network and 5) Access network. All with different rationale and a different question that can be used for surveys; clear examples given.	3, 5

Appendix III: Instructions network analysis - Drawing

This appendix contains the manual for drawing the networks with the core project team of VoM. Including the interview guide for follow-up questions, with the Dutch translation.

Necessities:

- Large sheets of paper
- Post-its of different colours
- Similar flat round disks
- Different colour pens

Provided information:

The goal of this meeting is to draw the network in which you are a member. We will try to explore the relationships that shape and affect the project VoM, and that are not necessarily easily visible or organized in formal hierarchies. With the intention to provide you with insights about your network. Expected is that this session will take 90 minutes. The results of this session will only be shared with your permission. Is that clear? May I record the conversation?

Procedure drawing:

1) Write all partners (organizations + names) on post-its (different colours can be used for different actor groups) (Green = project team, Orange = municipality, Blue = Private organization, yellow = research, pink = bewoners initiatief/civil society)
2) Go through the list of potential partners and map of the neighbourhood provided by the interviewer; is everyone important included.
3) Put yourself in the centre and draw links in the network with different colours. Potential links are:
    a. Flow of funding (Blue = stroom van financiering)
    b. Coordinate and manage (Orange/Red = coördineren en aansturen)
    c. Giving advice and sharing information (Pink = uitwisselen van informative en het verschaffen van advies)
    d. Referral of residents (Yellow = Verwijzing van inwoners)
    e. Joint programming (Green = gezamenlijk programmeren)
    Links go from one actor to another, if the link goes both ways the arrow should have two heads.
4) Define influence (translated ‘invloed’) of the different partners on the projects’ goals. Influence can be determined by building ‘influence towers’ with the similar flat round disks. Rules for building towers are:
    a. The more influence an actor has, the higher the tower
    b. The towers can be as high as the interviewees want
    c. Two actors can have towers of the same size
    d. If an actor has no influence at all, no tower is added

    Important: ask respondent why certain towers are lower/higher than others.

Follow-up questions (related to RQ2):

5) What do you think of your current network? ‘Wat vind je van je huidige netwerk?’
6) With which of the indicated partners is the collaboration going well? Met welke van de aangegeven partners gaat samenwerken goed?
7) Why do you think that this collaboration is going well? Waarom denk je dat die samenwerking goed verloopt? Wat zorgt ervoor dat de samenwerking met deze personen slaagt?’
8) With which of the indicated partners is the collaboration going not so well? Met welke van de aangegeven partners gaat samen werken wat minder goed?
9) Can you explain to me why you think this collaboration is not going well? Kan je me uitleggen waaraan jij denkt dat dat ligt?

10) What is the role of the health broker in your network? ‘Wat is de rol van de gezondheidsmakelaar in jouw netwerk?’

To conclude:

11) Where are points for improvement? ‘Waar liggen verbeterpunten?’
12) What did you learn from drawing your network? ‘Wat heb je geleerd van het tekenen van je netwerk?’
13) Do you have any questions? ‘Heb jij nog vragen voor mij?’

Potential partners:

* May bring a map of the neighbourhood to support the respondent in naming all partners.

- Gezondheidsmakelaars
- Wijk managers (WIJDeventer)
- Sociaal team
- Raster
- Sport bedrijf Deventer
- Leden activiteiten commissie
- Kinderwerkers
- Initiators buurtuin kindervreugd
- Initiators beestenmarkt
- Buurthuizen
- Beweeggroep Hagen
- BSO de driehoek
- Buurt Sport Vereniging (BSV)
- Initiators kasten
- Paladijn
- Speel-o-theek
- Molentuin
- ’t Gat
- Initiators zingevingscursus
- Initiators Zumba
- Sportverenigingen
- Gemeentes

Appendix IV: Instructions network analysis – focus group

This appendix contains the manual for the final discussion of the network analysis with the core project team.

