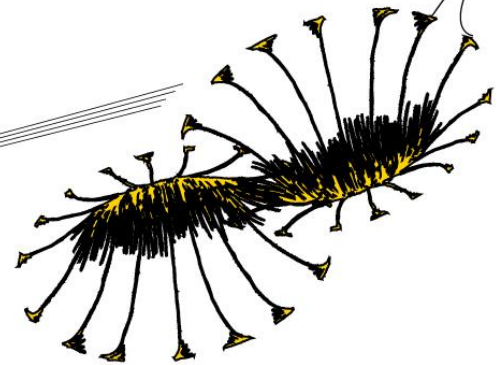


MASTER THESIS

Implementation of personal health record
Mijn Gezondheidsplatform in the chronic care process



University of Twente
Faculty of Behavioural, Management and Social Sciences

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'Implementation of personal health record Mijn Gezondheidsplatform in the chronic care process'

Abstract

Background: Recently more and more eHealth innovations are being developed to deal with rising healthcare costs and to improve the quality and accessibility of chronic care. Personal health record 'Mijn Gezondheidsplatform' (MGP) is one of those technologies that strives for a more active role for chronic patients by supporting self-management of the disease. MGP has been implemented in several pilot-general practices. Currently a new release is being deployed, in which the Individual Care Plan (IZP) is first introduced in MGP. In response to recent developments, this study evaluates the implementation and embedding process of the platform in the daily care routines, from the perspectives of the end users which are healthcare providers and chronic patients.

Method: This qualitative study used targeted selection to select 5 primary care nurses (POHs) and 6 chronic patients of primary care group DOH. The respondents were interviewed with a predefined interview framework based on Cain and Mittman's critical dynamics for diffusion of healthcare technologies. Transcripts were made of the recorded interviews. Subsequently, the transcripts were coded and systematically analysed to gain insight in the experiences and expectations of POHs and patients in the implementation and use of MGP.

Results: According to the POHs and patients the platform is an accessible and fast way to share information and keep in touch in between consultations. However, several barriers cause that MGP is still not widely used. For the POHs it has been challenging to embed the additional MGP-related tasks such as preparing and monitoring into their busy work schedules. From the start, both POHs and patients have had some difficulties with understanding the navigation through the system design and the compatibility with other information systems in the general practice. Besides, patients have encountered some problems with the user friendliness and the persuasiveness. MGP appears to have positive effects especially for motivated patients. These patients seem to gain more insight in their situation and can prepare better for their consultations. However, a decrease in consultations or a more optimal care pathway is not noticed. The POHs and patients emphasize that substitution of the motivational role of the POH by technology is not desired, they require blended care for self-management.

Conclusion: The use of personal health platform MGP (in combination with the IZP) takes an important role in the changing patient-provider partnership and seems to increase the involvement of patients in the care process. Nevertheless, MGP is not yet optimally embedded in the care process of patients and POHs. Further development in line with users' requirements, improvement of the education about MGP, the use of pre-consultations, and more extensive monitoring of patients' home measurements are opportunities for improvement.

Preface

This master thesis lying in front of you is the result of my graduate research of the master Health Sciences at the University of Twente. I followed the track Health Technology Assessment and Innovation. During the courses of this master I noticed that I was especially curious about the implementation of eHealth innovations. Adding my overall interest in improving quality of care, the choice for healthcare innovation company Medicinfo was easily made. I look back on a pleasant and informative period at Medicinfo, where I could make good use of my theoretical knowledge. I was able to develop several skills, such as independently setting up a research and communicating in a flexible way during interviews with healthcare providers and patients.

Through this way I would like to thank my supervisor Annemarie Braakman-Jansen for her extensive and enthusiastic support. Our conversations about my progress gave me a lot of motivation and new inspiration to continue on the right track. I would like to thank Saskia Akkersdijk for her valuable advice, especially about the research design. In addition, I want to thank Lisette van Gemert-van Pijnen for her feedback as a co-reader. Within Medicinfo I would like to thank my supervisor Bart Brandenburg for his guidance, advice and assistance in establishing contacts. I would also like to thank all colleagues for the pleasant cooperation. Moreover, I want to thank all the contact persons and respondents from primary care group DOH for their contributions to my research. Therefore, conducting a sufficient amount of interviews was a very smooth operation. Finally, I want to thank my family and friends for all the support during my student years. Especially during this recent period of time where a lot has changed for me, thanks to your support I can look back at an enjoyable time in Tilburg.

Aniek Voermans

Tilburg – January, 2016

List of abbreviations

	Dutch	English
CCM	Chronische Zorg Model	Chronic Care Model
COPD	Chronische Obstructieve Longziekte	Chronic Obstructive Pulmonary Disease
CVRM	Cardiovasculair risicomanagement	Cardiovascular risk management
DOH	Zorggroep 'De Ondernemende Huisarts'	Primary care group 'The Enterprising GP'
EHR	Elektronisch Patiënten Dossier	Electronic health record
HIS	Huisartsen Informatie Systeem	GP information system
IZP	Individueel Zorgplan	Individual Care Plan
KIS	Keten Informatie Systeem	Care pathway information system
MGP	Mijn Gezondheidsplatform	My Health Platform
PHR	Persoonlijk Gezondheidsdossier	Personal health record
POH	Praktijkondersteuner Huisarts	Primary care nurse

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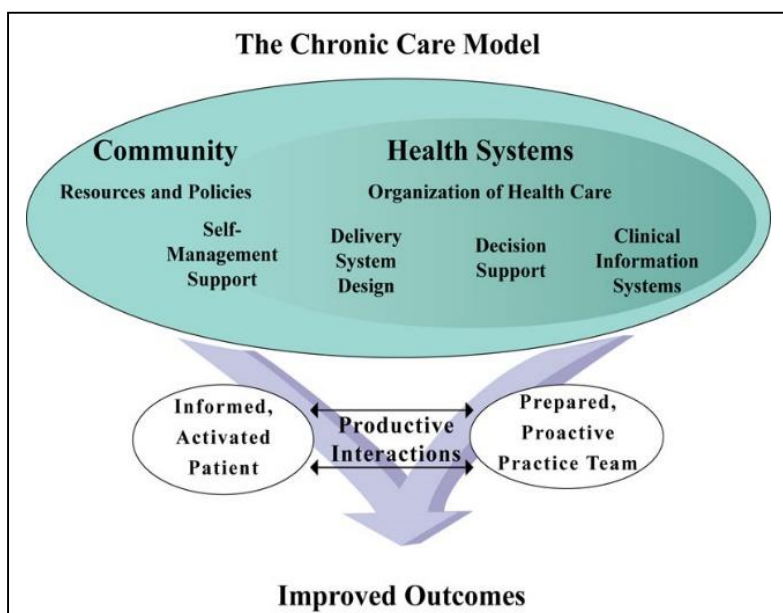
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1. Introduction

1.1 Developments in chronic care

The prevalence of chronic diseases such as cardiovascular disease, COPD and diabetes has increased significantly in the last decades and continues to rise. This is caused by an ageing population, a more unhealthy lifestyle, earlier diagnosis and improved survival rates because of new technologies (J.E.W.C. van Gemert-Pijnen, Peters, & Ossebaard, 2013; WHO, 1999). In 2011 5.3 million people in the Netherlands had a chronic disease, and almost 2 million of them had multi-morbidities (Nationaal Kompas, 2014). Chronic patients often need care from multiple healthcare providers, which makes the care more complex to coordinate and monitor. Chronic care is also relatively frequent and long-term care, which leads to a profound economic pressure on healthcare resources. The high prevalence and related high costs are a powerful incentive to find a well-coordinated and efficient approach for chronic disease management (Paré, Jaana, & Sicotte, 2007). The well-established Chronic Care Model (CCM) identifies the essential elements of the healthcare system that encourage high-quality chronic care management (Figure 1) (Bodenheimer, Wagner, & Grumbach, 2002; Wagner, Austin, & von Korff, 1996). There is significant evidence to support the effectiveness of the model in the areas of patient outcomes and cost reduction (Bodenheimer, Wagner, et al., 2002). The Chronic Care Model consists of six components, which can be separately used or combined to improve chronic care.

