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COLLABORATION WITHIN THE HEALTH CARE CHAIN OF CHILDREN WITH ASTHMA: OPPORTUNITIES AND BARRIERS FOR CHANGE

This thesis is a project within the Academic Workplace Youth in Twente; an academic collaboration to improve care for vulnerable children

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ABSTRACT

Introduction: Asthma is one of the most common chronic diseases in childhood. Children and young people with asthma usually have to visit several disciplines within health care, such as youth health care (YHC) physicians, the general practitioner (GP) and, if necessary the pediatrician. However, there is limited collaboration between these health care professionals. Therefore, the aim of the current study was to investigate opportunities and barriers for change.
Methods: Semi-structured interviews were conducted with nine health care professionals (four YHC physicians, two GP's and three pediatricians) working in the region Twente. Interviews were recorded, transcribed and analyzed.
Results: Most GP's and pediatricians were unaware of the possibilities of YHC and for that reason, collaboration with YHC was minimal. Furthermore, indistinctness existed about the exchange of patient information between pediatricians and YHC and the prescription of medicines was not always unambiguous between the different professional groups.
Discussion and conclusion: Barriers for collaboration are laid in the unawareness of GP's and pediatricians about the possibilities of YHC physicians and in the reachability of YHC physicians. Opportunities for better collaboration should focus on the organization of conjoint meetings in which GP's and pediatricians can be updated about the expertise of YHC physicians and short communication lines can be created and maintained.

Keywords: children – chronic condition – asthma – qualitative research – collaboration – health care professionals

INTRODUCTION

In the past century, improvements in infectious disease control, sanitation and housing have had major beneficial effects on the health of children (1). Besides, as a results of improved efficacy of treatments and medical care for pediatric conditions, the survival of children with congenital or acquired diseases in developed countries has increased (2). However, while childhood mortality rates dropped, the problem of childhood chronic illness continuous to exist (1). Worldwide, around 10 to 20% of all children suffer from a chronic disease (3). In the Netherlands, prevalence numbers are ranging from 13 -14% (4, 5) to 25% (6), which means that that 507,000 to 975,000 children suffer from a chronic condition, which can be a mild condition like bronchitis or obstipation or a serious condition like a heart disease (7, 8). Still, the current health care delivery and financing systems are designed primarily to treat acute conditions (9), however, the focus is shifting away from care for acute conditions to care for long term conditions (10).

Asthma is one of the most common chronic diseases in childhood with major public health consequences (11). Worldwide, the prevalence of asthma ranges between 2 and 32% in childhood (12). In the Netherlands, the prevalence of asthma is about 4.5% of all children aged 0 to 14, which means that approximately 115,000 children have asthma. The prevalence is highest among boys aged 0 – 9 years (13). Current treatments reduce disease-related morbidity and mortality, however, despite advances in the management of asthma in children, it continues to be a condition that has significant impact on children and their families (11). Children with asthma are distressed by the symptoms (shortness of breath, wheezing, and cough), and they are limited in their day-to-day activities (sports, school, work, and playing with pets). In addition, children are often upset and frightened by asthma attacks, and express anger (younger children) and frustration (older children) because they have asthma. They frequently feel different from their friends and get frustrated that they cannot participate in activities (14).

Guidelines for the management of asthma issued by the Global Initiative for Asthma (GINA) specified eight goals for the long-term management of asthma: minimal chronic symptoms, minimal exacerbations, no emergency visits to doctors or hospitals, minimal need for as-required $ß_2$-agonists, no limitations to daily activities, near-to-normal peak expiratory flow, peak expiratory flow circadian variation of less than 20 %, and minimal adverse effects from asthma medication (15, 16). However, the Asthma Insights and Reality in Europe (AIRE) study showed only partial effectiveness of asthma

care in daily life (17). In addition, Fuhlbrigge et al. (2006) showed that goals of therapy in asthma are not being achieved for the majority of children (18). According to Fuhlbrigge, the impact of asthma on the daily activities is substantial; avoiding exertion (47%) and staying inside (34%) are common approaches to improve control of asthma symptoms.

Due to the nature of chronic diseases, chronically ill people need long-term care and they usually have to deal with a range of different care providers, such as the general practitioner (GP), medical specialist, pharmacist, and the physiotherapist (19). When individual care providers do not cover the complete range of patient care, they need to collaborate and coordinate their services in order to achieve continuity of care (20). It is important that these professionals know from each other which care they provide to patients and that the care of the different disciplines is well aligned; good coordination of care is a prerequisite for good quality of care (19). Without alignment, shared knowledge and an agreed framework for treatment, care and advice can be fragmentary and inconsistent (21). Collaboration between health professionals and/or organizations is a public health topic that is becoming increasingly more important (10, 22).

Children (and their parents) benefit from good collaboration between professionals involved in their health care. However, research shows that the exchange of patient data between professionals in hospital care and in professionals in Youth Health Care (YHC) is not unambiguously and effectively organized (23); 40 to 50 % of the parents felt that communication between YHC physicians and pediatricians was not clear and collaboration was not optimal (24). Nowadays, face-to-face contacts between professionals are rare (25). Examples of collaboration initiatives in the Netherlands are the project 'Nazorg prematuren' and the 'Project warme overdracht' (23). Despite the positive initiatives, there is still room for improvement concerning collaboration (24). Collaboration between different health care providers is essential in the next decennia when care issues need multidisciplinary involvement and quality can be improved (26).