Necessities:

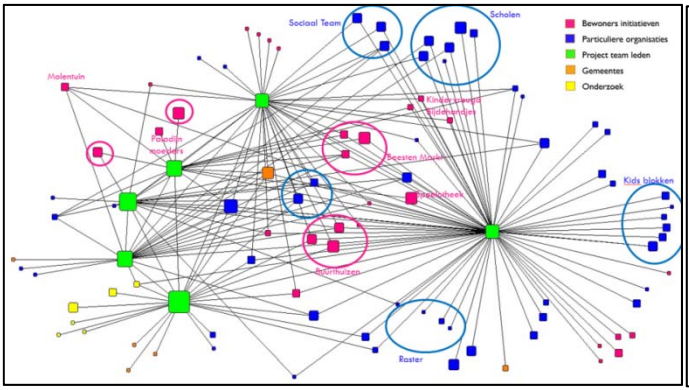
- PowerPoint with graphic results of step 1 + 3
- Beamer and Screen

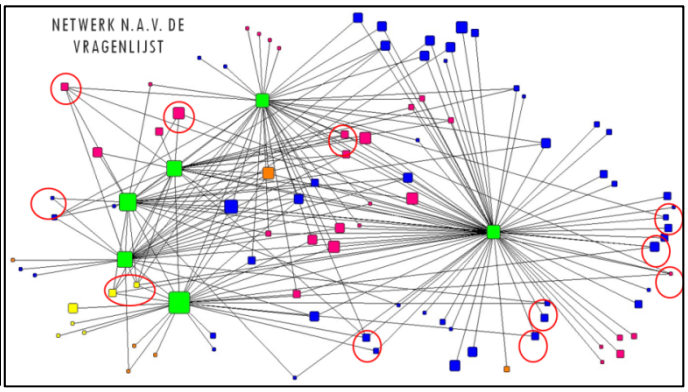
Provided information:
The goal of this session is to evaluate the current network of the project VoM and the method used to map the network.

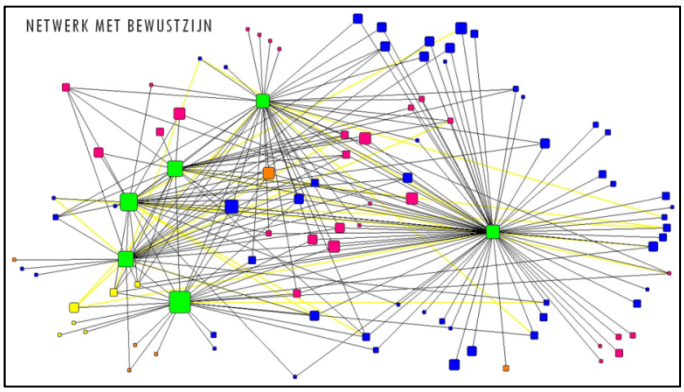
Procedure evaluation network:

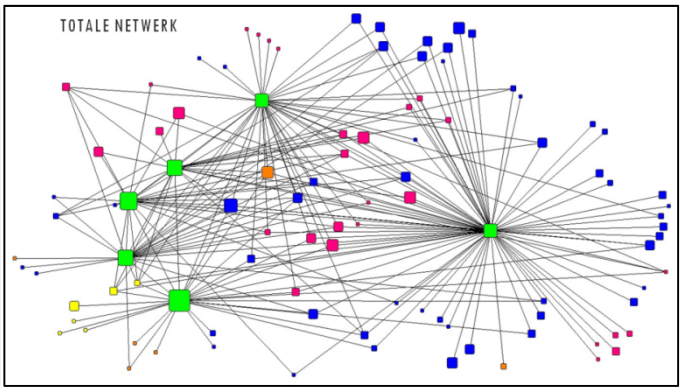
1) Present results of the network drawings and questionnaires (Appendix V). First only talk about the partners that were included specific information on the different types of relations follow later.
2) Go through the results with the team members
    a. Is the network map clear? Are there remarkable results?
    b. What is good, not good or standing out?
3) Ask questions about the partners (nodes) in the network
    a. The partners in the inner circle (in between the team members) are most central – are these partners essential?
    b. Are there other essential groups?
    c. Should these more included? How and who is going to do that?
    d. What is the role of the central groups?
        i. Who of these partners profits of the project?
        ii. Who of these partners delivers necessities for the project, or has something that is needed for the project
        iii. Who is a driving force and takes the project further?
        iv. Who has the overview, the position and the capacity to do what appears to be necessary to keep the network healthy?
        v. Who connects suppliers and users?
    e. Which roles are not/under represented? How could these roles be included?
4) Present the results of the different types of relations that have been asked
    a. What do you think of the current connections?
    b. How can current connections be supported and sustained?
    c. Are some relationships strong while others are weak?
    d. Should those relationships that are weak be maintained as is, or should they be strengthened? How and who is going to do that?
5) Ask questions about the usefulness of the method:
    a. Do you see this information as useful? If so, how? If not, why?
    b. What information would be more useful?
    c. What were the benefits of this method?