Figure 1: The Chronic Care Model (Wagner et al., 1996)



1.2 Self-management

The Chronic Care Model assumes that the collaboration and interaction between patients and healthcare providers is essential. Activated patients are best suited to participate in this relationship. Therefore, the task of the healthcare provider is to support chronic patients to take a more active role in managing their own conditions. Successful self-management could improve the quality of life for chronic patients and reduce their healthcare services use (National Voices, 2014). There is no 'gold standard' definition of self-management. In this study Barlow's definition of self-management will be used: *'the individual's ability to manage the symptoms, treatment, physical and psychological consequences and lifestyle changes inherent in living with a chronic disease'* (Barlow, Wright, Sheasby, Turner, & Hainsworth, 2002). The individual must undertake day-to-day tasks in the self-management process to control or reduce the impact of the disease on the quality of life (Clark et al., 1991). These tasks include determining goals, performing activities, coping with psychological problems and enabling support. The tasks are undertaken with the guidance of healthcare providers. Self-management is an iterative process, corresponding with the Plan-Do-Check-Act-circle. Effective self-management programs have been proven to reduce healthcare costs and improve quality of life in several chronic conditions (Murray, 2012; UK Department of Health, 2005).

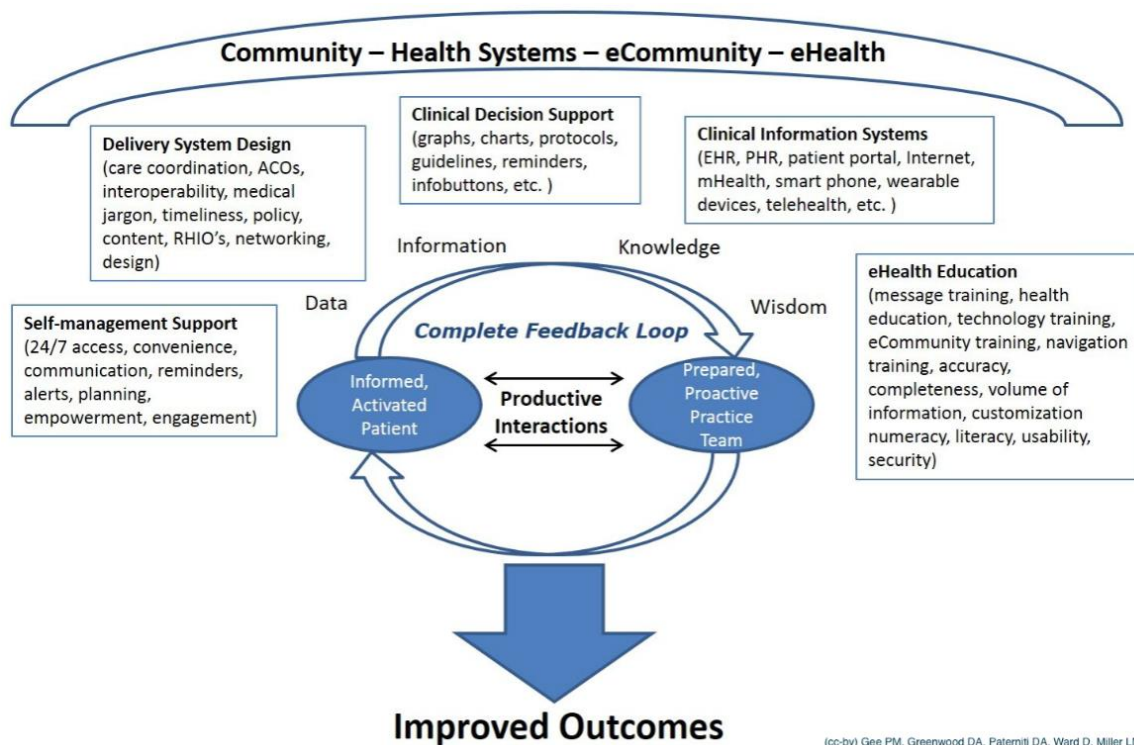
1.3 eHealth

The application of self-management becomes easier with the use of technology and internet, because it makes care and communication less dependent on a specific time or place. eHealth can result in more patient-centred, home-based and team-driven care (WHO, 2006). eHealth is defined by van Gemert-Pijnen as: *'the use of information and communication technologies, internet-technology in particular, to support or improve health and healthcare, without restrictions to a specific group of users or particular disease'* (van Gemert-Pijnen et al., 2013). eHealth can provide important online support for self-management skills for chronic patients by increasing information exchange between healthcare professionals and patients as well as by monitoring the performance of the disease management program (Sieverink et al., 2014). Positive effects of eHealth technologies are shown in previous studies. They have a positive effect on knowledge, behaviour and health outcomes of chronic patients and are reliable and cost-effective (Verhoeven et al., 2007; Wantland, Portillo, Holzemer, Slaughter, & McGhee, 2004). Although the importance and urgency of eHealth and self-management are clear, the large-scale implementation is still rather low (Flynn, Gregory, Makki, & Gabbay, 2009).

Since the original CCM was published, tremendous eHealth technologies are developed. Therefore, Gee et al. provided a revised model, the eHealth Enhanced Chronic Care Model (eCCM) that offers insight into the role of eHealth in self-management support for chronic patients (Gee, Greenwood, Paterniti, Ward, & Miller, 2015). Two major components are added in the eCCM: eCommunity (online

community and social media) and eHealth. The terms data, information, knowledge and wisdom refer to the added value of the collective input about care from the patient, the healthcare provider and the (online) community. A major enhancement compared to the traditional CCM is the addition of ‘eHealth Education’. Health literacy is essential for eHealth-users, so they can understand the accessible data and information about their own health. The lack of proper training can often be a barrier for using eHealth (Gee et al., 2015).

Figure 2: The eHealth Enhanced Chronic Care Model (eCCM) (Gee et al., 2015)



(cc-by) Gee PM, Greenwood DA, Patemiti DA, Ward D, Miller LMS
J Med Internet Res 2015;17(4):e86, <http://www.jmir.org/2015/4/e86/>

1.4 Personal Health Records (PHR)

The use of a digital infrastructure via eHealth-technologies such as patient platforms or personal health records (PHRs) are particularly suited for the support of self-management. A PHR is: ‘an electronic application in which patients can access, manage and share their health information, and that of others for whom they are authorized, in a private, secure and confidential environment’ (Tang, Ash, Bates, Overhage, & Sands, 2006). Although PHRs may primarily be seen as a patient-centred eHealth tool, they also have broad implications for healthcare providers and the total delivery system. Research findings show that healthcare providers play a crucial role in facilitating or inhibiting the patient’s adoption and use of a PHR (Nazi, 2013). PHRs are meant to benefit patients by helping them to take a

more active role in their own health. Existing research suggests that with the help of a PHR, the patient can get more knowledge and insight in his progress, be more involved and gain more confidence and trust (Pagliari, Detmer, & Singleton, 2007; Tang et al., 2006). PHRs show potential to be used in the preparation process of patients and healthcare providers for their next medical consultation. The PHR could be an easy tool to let a patient fill in preparatory questionnaires about his medical information, agenda for the consultation and evaluation of his goals. The healthcare provider can access those data before the consultation. Several studies identified that patients' preparation for consultations lead to better communication and more satisfaction about the consultations (Sepucha, Belkora, Mutchnick, & Esserman, 2002; van Dam, Van der Horst, Van den Borne, Ryckman, & Crebolder, 2003). However, there is a lack of scientific literature about how patients actually prepare for their consultations and how technologies such as PHRs help in the preparation process.

1.5 eHealth at Medicinfo: Mijn Gezondheidsplatform (MGP)

Medicinfo is a healthcare innovation company that tries to facilitate the broader implementation of eHealth to improve the self-management of chronic patients. Medicinfo designs, develops, implements and evaluates the personal health record 'My Health Platform' (in Dutch: Mijn Gezondheidsplatform (MGP)) since 2010. The goal of MGP is to let patients, in collaboration with their healthcare providers, have control over their own health, lifestyle and behaviour (Medicinfo, 2012). MGP is a personal health record with several functionalities (Medicinfo, 2014):

1. Building and monitoring an individual health plan
2. Working with online lifestyle coaches (e.g. in the field of nutrition, exercise and smoking cessation)
3. Exchanging secure data with other databases and messages between healthcare professionals and patients
4. Reading reliable health information

Table 1 is an overview of all the functionalities and their components in MGP. Appendix A shows screenshots of the various tabs in the platform.