Depending on the severity of asthma, the GP or pediatrician is the central caregiver for children with asthma (19). Furthermore, in the Netherlands, municipalities have the statutory duty to ensure that YHC is offered to all 0 – 19 year olds living in their communities (23). The purpose of YHC is to promote, protect and monitor the physical, psychological, social and cognitive development of children. YHC provides information and advice to parents and children about a healthy development. YHC also identifies (impending) problems and risks to timely provide appropriate support, brief

interventions, referrals or other forms of assistance or care (13).

The GP has a central role in the health care system in the Netherlands and acts as gatekeeper of the system; patients need a referral from a GP before they can go to a medical specialist. His main tasks are prevention, diagnostics, counseling, and treatment of patients. In general, every resident of the Netherlands has an own GP (27). With regard to asthma care, a GP often makes the diagnosis, gives information, prescribes medication and refers to other caregivers (19).

Young children and children with severe asthma are frequently referred to a pediatrician. A pediatrician can, for example, carry out additionally lung function tests, adjust the medication, or refer to other professionals (19).

The current study focuses on collaboration between professionals working in the same chain of care, but for different organizations, in the care for children with asthma in the region Twente. A chain of care is defined as a coherent set of targeted and planned activities aimed at a specific category of patients in which hospitalization is always part of the care process. A chain of care is a regional or local collaboration of professionals working in different organizations with the aim to obtain a comprehensive chain of diagnostics, treatment and support and care (28, 29).

The overall aim of this study was to identify the perspective of different health care professionals about the current situation concerning collaboration and to identify opportunities for and barriers for change. An interview scheme on the basis of the Diagnosis of Sustainable Collaboration (DISC) model was composed and YHC physicians, GP's and pediatricians were interviewed.

The following research question was composed:
'How do health care professionals currently collaborate in the chain of care for children with asthma in the region Twente and what is the potential for further collaboration?'

To answer the research question, the following sub-questions were composed:
1)'What does the current collaboration between health care professionals look like?'
2)'Which opportunities for improvement could be identified from the professional perspective?'
3?'Which barriers for collaboration could be identified from the professional perspective?'

METHODS

Qualitative research methodology, in the form of semi-structured interviews, was used to explore the current situation concerning collaboration between health care professionals and to identify opportunities and barriers for change.

Setting

The province Overijssel in the central-eastern part of the Netherlands consists of four regions: Kampereiland, Kop van Overijssel, Salland and Twente, in which a region is defined as a 'geographically area with a particular linguistic, cultural, demographic and/or institutional character, whether or not recognized by official bodies'. Overijssel has approximately 1.13 million people inhabitants (7). The largest region of Overijssel is Twente with approximately 626,000 inhabitants of which approximately 152,000 were aged 19 years or less in 2012 (7).

In the Netherlands, municipalities are responsible for YHC. Often, municipalities let YHC be carried out by municipal health services. YHC physicians examine children aged 0 to 4 years at child health centers and children aged up to 19 years at primary, secondary and special education (30). In Twente, 57 YHC physicians are working (31). Furthermore, 47 child health centers are located in Twente.

About 2 – 6% of all children in the Netherlands ever visited the GP with symptoms of asthma, depending on age and gender; more boys visited the GP and the highest amount of new complaints is in the age group 0 – 4 years. Furthermore, children aged 0 – 14 years visit the GP on average twice a year because of asthma complaints (32, 33). In the Netherlands, in January 2011, the mean density of GP's was 2,371 residents per one full time working GP. In Twente, the mean density of GP's is lower, namely 2,400 – 2,500 residents per one full time working GP (34). Furthermore, in Twente, 313 GP's are working in 228 GP practices (35).

In the Netherlands in 2010, over 4,000 children were admitted in the hospital due to their asthma (32, 36) of which nearly two thirds (65%) was younger than four year (32, 33). The mean hospitalization time was around three days (32). In Twente, three large hospitals are situated, namely in Almelo, Hengelo and Enschede, with respectively 650, 392 and 1,194 beds (37). In Almelo, six pediatricians are working (38), in Hengelo five pediatricians are working (38) and in Enschede 13 pediatricians are working (39).

Respondents

In total, nine health care professionals (three male; six female; mean age 46.7 years, range 33 – 59 years) were interviewed between the 20th of June 2012 and the 12th of July 2012. These health care professionals included four YHC physicians, two GP's and three pediatricians, all working in the region Twente of the province Overijssel of the Netherlands (table 1).

Table 1: Respondent characteristics

	N (male,female)	Age in years (range)	Number of years working in the health care sector	Number of years working at current position
YHC physicians	4 (0,4)	46 (34-59)	20 (10-31)	16 (8-27)
GP's	2 (2,0)	58 (57-58)	32 (31-32)	26 (24-28)
Pediatricians	3 (1,2)	40 (33-47)	17 (10-25)	8 (3-12)

Data collection

All health care professionals were interviewed face-to-face for approximately 25 minutes (range 18 – 44 minutes). The interviews were assessed at a location chosen by the respondent, namely in the hospital, at the child health center, at the GP practice, at the respondent's home and at the University of Twente. All interviews were recorded after approval of the respondent.

Instrument

To get a structured overview of all factors concerning collaboration between different health care professionals working for different organizations, the DIagnosis of Sustainable Collaboration (DISC) model was used. The DISC model is developed by Leurs et al. (40) to get more insight in the processes of structural and integral collaboration in the field of health care. The DISC model describes factors affecting the evolution of collaboration. The term 'sustainable' refers to the aim of the collaboration to continue after the initial project phase has ended, without committing themselves to an everlasting collaboration. With the use of the DISC, a 'diagnosis' can be made about the current situation concerning collaboration. With this knowledge, opportunities and barriers for collaboration can be better understood (41).