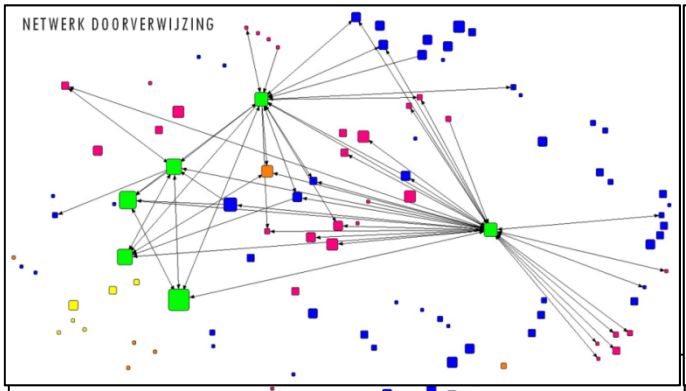
Appendix V: network maps

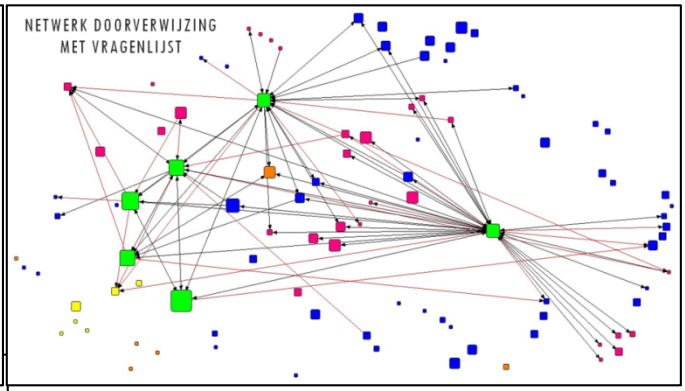


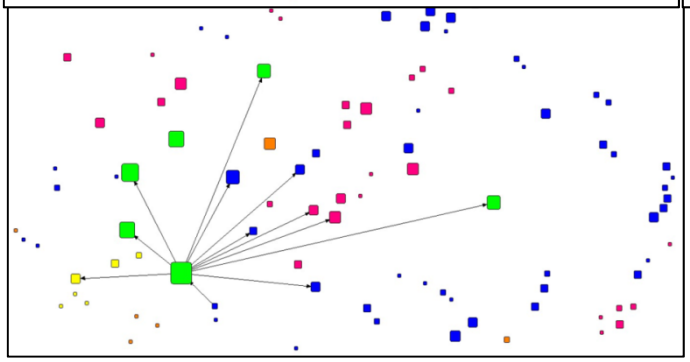


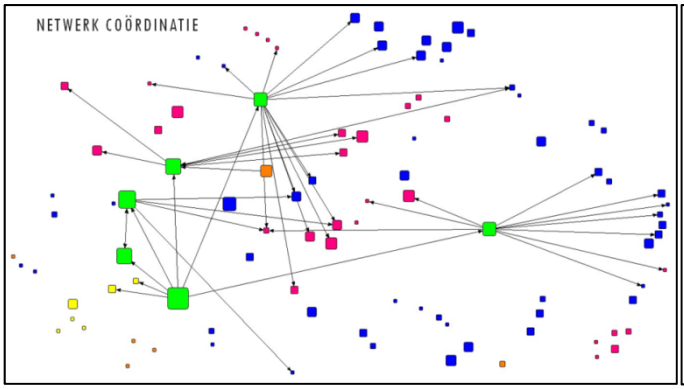


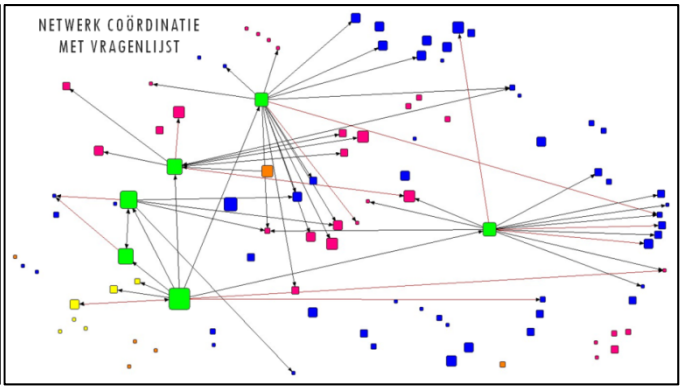


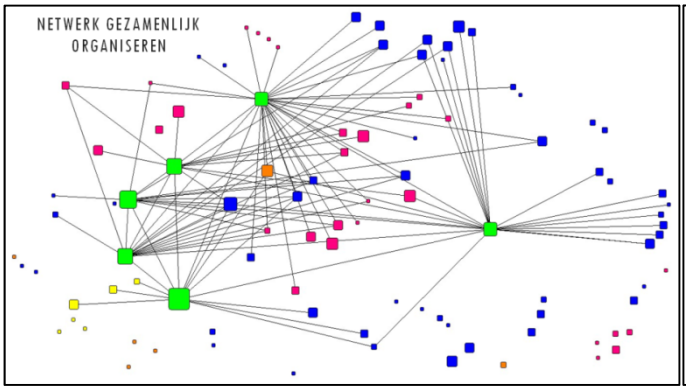


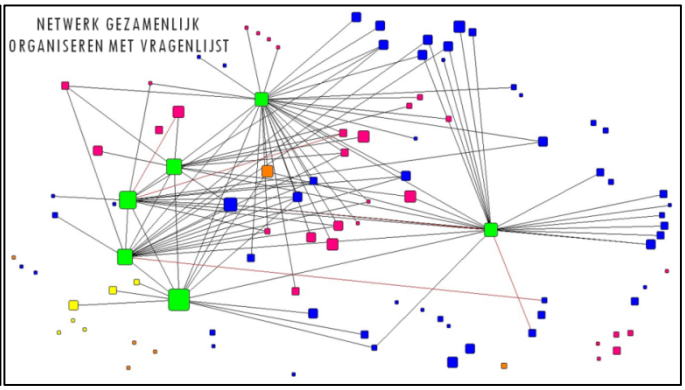





NETWERK COÖRDINATIE


NETWERK COÖRDINATIE
MET VRAGENLIJST


NETWERK GEZAMENLIJK
ORGANISEREN


NETWERK GEZAMENLIJK
ORGANISEREN MET VRAGENLIJST

Appendix VI: Codes

Topic	Theme	Sub Theme	Code (based on free coding * translate from Dutch)
Collaboration	Institutional factors	Openness for other organizations	Naar buiten treden voor samenwerking
			Open staan voor communicatie met andere partijen (CAC & Interview)
		Facilitation of collaboration	Faciliteren en ruimte om samen te werken (interview & CAC)
		Funding	Faciliteren en ruimte om samen te werken (interview & CAC)
		Culture	Andere manier van werken
			Organisatie achtergrond – andere cultuur
		Planning	Booking interem results
	(inter)personal factors	Attitude and beliefs	Enthousiasme en het zien van kansen (interview & CAC)
			Geen open houding
			Open en eerlijk
			Positief kritisch
			Toegankelijke, laagdrempelige houding
			Inzet
		Ownership	Eigenaarschap (interview & CAC)
		Personal relation	Natuurlijke/persoonlijke klik
			Geschiedenis
			Gezamenlijkheid
			Gelijkwaardigheid
			Wisselwerking
	Organization of the collaboration	Role and task division	Duidelijke rol verdeling (CAC & interview)
			Onderscheid wie doet wat/niet hetzelfde werk
			Flexibiliteit in rollen en taken nodig
		Clear and shared vision and mission	Ander belang samenwerking
			Belang geld niet altijd prettig
			Minder samenwerking bij verschillende belangen
			Gelijke visie
			Duidelijke doel/visie/missie (CAC)
			Onduidelijkheid top-down werken (interview & CAC)
			Moeite top-down
		Clear view on continuation	Borging

			Tijdelijkheid functie (CAC)
		Communication	Communicatie -verficatie vraag
			Positief kritisch reageren
			Snelle en serieuze reactie
			Duidelijke communicatie en terugkoppeling (CAC & interview)
			Regelmatig samenkomen
			Belang samen optrekken
			Elkaar regelmatig zien (interview & CAC)
		Flexible time frame	Gun het tijd
			Prioriteit en tijd
			Tijd
		Management	Sturing vanuit project leider en project team wanneer opdracht niet duidelijk is