Table 1: MGP functionalities

Functionality	Component	Description
1. My care dossier	My health	User can record, modify and remove his conditions
	My lifestyle	User can record and track characteristics and lifestyle factors (e.g. smoking, exercising and relaxation)
	My notes	User can make notes
	My data	User can note personal details
	My care goals	User can view and modify created advices, treatment goals, information goals and lifestyle goals
	My measurements	User can track and add measurement values such as weight or blood pressure
	My medication	User can record medication and vaccinations
	My practitioners	User can record his healthcare professionals
2. My coaches	Exercise Coach	Lets the user experience the influence of exercise on their health. Proposes a 12-week exercising plan based on the intake, goals and chosen target.
	Nutrition Coach	Helps the user with healthier eating habits, with the secondary goal of weight loss. Proposes a 12-week nutrition plan based on the intake, goals and target weight.
	Smoking Cessation Coach	Proposes a smoking cessation plan based on the intake and the smokers profile. The program is based on the Stimedic program that consists of the 5 R's (Reward, Risk, Roadblock, Repetition and Relevance).
	My Plan	Helps the user to deal with his chronic condition and work on his lifestyle. User can formulate goals and actions he wants to work on.
	My intake	Determines the user's current goals and motivation based on validated questionnaires. The first intake must be completed before the user can continue to the next step. Advice is generated based on the results of the questionnaires.
	My assignments	Gives user various assignments in learning healthy behaviours and habits. Assignment are offered weekly via e-mail in a logical sequence. However, the user may do the assignment in any order and at any moment.
	My progress	Allows user to see results and goals in a graph to evaluate.
	My help programs	Offers support through tips. The user can send in own suggestions for tips. Offers a number of applications named 'tools'. These tools can be part of an assignment or used separately. User has the option to consult experts.
3. MGP-mail		User can exchange secured messages with healthcare professionals and other experts to ask and answer questions.
4. Information		Refers to information about certain lifestyles, conditions or diseases. Links websites with practical information.

MGP is implemented in several primary care groups and their general practices. MGP supports the self-management of chronic patients of the diabetes, CVRM, asthma and COPD care programs. The healthcare providers who introduce and help patients with MGP are the primary care nurses (in Dutch: Praktijkondersteuner Huisarts (POH)). POHs are practice nurses that help the GP in guiding chronic

patients. POHs usually have their own consultation hours, but they are not authorized to diagnose and prescribe new medication. MGP is connected to the care pathway information system (in Dutch: Keten Informatie systeem (KIS)) and indirectly to the GP-information system (in Dutch: Huisartsen Informatie Systeem (HIS)). The KIS that is used by the POHs is called Care2U. Other KIS-systems exist, but these systems are not within the scope of this study. Some of the medical data such as conditions, measurement data and target values can automatically be exchanged between MGP, Care2U and the HIS. Because of this connection, patients can see their lab values at home in MGP and keep track of their progress. The POHs can see the home-measured values that patients entered in MGP in their own system Care2U.

1.6 Individual Care Plan (IZP)

Another initiative to stimulate the more active role of the patient is the Individual Care Plan (in Dutch: Individueel Zorgplan (IZP)). The IZP is a patient-orientated list of goals, actions and appointments that GPs and POHs use to promote the involvement of the patient in their care process. Topics that are often addressed are exercise, diet, smoking, medication intake, stress and alcohol. The IZP consists of the 'product' (representation of the agreements of goals and actions between patient and caregiver), as well as the 'process' (conversation about goals and needs and shared decision-making). There can only be one IZP per patient, therefore it has to be an integral care plan for multiple diseases (NHG, NPCF, Vilans, 2014). Individual care planning has clear overlap with self-management, it assumes a similar relationship between patient and healthcare provider.

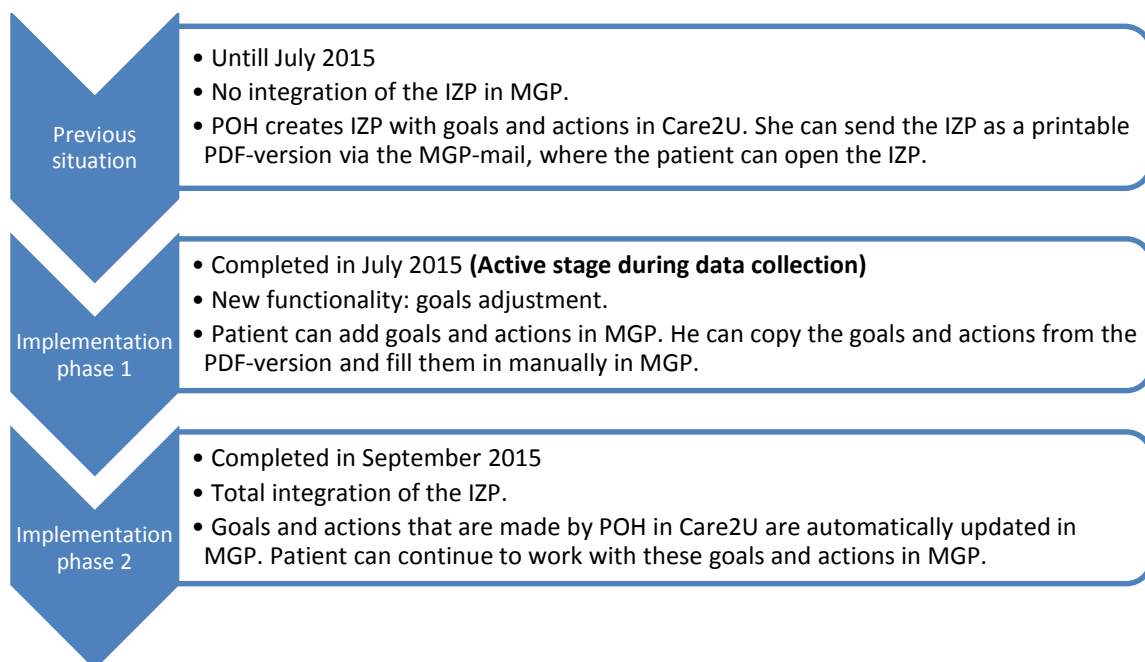
The Dutch government adopted a legislative provision (Besluit zorgplanbespreking ABWZ-zorg) on a care plan on request, which means that in case the patient wants a written IZP, the healthcare provider is obliged to set up and use an IZP. Irrespective of the legislation, more and more healthcare insurance companies such as CZ, UVIT, Achmea and VGZ, made the implementation of an IZP mandatory in the purchasing conditions in their contracting (Kennisplein Chronische Zorg, 2015; Raad voor de Volksgezondheid en Zorg, 2013). Therefore, working with the IZP is not entirely new for healthcare providers; 50% of the respondents of a quick scan already works (sometimes or frequently) with an IZP (NHG, 2014). Research from Nivel in 2014 among 256 chronic patients showed that 36% of the patients reports to have an IZP, this is a significant increase compared to early 2013 when only 10% reported to have an IZP. Remarkable is that healthcare providers sometimes indicated that a patient had an IZP, while the patient himself reported to not have an IZP or to not know (Nivel, 2014). The IZP has no set form; it can be recorded digitally, but paper versions, booklets and printouts of the KIS are also used because not all patients have access to a computer. Research from Cruz-Correia shows that patients prefer to have their IZP digital-based over paper-based (Cruz-Correia et al., 2007). A uniform

implementation of the IZP has not been reached in practice. Healthcare professionals may use it for varying applications; as educational material, as a notebook for lab results or as a contract between patient and healthcare provider.

1.7 Integrating the IZP in MGP

To align the technology to the user in the development of eHealth technologies, the emergence of individual care planning has to be taken into account. Zelfzorg Ondersteund reported in their plan of requirements for PHRs that patients, healthcare providers and health insurance companies all consider it important that a PHR has an integrated IZP (Zelfzorg Ondersteund, 2014). An evaluation of MGP by primary care group DOH confirms the need for further connection with the IZP (DOH, 2014). This means that patients need to be able to digitally keep track of the goals and actions from their IZP via their own PHR. To make this possible, connections with the HIS and KIS are needed. Following the recent developments of the IZP, Medicinfo is developing a new functionality in MGP. This consists of an integrated version of the IZP in MGP, where the patient can work with the goals and actions from his IZP in the familiar MGP. They do this by creating a further connection between MGP and Care2U. The implementation of the integration proceeds in two phases (Figure 3).