The DISC model (figure 1) focuses on the interaction of five constructs: external factors, change management, context, project management and collaborative support. In the present study, the construct 'collaborative support' is analyzed by assessing interviews by health care professionals involved in the care for children with asthma.

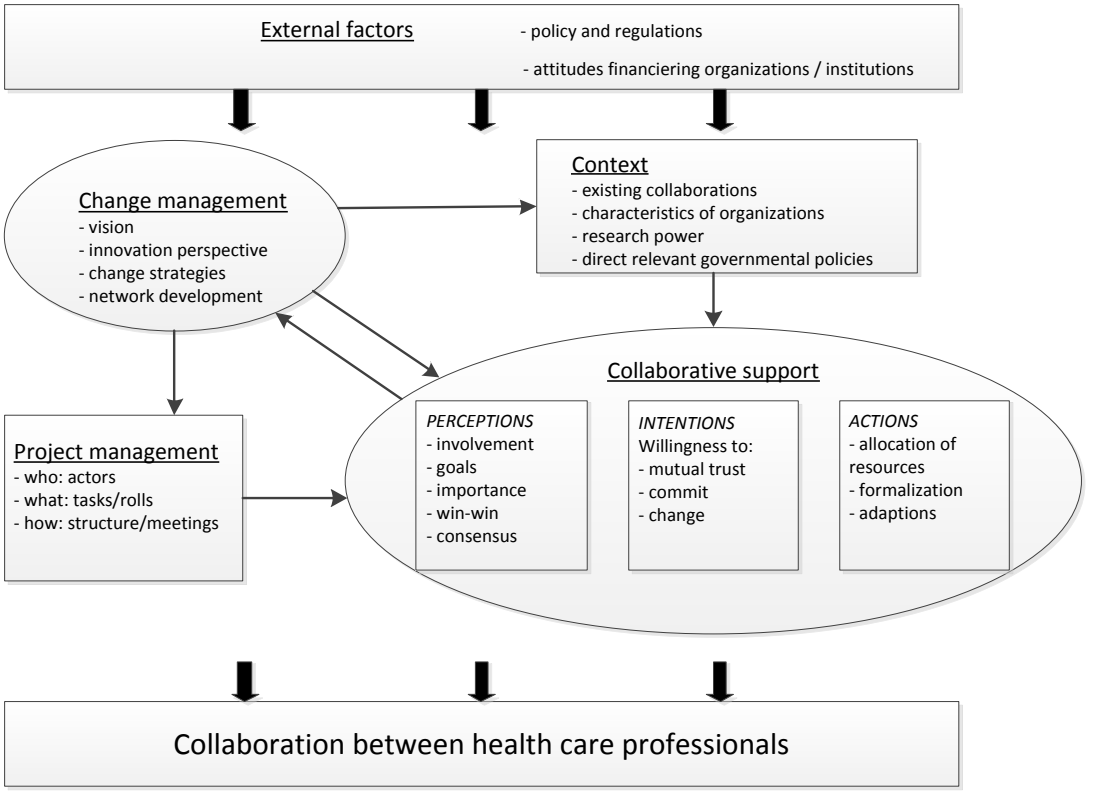

Figure 1: The DIagnosis of Sustainable Collaboration model, adapted from Leurs et al., 2008 (41)

As can be seen in figure 1, at the level of 'collaborative support' the model distinguishes between the scales 'perceptions', 'intentions' and 'actions'. To cover each scale, different interview questions for the respondents were composed. In appendix 1, all questions categorized by the corresponding scales are displayed. A test interview was conducted with a GP. Besides, after the first few interviews, adjustments were made to the interview scheme, as well for the content as for the sequence of the questions.

Data analysis

Directly after every interview, a short summary was written by the interviewer about the circumstances in which the interview took place. Hereafter, the interview was written out word by word using the recorded interview. To guarantee reproducibility, open coding and axial coding were used to analyze the interviews (42). Open coding is the analytical process through which concepts are identified and their properties and dimensions are discovered in data. Axial coding is the process of relating categories to their subcategories. It is termed 'axial' because coding occurs around the axis of a category, linking categories at the level of properties and dimensions (16).

Since all interviews were conducted in Dutch, the quotes presented are translated transcriptions of the interviews. All transcripts were de-identified, thereby keeping the

anonymity of the respondents. Interviews were conducted until the data reached a point of theoretical saturation (42); that is no new themes were generated by conducting more interviews.

RESULTS

The discussed topics in the semi-structured interviews with regard to the corresponding scales of the DISC model are displayed in table 2. Within the scale 'perceptions', an evaluation about the current situation is made; within the scale 'intentions' an evaluation about the future situation is made; and within the scale 'actions' an estimation about the necessary actions to come from the current situation to the future situation is made.

Table 2: overview of the discussed topics in the semi-structured interviews

Collaborative support		
Perceptions	Intentions, willingness to	Actions
Involvement - Which health care professionals are involved in the care for children with asthma? - What does the cooperation look like?	Mutual trust - Do professionals trust each other's (treatment) approach? - How can mutual trust be created?	Allocation of resources - Are the professionals reachable for each other? - How could this be improved? - Do professionals have time to collaborate?
Goals - What are the goals? - Are the goals achieved?	Commit - Do the respondents visit conjoint health related meetings?	Formalizations - Are the respondents aware of guidelines? As well their own as the guidelines of the other professionals?
Importance - See the different respondents each other's importance?	Change - Are the respondents willing to change to achieve more collaboration?	Adaptations - How do respondents see the perfect or optimal collaboration?
Win-win - What can different professionals mean for each other?		
Consensus - Is there consensus about each other's role? - Is there consensus about the exchange of patient data?		