		Using everyone capacities and skills	Gebruik maken van elkaar specialisme (CAC)
			Elkaars rollen en waarden versterken
	Learning environment	Planned evaluation moments	Samenwerking tussentijds evalueren
			Toegevoegde waarde gebruik CAC
			Verwachting uitspreken en waar kunnen maken na aanpassing
	Changing context	Changing context	Veranderende context (CAC)

Topic	**Theme**	**Code (Based on free coding *translate from Dutch)**
Influence	Program execution	Programmering
		Doelgroep bereik
	Continuation after funding ends	Borging
	Position in the neighbourhood	Positie in de wijk
	Positioning in the project team	Positie in het team
	Vision	Visie
	Working towards the goal of the project	Werken aan het doel van VB
	Coordination	Project leider
		Mensen aansturen
	Funding	Project leider
		Financiering
	Enthusiasm	Enthousiasme en communicatie

		Ambassadeur
		Ambassadeur zelfstandig
		Eigenaar project
Role of Health broker in the network	Role of health broker in the network	Rol van de gezondheidsmakelaar in netwerk
	Advising and facilitating	Adviseren en faciliteren
	Support and facilitate	Ondersteunen en faciliteren
	Contact with residents	Contact brengen met bewoners
	Referral	Doorverwijzen naar andere professionals
	Information and advice	Informatie en advies uitwisselen
	Implementation of programs	Inzet bij gezondheid interventies
	Question clarification	Verbinden vraag en aanbod
		Vraag verheldering
	Support in research and evaluation of programs	Ondersteunen onderzoek
		Voortgang projecten evalueren
Methods	Opinion method	Mening huidige method
	Points for improvement	Methode verbeterpunten
	Success method	Succes method
	Chances network	Kansen netwerk
Actionable knowledge	Municipality	Gemeente in netwerk
	Partners potential	Geconsumeerd maar niet geparticipeerd
		Brengen vs halen
		Iedereen blijft op eigen honk
		Krachten niet benut
	Contact efficiency	Efficientere contacten
	Community centres	Buurthuizen centraal
	Schools	Scholen betrekken
	Transfer contact health broker	GM contact overdragen

Appendix VII: Network analysis questionnaire

Hallo,

De volgende vragenlijst is belangrijk voor het in kaart brengen van het netwerk in Voorstad beweegt. De vragen gaan over uw betrokkenheid en samenwerking met het projectteam. Afsluitend is er nog één stelling over het project. Het invullen duurt ongeveer 10 minuten.