Figure 3: Implementation phases of IZP



2. Theoretical background

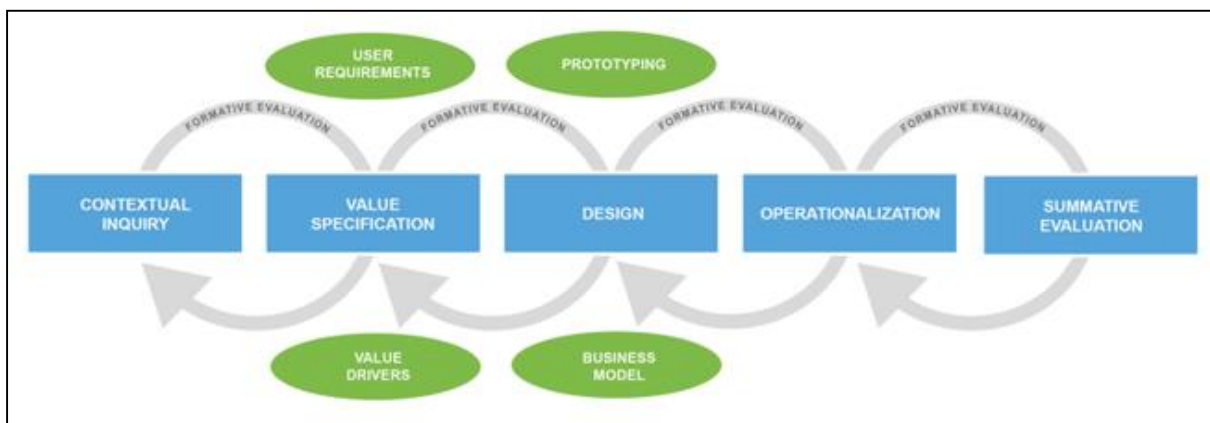
2.1 Development and evaluation of eHealth

EHealth innovations are too often developed technology-driven, with only limited input from the end user and other indirect stakeholders. Implementation is often seen as a post-design activity.

However, the conditions for implementation and potential implementations issues should be identified earlier, in the subsequent cycles of development (J.E.W.C. van Gemert-Pijnen et al., 2013).

The CeHRes Roadmap is a holistic framework consisting of five phases that functions as a guideline for the development process of eHealth. The connecting evaluation cycles explore how an eHealth technology can be suited to the users and successfully implemented in practice (Figure 4) (Center for eHealth Research and Disease Management, 2011).

Figure 4: CeHRes Roadmap (Center for eHealth Research and Disease Management, 2011)



Including the users as part of the (further) designing and evaluation process stimulates designers to think differently. Developing technology from that broader perspective leads to applications that are better tailored to patients' needs and daily habits (Tanriverdi & Iacono, 1999). The goal of MGP is to support and improve the self-management and self-care skills of the user. To achieve this goal, it is necessary to ask current MGP-users about their values, experiences and attitude regarding MGP and the integration of the IZP in the platform. The design of an eHealth system can be assessed on three different levels of quality, based on Delone's Updated D&M IS Success Model (Delone & McLean, 2003; J. E. W. C. van Gemert-Pijnen et al., 2011):

- *System quality* measures the user friendliness, the ease to manage, and the match to the end users' profiles and roles or tasks in the care-delivery process.
- *Content quality* measures the meaningfulness (accuracy, legibility, comprehensiveness, consistency, and reliability) and persuasiveness (format fits with users profile).

- *Service quality* measures the adequateness (timely, responsive, and empathetic) and feasibility, and the degree to which the e-service is compatible with the healthcare system.

A successful approach for evaluation is to involve the end-users in the creation of requirements (Center for eHealth Research and Disease Management, 2011). The requirements describe what a technology should do, what data it should store or retrieve, what content it should display, and what kind of user experience it should provide according to the end-users (Van Velsen, Wentzel, & Van Gemert-Pijnen, 2013). Healthcare providers as well as patients can explain why the technology fits or does not fit in their existing care processes and possibly give recommendations to improve the technology into a better fit with their needs. Detecting the possible shifts in care processes that are caused by MGP, gives more insight in the relative advantage of the technology and its implementation in the daily care routines.

2.2 Self-management support for patient empowerment

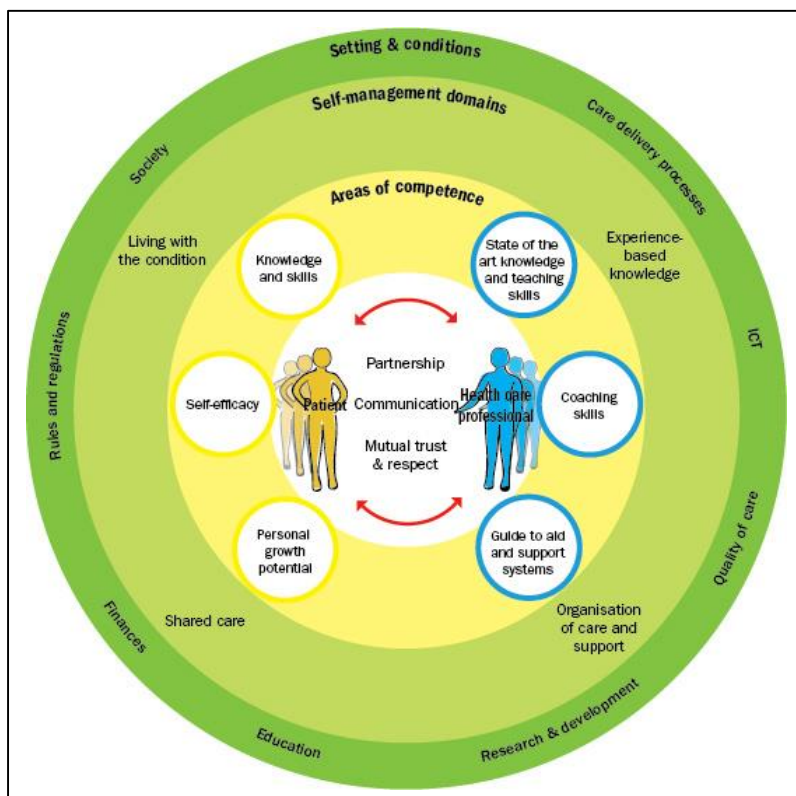
Not all patients are equally capable of self-managing their disease. The complexity of their disease has influence on their suitability for self-management. Stable patients are more capable of self-care than patients who need highly complex, multi-morbid care. The vast majority of people with a chronic disease are stable and self-care plays a major role in their disease management (UK Department of Health, 2005). Even if the state of health of the patient is suitable for self-management, a patient still needs certain skills. Lorig and Holman state that patients need to have six core skills for self-management: problem solving, decision making, resource utilization, the formation of a patient-provider partnership, action planning and self-tailoring (Lorig & Holman, 2003). Only patients who have these skills can succeed in following a self-management program. For that reason ongoing education about their condition and self-management is essential for patients (Funnell & Anderson, 2004).

Healthcare providers often feel the responsibility for patients' care and outcomes and exercise this by telling patients how to manage their disease on a daily basis (Anderson & Funnell, 2010). However, the role of the healthcare professional changes more and more from a decision maker to a coaching expert. Several challenges need to be faced in making this shift to a patient empowerment model of care. Patient empowerment is helping patients develop the inherent capacity to be responsible for their own life (Funnell & Anderson, 2004). Healthcare professionals should support and motivate patients by teaching them the skills for behavioural goal setting and optimal self-management. They need to ask questions and use active listening techniques to let patients reflect on what they need to obtain from the interactions to better manage their disease. Providing relevant information, establishing a partnership with the patient and facilitating the patient in his role as a self-management decision maker creates more patient-centred practices. The purpose is to let patients become a more

autonomous and equal partner who act through intrinsic motivation, rather than trying to set the goals for them as an authority (Anderson & Funnell, 2010).

The General Model of Self-management is a model that builds further on the changing patient-provider relationship while working on self-management in practice (Figure 5) (CBO, 2012). The patient and healthcare professional are placed in the centre of the model and the surrounding rings show their competences, the self-management domains and the setting and conditions for self-management. The most important competences for patients are knowledge about their condition, self-efficacy and the potential for personal growth. Important competences for healthcare professionals are coaching and teaching skills and state of the art knowledge in the self-management area. They act as a guide for patients to support systems such as eHealth interventions. EHealth can help to lower communication barriers between patient and healthcare professional and thereby be supportive in self-management.

Figure 5: General Model of Self-management (CBO, 2012)



2.3 Embedding eHealth innovations in practice

Difficulties in the implementation of eHealth are a key problem; only a small fraction of eHealth innovations are implemented in practice and they can take years to be embedded (Haines, Kuruville, & Borchert, 2004). This has raised questions in social sciences about how innovations can be successfully adopted and embedded in everyday practice. The development of healthcare innovations are reciprocally linked with implementation, because innovations both shape and are shaped by the social worlds in which they are implemented (May, 2013). The characteristics of the implementation of innovations are described in the ten critical dynamics for diffusion of innovation by Cain and Mittman. These dynamics for successful adoption of medical or information technologies in health care are based on Rogers' Innovation Diffusion Theory and expand this list with several critical dynamics for diffusion in healthcare (Cain & Mittman, 2002; Rogers, 2010).