Perceptions

Involvement

In general, since the GP is gatekeeper of the health system in the Netherlands, patients visit the GP when they have complaints. Children with mild asthma complaints are treated by the GP. However, in more complex patients, the GP refers to a specialist; in this case to the pediatrician. Often, a child remains under specialist pediatric treatment until the pediatrician refers the child back to the GP. All pediatricians are supported by a nurse specialist. Furthermore, YHC physicians refer to GP's and to pediatricians, however not frequently concerning asthma complaints. The respondents mentioned no other professionals with who they wanted to collaborate with in the health care for children with asthma.

Goals

All nine respondents indicated that their goal is achieving a good quality of life for the children with asthma in which they encounter no interference in their daily lives due to the asthma. For most children, this goal is achieved, however, not for a persistent minority.

Reasons for not attaining this goal are both in the patients personal as well as in the professional environment. For instance, with regard to the personal situation, one of the pediatricians mentioned that *'I think from a medical perspective, compliance is a major problem. There are certainly a number of important factors that arise from the home situation, such as parents who continue to smoke or parents who have little control over medicine use.'*

With regard to the professional environment, the current practice of medicine prescription is a barrier towards the goal as indicated by an YHC physician: *'You see a lot of children who get their medication on a repeat prescription; nobody checks this. I advise parents to request for a new consult when I see this.'*

Importance

In general, health care professionals work too much, as two pediatricians mentioned: *'on their own island'*. Also, pediatricians are too much focused on themselves. All three professional groups see their patients in a different situation: YHC physicians see all children aged 0 – 19 years according to a pre-defined consultation scheme, GP's see their patients when they have complaints and pediatricians see patients after a referral or at

checkups. As one pediatrician mentioned: *'It is good that children are seen by different professionals at different levels of the health care system.'*

Two pediatricians and one GP indicated that for them, the importance of YHC is not clear as can be read in the following quotation of a GP: *'Collaboration with YHC physicians, I immediately think: What do you want with collaboration, what can they (YHC physicians) mean for me?'*

Also YHC physicians indicated that their role is not always clear for other health care professionals. At the question whether GP's and pediatricians use their knowledge adequately, one of the YHC physicians answered: *'No, I do not think so. Because they do not acknowledge this possibility. That does not only apply for asthma, but also for other aspects of youth health care.'*

Win-Win

At any point of time, YHC physicians see children up to 19 years old. They indicated that it is important for them to know the medical history of the children they see. For that reason, it would be helpful for YHC physicians to receive information from GP's and pediatricians. One of the YHC physicians indicated that: *'You just do not know whether you have the complete picture of the situation and whether you have the correct state of affairs. When you are up to date, you can provide parents with good advices right away. Otherwise, you first have to check it, or try to figure it out, that takes time and you do not work efficient.'*

YHC physicians mentioned that they can be an additive factor, they have knowledge about the other environments the child is living in: *'Especially concerning the daily functioning of the child, whether that goes properly. Also, an YHC physician can for example give advices at schools about specific children. Besides, most parents of children aged 0 – 4 years see the YHC physician at the child health center more often than they see their GP.'*

Consensus

YHC physicians, GP's and Pediatricians do all have their own capabilities in the treatment or the guidance of children with asthma. YHC physicians have a screening, preventing and advisory role; they do not treat children. GP's and pediatricians treat children. However, they see children in a different situation: GP's see children at the moment they have complaints and pediatricians see the complex asthma patients. All

three pediatricians mentioned that GP's refer dependent on how familiar they are with asthma and dependent on their interest. So, there are no strict criteria.

The believes about which professional should have the overview of a specific patient varied. Most respondents (n = 5) indicated that the treating professional should have the overview. One YHC physician mentioned that the GP should have the overall overview and one YHC physician mentioned that the pediatrician should have the overview. One of the pediatricians suggested that the nurse specialist could have the overview. In one interview with a pediatrician, this topic was not discussed. For YHC physicians, it is often not clear whether they have to contact the GP or the pediatrician for a specific problem.

In 2007, the 'Nederlandse Vereniging voor Kindergeneeskunde' (NVK, Dutch Association of Pediatrics) published a guideline about the exchange of patient information from pediatricians to YHC physicians: with approval of the parents, patient information from all children aged 0 – 19 should be sent to YHC. However, all three pediatricians did not know whether their letters were sent to YHC. One pediatrician tried to send all letters from children up to one year of age to the child health center; one pediatrician thought that all letters were sent to the child health center from children up to four years; and one pediatrician knew that all letters from children aged up to four years were sent to the child health center, and the pediatrician tried to send letters from chronically ill children up to nineteen years to YHC. None of the pediatricians was aware of the guideline of the NVK.

Intentions

Mutual trust

Most of the respondents indicated that it is necessary to know each other from name and face to create trust; it is hard to collaborate with someone you do not know. Besides,it is pleasant to work or collaborate with people you know so that you know what you can expect from someone.