Ik wil benadrukken dat al uw antwoorden goed zijn en vertrouwelijk behandeld zullen worden.

Alvast bedankt voor uw bijdrage!

Vraag 1
Wat is uw voor- en achternaam?

Let op! Het invullen van uw naam en/of organisatie is nodig voor het volledig en correct in kaart brengen van het sociale netwerk in Voorstad. De gegevens worden daarna geanonimiseerd. Alleen de onderzoeker krijgt inzicht in uw antwoorden. Wanneer u uw naam invult, geeft u aan daarmee akkoord te gaan.

_____

Blok Vragen per projectteam lid

Vraag 2 Hoe regelmatig bent u in contact geweest de afgelopen 1,5 jaar met [projectteam lid]? Voor het project Voorstad beweegt:

- ○ Dagelijks (1)
- ○ Wekelijks (2)
- ○ Maandelijks (3)
- ○ Elke 3 maanden (4)
- ○ 1 keer per jaar (5)
- ○ Nooit (6)

Skip To: End of Block If Hoe regelmatig bent u in contact geweest de afgelopen 1,5 jaar met [projectteam lid] = Nooit

vraag 2b Kies het type interactie dat het beste uw relatie met [projectteam lid] omschrijft

- ○ Bewustzijn - U bent op de hoogte van elkaar, maar er wordt niet gestreefd om actief te communiceren (1)
- ○ Communicatie - U communiceert en deelt informatie met elkaar (2)
- ○ Mede werking - U gebruikt kennis en middelen van de ander om activiteiten te plannen en te begeleiden (3)
- ○ Samenwerking - Jullie plannen gemeenschappelijke activiteiten en/of passen eigen activiteiten aan op basis van het advies van de ander (4)

vraag 2c Geef aan wat van toepassing is. Meerdere antwoorden mogelijk.

- ☐ [projectteam lid] coördineert en stuurt mij aan (1)
- ☐ Ik coördineer en stuur [projectteam lid] aan (2)
- ☐ [projectteam lid] verwijst bewoners of bewonersinitiatieven door naar mij (3)
- ☐ Ik verwijs bewoners of bewonersinitiatieven door naar [projectteam lid] (4)
- ☐ Geen van allen (5)

vraag 2d Wat heeft het contact met [projectteam lid] omtrent het project Voorstad Beweegt u gebracht? Meerdere antwoorden mogelijk

- ☐ Het organiseren van nieuwe activiteiten, namelijk (1) _____
- ☐ Het uitbreiden van mijn netwerk. Benoem met wie je in contact bent gebracht (2) _____
- ☐ Kennis en advies, over (3) _____
- ☐ Anders, namelijk (4) _____
- ☐ Geen van allen (5)

Einde blok Vragen per projectteam lid

vraag 8 Geef aan hoe eens/oneens u het bent met de volgende stelling

	(1) Helemaal mee oneens (1)	(2) Een beetje mee oneens (2)	(3) Een beetje mee eens (3)	(4) Helemaal mee eens (4)
Het contact met de teamleden en het verdere netwerk heeft de activiteiten rondom bewegen, gezonde levensstijl en ervaren gezondheid verbeterd. (1)	○	○	○	○

Vraag 9 Heeft u nog opmerkingen?

_____

_____

_____

_____

_____

Afsluiting
Dit is het einde van de vragenlijst.

Bedankt voor uw deelname!

Voor vragen en/of opmerkingen neem contact op met: y.tijhuis@ggdijsselland.nl