1. Relative advantage – the degree to which the innovation is superior to the idea that it replaces.
2. Trialability – the extent to which the innovation can be tested or experimented with before a commitment to adopt is made.
3. Observability – the extent to which the innovation provides tangible results.
4. Communication channels – the social process of communication from an individual who knows about the innovation to an individual who does not.
5. Homophilous groups – the degree of similarity among group members across which the innovation diffuses.
6. Pace of innovation/ reinvention – the extent to which the innovation can evolve or be altered by users during diffusion.
7. Norms, roles and social networks – the norms of behaviour and expectations about roles can be used to target the appropriate social networks for diffusion.
8. Opinion leaders – the degree of exposure of key change agents who want to promote a new idea to their peers.
9. Compatibility – the consistency of the innovation with the existing values, past experiences and needs of potential adopters.
10. Infrastructure – the dependence of the innovation on existing infrastructure of other technologies.

Especially relative advantage and complexity are important factors for adopters in the diffusion of eHealth innovations (Emani et al., 2012). In addition, there are factors that are involved in the adoption of eHealth that are more related to the user and his environment than to the innovation itself, such as

expectation management (information given before the trial), push factors (reminders to use the system) and demographic factors of the user (socioeconomic status) (Eysenbach, 2005).

To further conceptualize the normalization (implementation, embedding and integration) of healthcare innovations into practice, May presents the Normalization Process Theory (NPT). Embedding occurs when agents' contributions to social mechanisms lead to normative restructuring, the reworking of conventions and group processes, the enacting of practices and their projection into the future (May, 2013). Murray confirms that NPT is a useful guide for understanding the processes that affect the implementation, embedding, and integration of eHealth initiatives. Innovations are more likely to normalize if they have a good fit with existing organizational goals and staff skill sets, as well as a positive impact on patient-professional interactions (Murray et al., 2011).

3. Research question

3.1 Study objectives

To create the most effective eHealth technology as possible and successfully implement it, research about the needs and desires of the stakeholders has to be continually conducted. More knowledge is needed about what factors are the actual barriers and facilitators in the use of MGP in daily care routines. In this research can also be determined what the expectations of the users are about the foreseen role of the IZP in the optimization of care. The experiences and opinions of healthcare providers and patients can provide deeper insight in how MGP supports the daily care routines in general practices. There can be established in what way MGP has an impact on patient empowerment and self-management support. By analysing these experiences, recommendations can be made about how MGP could support the chronic care pathways even better.

3.2 Scope

This research focuses on the care pathways of the three care-programs that are treated by POHs, these are: diabetes mellitus type 2, CRVM and asthma/COPD. CVRM is not classified as a disease, but it is the diagnosis, treatment and follow-up of patients with high risk of cardiovascular disease (NHG, 2012). Patients of all these three chronic care-programs are suitable for using MGP, although the largest part of MGP-users have high blood pressure (CVRM) and diabetes (Appendix B). MGP is used in several primary care groups. A primary care group consists of several general practices who collaborate with other care pathway partners to offer high quality primary care. This research will be performed in collaboration with De Ondernemende Huisarts (DOH), one of these primary care groups with general practices in the region of Eindhoven. As its name suggests, DOH is an enterprising and progressive organisation. They are motivated to implement MGP to stimulate self-management of patients in their general practices, make the patients more responsible and give them more insight in their own situation. Eventually they hope that patients have to go to consultations with their POH less often. MGP was introduced as a pilot in general practice A in November 2012. General practices B, C, and D were added to the pilot in April 2013. The use of MGP in these four practices will be the subject of this study. Appendix C shows the figures from the latest quarterly report about the use of MGP and the IZP.

3.3 Research Question

The research question of this study is:

What are the perceptions and experiences of healthcare providers and chronic patients on the implementation and use of MGP in general practices?

The following sub questions are formulated to answer the research question:

1. How do the current care pathways run for chronic patients in general practices and what has changed since the implementation of MGP?
2. What are the expectations, needs and barriers of POHs and patients on the integration of the Individual Care Plan in the care routines?
3. What were the expectations and experiences of the POHs and patients about the implementation of MGP in the daily care routines?
4. What are the perceived and expected facilitators and barriers for embedding MGP in daily care routines?
5. What are perceived effects of the use of MGP on the working process of the POHs and the care for patients?
6. What are the expectations of POHs and patients regarding the use of PHRs in the future?

4. Method

4.1 Design

The aim of this qualitative study is to understand the experiences and attitudes of the healthcare providers and patients. This qualitative research consists of various phases: problem definition, formulating the research question, definition of research methodology, data collection, data analysis and reporting. These research stages can intertwine in the complex reality. Therefore, the different stages can be completed several times cyclically (Plochg, Juttmann, Klazinga, & Mackenbach, 2007). This research is conducted in the form of a case study. An important characteristic of a case study is the intensive analysis of a phenomenon at only one or a few cases (Yin & Campbell, 2003). The subject of this case study is the personal health record MGP, designed by Medicinfo. The study protocol is submitted to the Ethics Committee (EC) of the Faculty of Behavioral Sciences of the University of Twente and assessed as approved.

4.2 Study Population

In a qualitative study the study population is relatively small and not randomly selected. In the selection strategy is defined where the research will take place, which people participate and which activities are examined (Plochg et al., 2007). This study uses a targeted selection, because the study population is selected on pre-defined criteria, or inclusion criteria. There are 2 parts of the study with the following inclusion criteria for participants:

- 1) Interviews with POHs: POHs of primary care group DOH who are currently using MGP (n=5).
- 2) Interviews with patients: Chronic patients of primary care group DOH who are currently using MGP (n=6).

The recruitment of participants for the interviews is carried out via personal contact with primary care group DOH and their four general practices that use MGP. Four or five POHs are employed in every general practice. The aim is to conduct interviews with at least one POH from each of the four general practices. An information letter, with information about the goals and topics of the study, is given to the POHs of the four general practices. The involved POHs are asked to give a patient information letter about the study to their patients who use MGP. When these patients have approved that they may be approached for scientific research, they are personally contacted by the researcher to make an appointment. The interviews are conducted with six patients. All participants are over eighteen years old, have no life threatening (co)morbidity or short life expectancy and have to sign the informed consent.

4.3 Data Collection

After receiving the information letter and verbal explanation, the participating respondents are asked to sign and return an informed consent form, so the respondents know all given information is confidential (Appendix D-F). The respondents will be interviewed by one researcher, which will be recorded with an audio recorder. Respondents have to give permission for recording the conversation before the interview will start. The interviews with POHs are conducted in the working environment (general practices) and the interviews with patients are conducted in the respondent's homes. The POHs and patients are interviewed to identify the current working routines and the needs and barriers regarding the embedding of MGP and the IZP. The interviews are structured interviews based on a predefined interview framework. This framework consists of a combination of closed and open questions, all with a solid formulation and in a fixed order. The questions from the interview framework are based on Cain and Mittman's ten critical dynamics of diffusion of technologies in healthcare (Cain & Mittman, 2002). Therefore, an interview framework from earlier research about the perceptions and experiences of healthcare professionals on the use of eHealth in daily practice is redesigned by adapting this framework into the right context (Olde Olthof, 2015). For example, questions about the IZP are added. Also, a question is added to validate the visualisation of diabetic care pathways with the use of a patient platform by F.S. (Appendix G).

The interview framework that is used to interview POHs about their experiences with MGP is shown in Appendix H. The patients are interviewed with an adapted version of the interview framework, to match the patients' perspective, as shown in Appendix I. The language in this framework is adapted to match the patients' perspective; it contains more explanation about the probably unknown IZP and questions about the activities of the POH are omitted.

4.4 Data Analysis

The results of the data collection are systematically analysed and interpreted in order to answer the research question. The data analysis is first conducted from the perspective of the healthcare providers and consecutively from the perspective of the chronic patients, resulting in respectively Chapter 5 and Chapter 6 of this study. The first step of the data analysis is the preparation of the obtained material from the interviews for analysis by transcribing the interviews with all respondents. The transcripts are then coded, which means quotes from the collected data are labelled based on themes and categories. Fragments with the same theme are clustered into one code. Deductive analysis is used to search for quotes that fit with Cain and Mittman's theory on the dynamics of diffusion (Cain & Mittman, 2002). Furthermore, inductive analysis is used to search for more categories, until no new codes are found. Subsequently, all transcripts are read again to make sure all information is used and the codes

represent the information given by the respondents. The transcripts are analysed by one coder (A.V).
Unclear quotes are discussed with a second coder (A.B.) until consensus is reached.