YHC physicians and GP's know almost all pediatricians in the region they work. However, since the large amount of GP's, it is hard for YHC physicians and pediatricians to know all GP's. Concerning YHC physicians, one of the GP's indicated that in his opinion the turnover of YHC physicians is very high, as he indicated: *'No doubt there are a lot of regular faces, but in my sense, I always see new names, new names ...'*

Professionals should trust each other in the prescription of medicines and in the provision of advises. However, one of the GP's indicated that *'What I feel, not only in the case of asthma, the diversity in approach between different YHC physicians is remarkable. It is really black and white. (...) You must make sure that all YHC physicians say the same thing. Otherwise, you make yourself implausible I think. That is a criticism that I often hear in my practice.'* Also, YHC physicians and pediatricians indicated that in their opinion the prescription of medicines by GP's does not always happen properly. One YHC physician indicated that a lot of children are seen at the child health center using salbutamol. However, salbutamol is not a medicine to use for months. Besides, two pediatricians mentioned that there are sometimes disagreements about the prescription of certain medicines. For instance, some GP's give their (very young) patients 'prednisolon' instead of bronchodilators. Pediatricians teach GP's at refresh courses that all children with asthma need bronchodilators when they have an asthma attack. However, when GP's do not comply with this recommendation, the care for children with asthma does not proceed optimal. Also, disagreements exist about the use of fluticason. One pediatrician indicated that: *'It is very important that the inhalation instructions are uniform between different professionals in asthma care. However, there is still a lot of work to do be done to achieve this goal.'*

Commitment

In the region Twente, various meetings are scheduled for YHC physicians, GP's and pediatricians. For example, pediatricians teach GP's at refresh courses and YHC physicians and pediatricians have so called 'refereeravonden'. Furthermore, 'Boerhaave meetings', 'Kwartet meetings' and 'Krentewegge meetings' were mentioned by the professionals. Overall, these meetings are about general medical topics and sometimes about pediatric topics.

However, indistinctness existed about the frequency of the meetings. Besides, YHC physicians mentioned with regard to the organization of meetings with pediatricians that: *'It does not get off the ground.'* Meanwhile, pediatricians indicate that the turnover of GP's at refresh courses is sometimes rather low.

Change

In general, care for asthma patients is going well. An important development in the care for people with chronic lung diseases is the shift of jobs to an appropriate level. Most GP's are supported by a nurse practitioner and most pediatricians by a nurse specialist. Also, some YHC teams are supported by a asthma nurse.

One pediatrician and one GP mentioned that change has to have a purpose; that only when an initiative is good, it will remain. Besides, the same GP mentioned: *'Of course, it would be ideally when everyone communicates super with everyone, but it is never ideally.'* One of the YHC physicians mentioned that she stopped trying to achieve structural collaboration since she already tried to achieve it for years.

Actions

Reallocation of resources

For GP's and pediatricians there is no threshold concerning communication. Within the patient record of a pediatrician, the GP of a patient is documented. All GP's and pediatricians mentioned that they know how to reach YHC, however, it takes some effort to reach the correct person as one pediatrician mentioned: *'Of course you can figure it out, but you need to put some effort in it. First you have to call the public number of the municipal health service and experience has shown that it takes a few extra steps compared with reaching the GP.'*

Also, one of the YHC-physicians indicated that *'I think I am not easy to reach via de municipal health service. Within the organization I am reachable, but for GP's and pediatricians it is difficult. When I am in direct contact with another professional, I give my mobile number and then I am definitely easy to reach'*. For that reason, some YHC physicians state their mobile phone number underneath the emails they send to other health care professionals.

One pediatrician received a list of all YHC physicians working in the area after contacting the municipal health service. However, the overview was sorted on street names and zip codes, and the pediatrician did not exactly know which child goes to which child health center. Besides, the list was not complete, some phone numbers were missing. However, it is a start.

Nowadays, electronic collaboration is an easy way to come in touch with each other. Since patient data is confidential, it is not possible to exchange data electronically. But a first contact can be made electronically. Besides, one of the YHC physicians indicated that: *'Currently, we use the digital record youth health. However, in hospitals, the electronic health record is used. In the past, there was a discussion whether specific parts of the digital record youth health could be linked to other records. (…) Maybe this could improve the alignment of care.'*

Furthermore, all health care professionals are busy, as one pediatrician indicated: *'In these busy times with a lot of administrative work, there is no time to actively maintain contact'.* However, all YHC physicians indicated that: '*When it is really necessary, you take your time. So on the one hand, time is a barrier, but on the other hand, it is not a barrier since you make contact whenever necessary.'* For YHC physicians, getting in contact with pediatricians and GP's often happens outside working hours.

Formalizations

All respondents indicated that there are no national of regional agreements concerning collaboration between health care professionals in the care for children with asthma. However, pediatricians have the intention to make more agreements about collaboration. One of the pediatricians indicated that: *'Zwolle is far ahead concerning collaboration within health care chains. They made clear agreements about when a child should be referred.'*

However, another pediatrician mentioned that you follow the guidelines, besides: *'We see a lot of children with asthma which are properly referred by their GP. Most of the time, everything is going well and sometimes it is hard to write everything down on paper. On the basis of what criteria should agreements be made?'*

All pediatricians were aware of the asthma guidelines of the NVK; one of the pediatricians was even a co-author of these. They also knew that there is an asthma-standard for GP's. They were not aware of the content, but assumed that both guidelines were aligned with each other. One pediatrician was aware of the existence of the YHC-guideline about asthma, but the other two did not know about the existence of this guideline.

Both GP's knew about the asthma-standard of the 'Nederlands Huisartsen Genootschap' (NHG, Dutch GP's association) and of the astma-guideline of the NVK; however, they did not know about the existence of the YHC-guideline. One GP questioned the utility of the guideline.