5. Results from the POH perspective

5.1 Respondent characteristics

Five healthcare providers participated in this study. They were all POHs and all female. Table 2 provides an overview of the experience of the POHs and the estimated number of included patients in MGP in their general practices.

Table 2: POHs characteristics

#	General Practice	Experience as POH (years)	Experience in current general practice (years)	Working hours a week	Patients a day	Care programs	Experience with MGP (years)	Estimated active MGP users (% of total patients)	Exact number of MGP users in general practice
1	A	15	7	24	18	CVRM, Diabetes	2,5	10-15%	273
2	A	11	6	25	10	Asthma/COPD, CVRM, Smoking cessation	2,5	N.A.	273
3	B	3	3	25	15	Asthma/COPD, CVRM, Diabetes, Smoking cessation	2	<10%	69
4	C	3	3	32	16	Asthma/COPD, CVRM, Diabetes, Smoking cessation	2,5	10%	160
5	D	2	1	24	23	CVRM, Diabetes	1	10%	146

5.2 Sub question 1: Current care pathways and MGP

5.2.1 Flowchart chronic care pathway with MGP-use

Figure 6 shows a flowchart with an overview of the care pathway with the use of MGP. This flowchart maps the data exchange between the patient in MGP and the POH in Care2U.

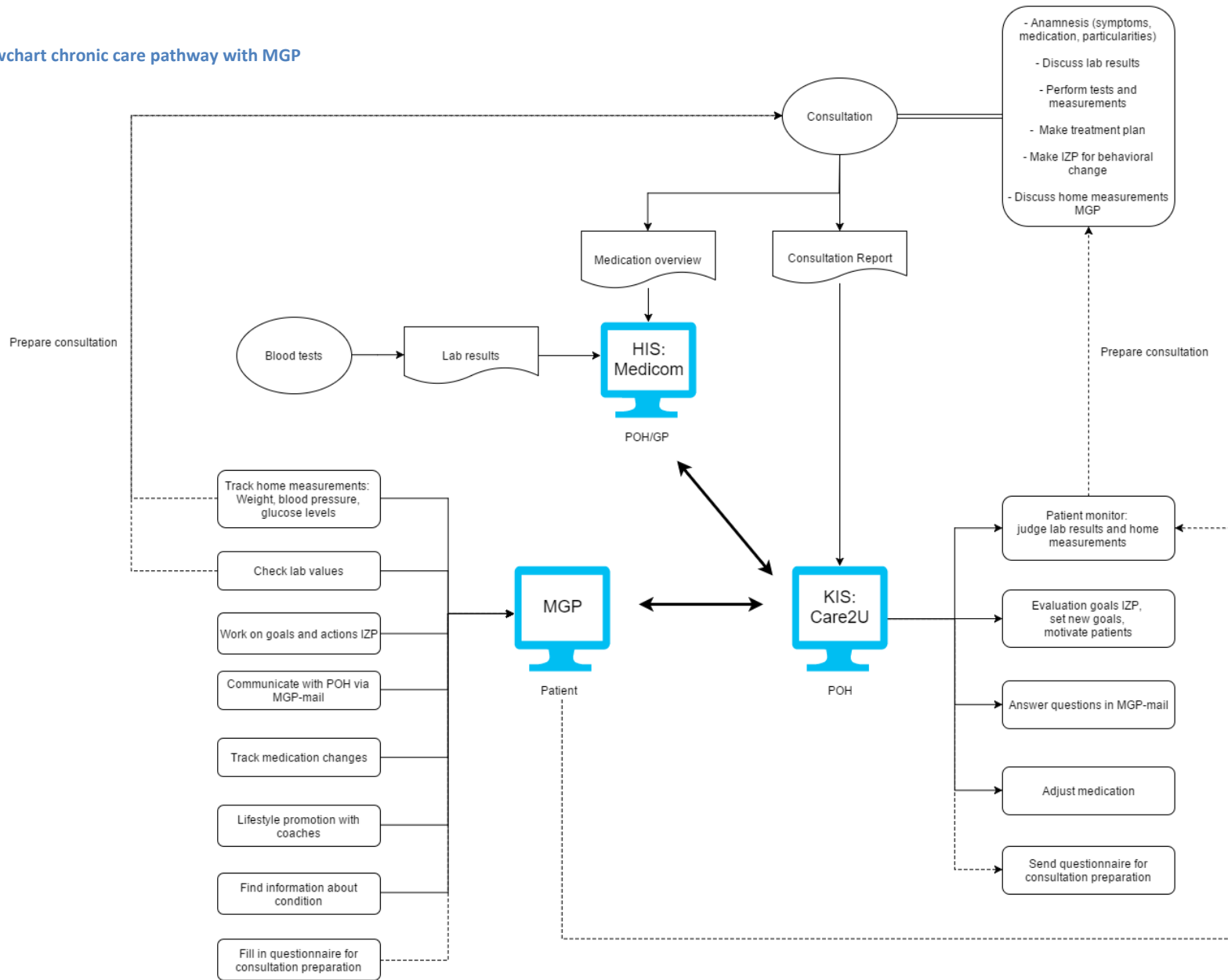
5.2.2 General job description POH

The working method of the POH is defined in the protocols and care standards of the NHG. These contain the steps about how they need to deliver and register care. The protocols are well known among the POHs via intranet or a file map. They apply the protocols and guidelines, but feel free to organize the exact execution of the tasks in their own way. In her consultation hours each POH treats patients of the various care programs; diabetes, asthma/COPD, CVRM and/or smoking cessation. In some general practices was agreed that each POH has the final responsibility for a single care program, but patients may also be passed on to colleagues (respondent 1, 2, 4). According to all POH their primary task is coaching and advising patients in their consultations. They underline the importance of giving personal support and motivating the patient in behaviour change. It takes an investment of time to discuss this on a deeper level.

“If someone is overweight you can say: you have to lose weight. But you would rather discuss it further. We try, but your time is very limited. Like: What’s the cause of someone becoming overweight? What are the difficult moments?” (respondent 5)

The administration is an important task for the POHs (respondent 1, 2, 3, 4, 5). The consultations have to be reported with the consultation report in Care2U which consists of a wide range of fields to fill in. The consultation report should be completed during the consultation, but when the POHs can’t finish it in time, they fill in certain parts like the IZP after the consultation. Another main task for the POHs is to keep in touch with patients. The POHs keep track of their e-mail in multiple e-mail accounts; the webmail in Care2U, the mail in the medication review and their personal email account. In addition they call the no-shows for appointments and the patients who have questions (respondent 2, 3, 4, 5). The next task is the structural weekly or monthly consultations with other POHs and GPs. This regular face-to-face contact is used to discuss case studies with their peers and to keep abreast of each other’s practice (respondent 1, 2, 3, 4).

Figure 6: Flowchart chronic care pathway with MGP



5.2.3 Content of the consultation

The content of the consultations is very similar among the POHs. The duration of a consultation is 20 minutes. 40 to 50 minutes are scheduled for asthma/COPD patients because the pulmonary function tests that need to be performed take more time. During the first consultation with a new patient, the POH provides an introduction about the consultations, maps the patient's health and lifestyle with baseline testing, asks about the familial history and informs the patient about MGP (respondent 3, 4). In the follow-up consultations, the POH can expand on various topics (Figure 7).

Figure 7: Contents of the consultation

Anamnesis	<ul style="list-style-type: none">• Questioning course of the complaints and other particularities in the past period
Perform measurements	<ul style="list-style-type: none">• Measure weight, blood pressure, glucose levels and lung function etc.
Lab results	<ul style="list-style-type: none">• Blood is tested a few days before the consultation. Discuss these lab results with the patient.
Home measurements	<ul style="list-style-type: none">• Discuss home measurements that patient performed (in MGP) (weight, blood pressure, glucose levels)
Medication	<ul style="list-style-type: none">• Discuss medication use• Adjust medication if necessary. Discuss major changes (e.g. starting insulin) with GP
Personal goals	<ul style="list-style-type: none">• Redirection of health through lifestyle changes• Record goals in IZP
Follow-up appointment	<ul style="list-style-type: none">• Standard frequency every three months for diabetes and every year for asthma/COPD and CVRM

5.2.4 Working method with MGP

The implementation of MGP brings along a number of additional tasks in the working process of the POH:

1. The POH can approach patients to participate in MGP.
2. The POH can discuss the home measurements and lab results with reference to MGP during the consultation.
3. In the intervening period between the consults the POH can monitor the patients' progress with the home measurements and lab results.
4. In the intervening period between the consults the POH can have contact with patients about questions or any other specifics via the MGP-mail.

The POHs use the features of MGP in different ways, so there is no uniformity in embedding MGP in their daily consultations routines (Table 3). Currently the use of MGP has no implications for the daily or weekly work timetable of the POHs (respondent 2, 3, 4).

Some POHs look briefly at the patient's file before the patient comes into the consultation to see the home measurements or lab results of the patient (respondent 2, 4). Other POHs do not have any time in their working schedule to prepare for incoming patients by looking at MGP (respondent 1, 3).

During the consultation, the lab results and home measurements are discussed with the patient, but MGP is rarely used in this discussion. This is because POHs have no time left for MGP in the conversation with the patient (respondent 1) or because POHs forget to ask about MGP (respondent 5). Especially with patients who get yearly consultations there is little time left to address MGP in the discussion, because many other topics should be measured and discussed (respondent 1, 4). One POH prefers to not open MGP on the computer screen during the consultation, because she does not want to show her patient any sensitive information about other patients in MGP (respondent 3). One respondent discusses MGP quite often and does show MGP at the computer screen to the patient to explain and give information (respondent 4).

The patient overview in which the home measurements are monitored is rarely used by the POHs. Three of the POHs watch occasionally if patients are completing any home measurements, but they do not look at the individual values (respondent 2, 3, 4). The other POHs don't use the patient overview in between the consultations due to time constraints (respondent 1, 5). Respondent 3 would find it useful to schedule some time to make greater use of the patient monitoring in MGP. The POHs think it is the responsibility of the patient to take action when their values are deviating, they do not contact the patient themselves (respondent 1, 3, 4).

The POHs use the MGP-mail to give information to patients and answer their questions (respondent 1, 3, 4, 5). Respondent 2 uses the MGP-mail in particular to remind patients to fill in home measurements in MGP. The amount of questions that POHs receive from patients in their MGP-mail differs. Some POHs are getting a lot of emails, and think patients need more guidance in assessing the relevance of the questions (respondent 1, 4). Contrasting, two other POHs' patients have a wait-and-see attitude. They ask very few questions in the period between the consultations (respondent 3, 5).

Table 3: Use of MGP functionalities by POHs

MGP use	Respondent number	Quote
Preparation		
Check lab results before consultation	4	<i>"In the morning I check my agenda to see who comes when and for what. Then I open the patient file just before the patients arrives, and I quickly check what the results are that we have to discuss. But that's it" (respondent 4)</i>
Check if home measurements are filled in	2	<i>"I note that a patients must pass forward his blood pressure in three months. Then I look in three months if he indeed did that. Whether he does it or not, I can at least send him an e-mail." (respondent 2)</i>
During consultation		
No time for MGP	1	<i>"I rarely open MGP during the consultation, because I do not have any time for that." (respondent 1)</i>
Not paying attention to MGP	5	<i>"MGP is sometimes discussed in a consultation, some people say themselves: I use MGP and I've already seen the results. Then it's up to me to discuss it a little deeper or offer it to people. I'm still not completely intertwined in MGP. I think that I should pay some more attention to it myself. I think I ask insufficiently if people have done anything with MGP." (respondent 2)</i>
Don't open MGP on computer because of other patients' privacy	3	<i>"During the consultation I do not use MGP, I do not ask about it. I do not open it, because if I login, you see everything, the whole list of patients who are in MGP." (respondent 3)</i>
Open MGP on computer for explanation	4	<i>"During the consultation I look at MGP together with the patient to explain or show them things." (respondent 4)</i>
Monitoring in between consultations		
Occasionally check if patients fill in home measurements	2, 3, 4	<i>"I can see what people are doing in MGP, I'm not saying I will always see it, but it is possible. Occasionally I check it in between of the consultations. Especially if I've just signed up someone, I check the patient monitor." (respondent 3)</i>

No time to check patient overview	1, 5	<i>"I never open the home measurements, because I have no room for that. Time does not allow that at all so far." (respondent 1)</i>
Should schedule more time for patient monitoring	3	<i>"If I'm going to use MGP more, then I should build in some standard time in my administration afternoon to see what the patients are doing. Then I can remember if things stand out. If someone comes back again I can say that I have seen what he has been up to. Although I think that if there really are a lot of people in MGP, I can't keep up." (respondent 3)</i>
Patients need to contact me themselves when values are deviating	1, 3, 4	<i>"If there are signs that values are not good, that he takes action himself. If a patient fills in a blood pressure of 180, he gets a red smiley. He has to do something with that himself. I think it is not my responsibility to verify that for everyone." (respondent 4)</i>
MGP-mail contact in between consultation		
Give explanation and answer questions of patients	1,3, 4, 5	<i>"What I do is sending an email to the patient after the consultation. That way he has all of the data up to date, and we can see whether he can login. If it does not work, please let me know because then we can talk about it again." (respondent 1)</i>
Remind patients to use MGP	2	<i>"Whether he does it [complete blood pressure] or not, I can at least send him an email. I try to do that more and more to people who have not filled in any blood pressures, to remember them to so. Then I can also ask if the coach is still used or whether they have done anything else." (respondent 2)</i>
Poorly assessment of relevance of questions by patients	1, 4	<i>"I have also said to email me questions at any time. That is sometimes interpreted very broadly, I get all sorts of questions. But it is also a matter of guiding the patients a bit in what things are relevant."(respondent 1)</i>
Few questions by hesitant and waiting attitude of patients	3, 5	<i>"Initially I was worried that they were going to mail me too much, but I can count the mail I've received in all that time on two hands. Apparently they think they'd bother me." (respondent 3)</i>

5.2.5 Validation of flowchart diabetic care pathways

The current work routine of POHs corresponds well with the 'Flowchart diabetic care pathways' by F.S. (Appendix G). Some diabetes-specific tasks such as tracking the daily glucose curves, checking feet and controlling insulin are not needed in the general care process for other care programs. The most important thing in the process is that the POH is not working with a pre-consultation that is filled in digitally by the patient prior to the consultation (respondent 1, 2, 3, 4, 5). POHs do want to experiment with the use of pre-consultations (respondent 2, 3, 4, 5). Since recently some POHs sent consultation preparing questionnaires about the symptoms progress (CCQ and ACQ) to their patients. These are filled in by the patients and returned to the diagnostic file in Care2U, but there is still little experience with these kind of questionnaires (respondent 2, 3). A number of things should be taken into account with further roll-out of pre-consultation questionnaires:

- A consultation preparation questionnaire is especially suitable for questions about symptoms, medications and current lifestyle. Medicine adherence and personal goals are less suitable to be filled in by the patient in advance (respondent 2, 4, 5).
- A questionnaire can be used for questions that might otherwise been forgotten by the POH such as the depression questionnaire (respondent 3).
- It takes an effort to have an email address of the patient available in the system before the initial consultation. The GP should help and ask for the email address (respondent 4).
- A questionnaire must avoid duplication, so the POH must have preparation time to read the responses and not have to ask the questions again during the consultation (respondent 2, 4).

5.2.6 Bottlenecks in current practice

In general, POHs are reasonably satisfied with their current working method, but there are some problems and bottlenecks making the care process far from optimal. These bottlenecks with striking quotes are shown in Table 4. It is notable that all POHs often run into the same problems.

Time management consultation

The biggest problem for the POHs is that they have to perform a lot of tasks in a short time in the consultation (respondent 1, 2, 4, 5). They prioritize giving personal attention to the patient, discussing the lab results and executing measurements. Therefore, they have little time left to discuss MGP or to actually motivate the patient to change their behaviour. Three out of five POHs say that primary care group DOH implements too many pilots of new projects at the same time, such as the requirement of the IZP, SeMaS, Medication Review and MGN. The POHs think that the projects individually are all useful, but the pace of implementation is too high to get familiar with them (respondent 2, 4, 5). A next bottleneck is the time-consuming registration in the consultation reports in which a lot of fields

must be filled in (respondent 1, 2, 3, 4). This should already be filled in during the consultation, but when there is no time this is sometimes filled in after the consultation. The layout of the consultation report is sometimes unclear for the POHs (respondent 1, 2, 5) As a result, they become confused while filling in or searching for the data. Often the IZP is also not filled in the consultation report, because discussing the plan itself requires a lot of attention and then there is no more time for reporting it. In that case the IZP can't be given to the patient (respondent 2, 3, 4). Subsequently, in the current working method POHs do not have any time to prepare for their consultation and preview the home measurements of the patient in MGP (1, 2, 3, 4). Currently this does not cause serious problems, but if we want to use MGP in a way that POHs are up to date about the patients MGP values, this preparation time must be scheduled (respondent 1, 2, 3). In short, there is not enough time in the current care process to carry out all administrative tasks during the consultation. POHs will mainly use the twenty minutes of the consultation to give personal attention to the patient. Therefore, the administration is occasionally done after the consultation, which may result in less optimal use of MGP or the IZP and can cause delays in the daily schedule.