All YHC physicians knew about the existence of the guidelines of the NVK and about the standard of the NHG. However, not all YHC physicians (n = 2) were aware of the YHC-guideline about asthma as can be read in the next quotation: *'Really? I did not know! That is an important observation I think. The communication about new guidelines does not happen properly. I wonder, how are we going to implement this?'*

Adaptations

Within collaboration, it would be ideally when everybody knows exactly who is involved in the care of a specific patient. One of the pediatricians indicated that within an ideal situation *'you would exactly know which YHC physician, which GP and which pediatrician is involved in the care of each patient. Nowadays, YHC physicians often do not know whether a child is being treated by a pediatrician.'*

Different possibilities for adaptations are mentioned by the respondents. They all indicated that it is important for good collaboration to know each other by name and face. To achieve this, they all think that conjoint meetings need to be organized frequently. However, it must be feasible. It is difficult to organize structured meetings due to the large amount of health care professionals in the region and due to restricted time.

DISCUSSION

The objective of this study was to describe the current situation with regard to collaboration between health care providers involved in the health care chain of children with asthma and to describe opportunities and barriers for change. In general, GP's and pediatricians are satisfied with the current situation concerning collaboration. However, they do not exactly know what YHC can mean for them. For that reason, collaboration with YHC is minimal. Furthermore, indistinctness exists about the exchange of patient information between pediatricians and YHC and the prescription of medicines is not always unambiguous between the different professionals. For GP's and pediatricians, the reachability of YHC physicians forms a barrier for collaboration. Opportunities for collaboration are aimed at getting to know each other's goals, expertise and getting to know each other from name and face to create trust for collaboration. For that reason, it can be concluded that conjoint meetings should frequently be organized. The intention of pediatricians and YHC physicians to organize conjoint meetings is present, however restricted time forms a barrier to put this into practice. Possibilities to frequently organize conjoint meetings in which all professionals can meet each other and tell about their own expertise should be investigated.

Currently, GP's and pediatricians collaborate rather structured. Pediatricians and GP's indicated that there are no thresholds for communication with each other. GP's know (almost) all pediatricians in their region. However, since the huge amount of GP's in the

region, not all pediatricians know all GP's.

Collaboration of these two professionals with YHC physicians is less clear. All GP's and pediatricians mentioned that they never, or almost never contact YHC physicians with regard to the care of children with asthma. They are not aware of the possibilities that YHC can provide. Also YHC physicians indicated that neither health care professionals, nor parents, are aware of their expertise and possibilities. However, in the past years, it is getting clearer what the role of an YHC physician is or could be.

All pediatricians indicated that they send letters to child health centers; however, it was unclear until which age. None of the pediatricians was aware of the NVK guideline (43) in which is stated that all letters of pediatricians have to be send to YHC for children aged zero to nineteen years, despite it already being published in 2007. So guidelines for written communication between pediatricians and YHC are published; however, most professionals are not aware of those. Also, none of the GP's and pediatricians were aware of the existence of the YHC-guideline concerning asthma in children. Even most YHC physicians were not aware of the existence of the YHC-guideline. It can be derived that better communication about existing and newly developed guidelines is necessary for all professional groups.

With regard to oral communication between the different professional groups, all YHC physicians stated that they know how to reach a GP or a pediatrician. Besides, GP's and pediatricians are always willing to discuss a patient.

In most of the semi-structured interviews, the importance of knowing names and faces of health care professionals you potentially could work with came forward; it is important to have 'korte lijnen' (short communication lines) with other professionals. These short communication lines can help with getting in touch and in finding the appropriate professional. Besides, knowing each other creates trust. One of the GP's indicated that often GP's and pediatricians work their whole life at the same position in contrast to YHC, where the turnover of physicians is very high.

All pediatricians knew that the municipal health service has a public number to get in contact with the relevant YHC physician, but they also indicated that it takes a lot of time to come in contact with the relevant YHC physician. For that reason, one of the pediatricians contacted the municipal health service for a list of all YHC physicians working in the region Twente. Despite the list is not complete, the pediatrician indicated that it facilitates contacting YHC physicians. Also, the list could be supplemented with pictures of the health care providers.

Another barrier is the provision of information to patients and their parents. As

well YHC physicians, GP's as pediatricians indicated that the provision of information and the prescription of medicines is not always unambiguous.

To gain more insight in the possibilities the different professionals can offer to each other, conjoint meetings should be frequently organized. Within these conjoint meetings, YHC physicians can outline their expertise and they can explain what their possibilities with regard to a specific disease are. Furthermore, when these meetings are frequently organized, short communication lines can be created and maintained which leads to trust. In the semi-structured interviews, all respondents indicated that they visit conjoint meetings and they indicated that they feel the need for frequently organized conjoint meetings. However, respondents indicated that these meetings do not take place frequently. Besides, pediatricians mentioned that the attendance of GP's is often very low; however, these meetings are compulsory for GP's.

Furthermore, it came forward that there are sub regional differences with regard to collaboration. For example, it was indicated that in Almelo more conjoint meetings are organized compared to other cities in Twente. Also, one of the pediatricians mentioned that a colleague pediatrician who has consultation hours in Goor (a city in Twente with about 12,500 residents), has conjoint meetings with all GP's in that city every month. However, within the working area of a pediatrician, a considerable amount of YHC physicians and GP's are employed. So for an YHC physician and for a GP it is easier to know all pediatricians compared to the other way around. Therefore, for pediatricians, these meetings need to be manageable. Also YHC physicians indicated that they do not find it meaningful to have meetings with pediatricians from other hospitals than those were the children they refer go to. Also, YHC physicians indicated that there is a desire of pediatricians for conjoint meetings, but eventually it is impossible to organize a meeting due to time reasons. Research is necessary to the requirements of professionals for the frequency and the content of conjoint meetings.

The present study has an explorative character; four YHC physicians, two GP's and three pediatricians were included. All respondents were very experienced professionals in the health care sector. They all worked for at least ten years in the health care sector and at least three year at their current position. Due to the holiday rush in GP practices, it was not possible to interview a GP who works in Almelo. However, the interviews with the other respondents were constructive; in the last three interviews, no new information came forward. This indicated that there was saturation of information (42). Furthermore, one of the GP's was married to one of the YHC physicians. However, both

respondents provided valuable information and it is thought that their relationship did not influence the results. It could be even possible that their knowledge about each other's working area could provide extra information, especially concerning possibilities for collaboration.

As well YHC physicians, GP's as pediatricians are often supported in the care for children with asthma. Some YHC teams are supported by an asthma nurse (44). However, a few years ago, the asthma nurse was eliminated in the YHC team in the region Twente; no money was available. Furthermore, most GP's are supported by one or more nurse practitioners, for example a nurse practitioner for chronic lung diseases like asthma (45). A meeting was scheduled with a nurse practitioner specialized in chronic lung diseases. However, the nurse practitioner was particularly involved in the care for adults with chronic lung diseases; children with chronic lung diseases was a discipline she knew too little of. The nurse practitioner indicated that most children with chronic lung diseases were referred to the pediatrician. Pediatricians are often supported by a nurse specialist, for example by a pulmonary nurse specialist for asthma care (19). Unfortunately, no meeting with a pulmonary nurse specialist could be scheduled due to the holiday rush. It would be useful to also include the opinion of this group of health care providers. Besides, also in interviews with YHC physicians and pediatricians the feasibility of a coordinating role for the pulmonary nurse specialist was discussed. To get more insight in opportunities for collaboration, it would be valuable to interview all involved health care providers in the care for children with asthma.

The objective of a chain of care is to improve the quality of care (28); a lack of collaboration is thought to decrease the quality of care (22). An optimal delivery of health care services is often inhibited by professionals' and organizations' failure to share information and interventions. (22). Within the current study, YHC physicians indicate that they are not always up to date concerning patient information which can lead to duplication of work. Within YHC, the digital record youth health (Digitale Dossier Jeugdgezondheid, DDJGZ) is introduced (23). Currently, it is impossible to link this system to patient record systems in hospital care due to the diversity in record systems used (23). Nowadays, the use of email can facilitate making contact. Respondents indicated that email is a good way to get in touch, however, due to privacy reasons it is not possible to send patient information via email. Furthermore, several cities in the Netherlands make use of a digital social card (46). The digital social card is a digital

guide with information about health care providers and organizations within healthcare and welfare. This digital social card could help finding the appropriate professional.

Questions for the semi-structured interviews were made using the construct 'collaborative support' of the DISC model. Besides this construct, the model focuses on 'external factors', 'change management', 'context', and 'project management'. The current study was focused on the perceptions, intentions and actions of health care professionals. To get a complete overview of all factors concerning collaboration, also the other four constructs should be investigated. However, that is beyond the scope of the current study.

Patient satisfaction is an important dimension in the evaluation of quality of health care (47). Evidence has accumulated that care which is less satisfactory to the patient is associated with non-compliance with treatment and return appointments and a poor understanding and retention of medical information (48). Further research could focus on the patient perspective; what do patients and their parents think about collaboration between their health care providers?

CONCLUSION

Collaboration between GP's and pediatricians proceeds rather structured. However, neither GP's nor pediatricians collaborate with YHC physicians. Barriers for collaboration are laid in the unawareness of GP's and pediatricians about the possibilities of YHC physicians and in the reachability of YHC physicians. Opportunities for better collaboration should focus on the organization of conjoint meetings in which GP's and pediatricians can be updated about the expertise of YHC physicians and short communication lines can be created and maintained. Further research should focus on the preferences of health care providers with regard to the organization of conjoint meetings.

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APPENDIX 1

Samenwerking binnen de zorgketen voor kinderen met astma in de regio Twente *Jeugdartsen, huisartsen en kinderartsen* Interviewschema Jeugdarts (JGZ) Naam interviewer: Ilse Overkamp Datum:..... Plaats:..... Naam professional:..... ... Werkzaam binnen de JGZ, als o Jeugdarts 0 – 4 jaar ○ Jeugdarts 4 – 19 jaar Werkzaam in: o Almelo o Enschede o Hengelo o Anders, namelijk.....	Eigen administratie

» *Voorstellen:* Ilse Overkamp, master student 'Health Sciences' aan de UT » *Verwijzen* naar email/brief; hoe kom ik bij u terecht? » *Doel van het onderzoek:* afstudeeronderzoek; klein-en-fijn project van de Academische Werkplaats Jeugd in Twente (AWJT) en in samenwerking met een kinderarts en een jeugdarts; Het in kaart brengen van de huidige situatie van de samenwerking tussen de jeugdarts, de huisarts en de kinderarts omtrent kinderen met astma. Daarnaast het in kaart brengen van de belemmeringen en kansen voor samenwerking. » *Soort vragen:* vragen naar de samenwerking met andere professionals (jeugdarts, huisarts en kinderarts) in de zorgketen voor kinderen met astma; zowel open als gesloten vragen » *Duur:* 30 – 45 minuten » *Publicatie resultaten:* in afstudeerscriptie augustus 2012; interesse in exemplaar? » *Gebruik geluidsopname*: alleen voor interviewer zelf; wordt gewist na uitwerken interview » *Anonieme* verwerking van gegevens	Inleiding

Onder *Ketenzorg* wordt in het dit onderzoek verstaan: *'Een samenhangend geheel van doelgerichte en planmatige activiteiten en/of maatregelen gericht op een specifieke patiëntencategorie, in de tijd gefaseerd'*. Een zorgketen is een *regionaal of lokaal samenwerkingsverband* van instellingen en beroepsbeoefenaren, gericht op het faciliteren van samenwerking op uitvoerend niveau met het doel te komen tot een *samenhangend, integraal aanbod* voor specifieke patiëntencategorieën. Ketenzorg is *geen afgerond eindproduct maar een (tijdelijke) verschijningsvorm*, waarbij men op zoek is naar optimale afstemming en samenwerking in zorg en welzijn.	Uitleg ketenzorg

Wat wil u, als jeugdarts, bereiken wanneer u een kind met astma ziet?	Percepties - Doelen
Bereikt u momenteel wat u wilt bereiken m.b.t. de zorg voor kinderen met astma? Zo ja, hoe krijgt u dit voor elkaar? En zo nee, wat gaat er mis en wat moet er dan verbeteren om wel uw doel te kunnen bereiken?	

Werkt u samen met andere zorgverleners omtrent de zorg voor kinderen met astma (deelt u informatie)? Zo ja, met welke? En mist u hier nog specifieke partners in?	Percepties – Samenstelling + Intenties – Bereidheid tot wederzijds vertrouwen
Hoe ziet deze samenwerking er uit? Wie initieert de samenwerking?	
Wie heeft binnen deze samenwerking dan de regie? Of wie zou volgens u hierin de regie moeten hebben?	Perceptie – Consensus
Welke afspraken zijn geformaliseerd, bijvoorbeeld in beleidsdocumenten of ondertekende contracten?	Acties - Formalisatie
Zijn er regionale afspraken tussen de beroepsgroepen met betrekking tot samenwerking?	
Vindt of denkt u dat er meer afspraken geformaliseerd moeten worden om een betere samenwerking te bevorderen?	
Is er overeenstemming over ieders taak, functie, werkwijze en werkgebied binnen de zorgketen voor kinderen met astma? M.a.w. Denkt u dat het voor iedereen duidelijk is waar de grens ligt voor het overdragen van een patiënt?	Perceptie – Consensus
Weet u bij welke huisarts of welke kinderarts u terecht kunt wanneer u meer informatie wilt verkrijgen over een kind met astma? Weet u ook hoe de desbetreffende arts te bereiken is?	Perceptie - Samenstelling
Zijn er praktische beperkingen om contact/afspraken te hebben met andere professionals? Denk aan: Heeft u tijd voor, is er geld voor/ krijgt u er geld voor, is iedereen goed bereikbaar?	Acties – Inzet van middelen
Heeft u werk telefoonnummers/emailadressen van elkaar om rechtstreeks contact te krijgen?	
En wat zou hier in moeten veranderen om een betere samenwerking te bewerkstelligen?	Acties - Aanpassingen
Bent u bereid om uw werkwijze aan te passen om meer samenwerking te bewerkstelligen? (qua werk, maar ook qua tijd?)	Intenties – Bereidheid tot verandering
Denkt u dat ouders ook weten bij wie ze terecht kunnen voor de zorg voor hun kind? Wordt dit aan hun duidelijk gemaakt?	Percepties - Consensus
Denkt u dat huisartsen en kinderartsen baat kunnen hebben van uw specifieke deskundigheid en mogelijkheden? Kunt u dit toelichten (bv. op gebied van informatie/ kennis/ hulp)?	Percepties - Belang
Hebt u anderen (hun informatie, deskundigheid, hulp) nodig? M.a.w. welke informatie zou u graag ontvangen van huisartsen of kinderartsen?	Percepties – Win-win
Hoe denkt u dat huisartsen en kinderartsen hier over denken?	
Hoe zou de ideale samenwerking er voor u uit zien?	Acties - Aanpassingen

Zijn er bijeenkomsten in de regio waar u werkt waar verschillende beroepsgroepen bij elkaar komen? Zo ja, gaat u er naartoe? En is hier interactie ruimte, heeft u de mogelijkheid om specifieke casussen te bespreken?	Intenties – Bereidheid tot betrokkenheid
Bent u op de hoogte van de richtlijnen die uitgebracht worden voor de andere beroepsgroepen (standpunten en handreikingen)?	Acties - Formalisatie
Passen deze richtlijnen/sluiten ze aan bij de richtlijnen voor de jeugdgezondheidszorg?	
Heeft u nog suggesties, tips, aanbevelingen, opmerkingen etc. of onderwerpen die u gemist heeft in dit interview en die naar uw idee echt aan bod moeten komen?	Eventuele aanvullingen
Als afsluiting zou ik graag wat persoonsgegevens van u willen registreren Leeftijd: ... Aantal jaren werkzaam in de gezondheidszorg: ... Aantal jaren werkzaam als jeugdarts op huidige positie: ... Indicatie van aantal astma patienten: ...	Eigen administratie