Data exchange in Care2U

In some cases the lab values, the IZP and other fields are not properly connected from the HIS to Care2U. Bugs in the systems cause missing values in Care2U. POHs are annoyed by these missing values, because they have to find the values themselves in the HIS and manually copy them to Care2U. This is also a disadvantage for the patient because the missing lab values can't be redirected from Care2U to MGP (respondent 1, 2, 3, 4). The final problem is the minimal exchange of lab values with the hospital (respondent 1). Often lab values are double tested, while they could be redirected from the hospital to the general practice if there would be more transparency and cooperation. To prevent duplication of work improvements are possible in the connection of the GP-systems and with secondary care.

Table 4: Bottlenecks in current care process

Bottleneck	Respondent number	Quote
Time management consultation		
Too many tasks in consultation	1, 2, 4, 5	<i>"Well, I think everything together takes a lot of time. If you really have to discuss MGN, MGP, you should make a treatment plan, you should do your measurements. Then it is full. And behavioural change, I think it is a lot." (respondent 5)</i>
Too many projects at the same time	2, 4, 5	<i>"There are so many other things that you've been given that you must apply somewhere. Sometimes you can get a bit out of time. The plans are all pretty good, but the pace at which new things are added is too high." (respondent 4)</i>
A lot of registration in consultation report	1, 2, 3, 4	<i>"You should do reports of the consultations in Care2U. There are a lot of controls and protocols that you have to check off, which I sometimes think is too much." (respondent 4)</i>
Lay-out Care2U unclear and inconvenient	1, 2, 5	<i>The blood levels in Care2U are very badly organized. They are inconveniently ranked in alphabetical order, leaving me a lot of fields to scroll through." (respondent 1)</i>
No time to fill in IZP directly	2, 3, 4	<i>"Sometimes you lack time to fill in the IZP. Sometimes it's going like a bomb, and other times it stagnates because you have patients who require a lot of time." (respondent2)</i>
No preparation time for consultation	1, 2, 3, 4	<i>"When people fill in their home measurements in MGP, I would also like to be able to prepare my consultation hours. Currently I do not have that time. It would be a totally different timetable of my day." (respondent 1)</i>
Data exchange in Care2U		
Connection HIS- KIS does not function	1, 2, 3, 4	<i>"The full blood results from the cardiovascular lab are not in there. I really hate that, because yes, you do not have a complete list. And there are people who want to take those lab results home every year, so then I still have to take them from Medicom [HIS]." (respondent 2)</i>
No connection with hospitals	1	<i>"If the cardiologist request lab values then we can't see them and vice versa. That's all very double, also a waste of costs. That should be more transparent." (respondent 1)</i>

5.3 Sub question 2: Role of the Individual Care Plan

5.3.1 Experiences with the integration of the IZP

Since the introduction of the IZP POHs have to set goals during the consultation in a joint decision making process with the patient. Subsequently they need to report these goals in the consultation report. So the IZP has become a mandatory part of the conversation with the patient as well as in the reporting process.

Earlier, POHs already discussed plans and opinions with their patients, but since the recording of the IZP became required, the POHs have become more aware of the advices they give as an accustomed part of the consultation (respondent 3, 4) (Table 5). The POHs noticed they got more responsibility for drawing up a plan. This responsibility no longer rests entirely with the GP as heretofore (respondent 1). With their current experience the POHs see multiple purposes for the IZP other than just reporting. The IZP is a good way to concretize the goals with SMART goal setting by linking it to a time limit and specific actions (respondent 1, 5). One POH believes that the added value of IZP is the more flexible, customized and personalized care. With the IZP she can tailor situations which are outside the reach of protocols to match the personal situation of the patient (respondent 1).

Table 5: Experience of POHs with IZP

Experience with IZP	Respondent number	Quote
More aware of given advice	3, 4	<i>"Basically, all plans were casually discussed. But now because of the IZP, you're more consciously doing it, is more emphasized. So in that respect it is good for us, you're more aware of the advice you give." (respondent 3)</i>
Shift of responsibility from GP to POH	1	<i>"At first it was more the GP who made such a plan, who said what to do. Then we got involved and we joined in thinking along. So it has become a whole different way of practice management." (respondent 1)</i>
SMART goal setting	1, 5	<i>"In the consultation we make an IZP, so I suggest goals to the patients they want to achieve. Which I try to make SMART formulated as much as possible. For example, this lady wants to go to 90 kilos in three months. So then you have a nice time limit." (respondent 5)</i>
Personalized care	1	<i>"The IZP has a really nice flexibility as a result. You try to customize care, you try to give care that is needed, and not to be redundant. Because you can also lose people if they have to come too often for only a few little details or announcements. Then they do not see the point of coming again." (respondent 1)</i>

5.3.2 Involvement of patient

The IZP is a useful tool to assist in patient involvement by letting the goals come from the patients view. Patients become more aware of where they want to go and what they want to achieve (respondent 1, 3, 4, 5). The IZP offers a lot of potential as a tool to create more overview and guidance, especially for patients who would otherwise hesitate too much to make lifestyle changes (respondent 3).

The IZP will be used more and more, but POHs notice that working with an IZP in practice evokes resistance from some of the patients. Stable patients who are already satisfied with their values and lifestyle often do not want to make plans. However, to continue a healthy lifestyle can also be a plan (respondent 1, 2). The most difficult target group are patients who show no initiative and just wait and see what the POH says they should do. It is a challenge to motivate them, but ultimately the goals remain the patient's own responsibility (respondent 1, 4). POHs also notice that many (mainly older) people do not understand what to do with the IZP (respondent 4, 5). However, the POHs do not want to create too much fuss about the explanation of the IZP to the patient. Setting goals should not be too heavy and difficult. That is why they do not use the term Individual Care Plan frequently with patients (respondent 2, 3, 5).

Table 6: Involvement of the patient with the IZP

Involvement of the patient	Respondent number	Quote
Goal setting from intrinsic motivation of patient	1, 3, 4, 5	<i>"You're doing it more together, a bit of self-management that is what we are doing at the moment. There is also research that shows that joint decision making is better than if someone imposes something. Patients also come with arguments themselves why they want something or not." (respondent 5)</i>
IZP supports doubting patient	3	<i>"The IZP is most needed by people who doubt. They do recognize the value that they have to change something. But who still have many things that holds them back, a lot of counterparts. I think the IZP is helpful, they can see it anytime, to make things easier too." (respondent 3)</i>
No need for IZP with stable patients	1, 2	<i>"Some people have nothing to put in their IZP. They are doing well and want to go on like that. Then you only want to give them their blood results." (respondent 2)</i>
Difficult to activate patients who are not motivated	1, 4	<i>"Then there are people who rest their hands on their belly and wait until I tell them what to do. So you need to get them out of their seats, by making them more active. [...] You can always make a plan, only it does not always come to execution." (respondent 1)</i>

(Older) patients do not know what IZP is	4, 5	"In practice I notice that many people have no idea what it means and what to do with it. Some people say that they do not find it necessary. So again, it is a change in mind-set for those patients" (respondent 4)
No fuss with explanation of IZP	2, 3, 5	"I'm not going to announce that we are now working with the IZP. At the end I just say that the GP wants to have a plan which things need to be improved. I ask if I may write down as the plan what the patient has already indicated. That works very well, so there's no further need to fuss." (respondent 2)

5.3.3 Give IZP to patient

When the IZP is discussed and reported in the computer, the POH can print this and give it to the patient. Figure 8 shows that the POHs vary in whether they give the IZP to the patient to take home or not. There are several reasons why the IZP is not given to the patient (Table 7). Reasons are: the IZP is incomplete because Care2U does not work properly (respondent 1), the patient does not want to take it home (respondent 3, 4), the IZP can't be printed because there is too little time to already fill in the IZP during the consultation (respondent 3, 4) and the layout of the print-version of the IZP is inconvenient (respondent 4).

Figure 8: Giving IZP to patient

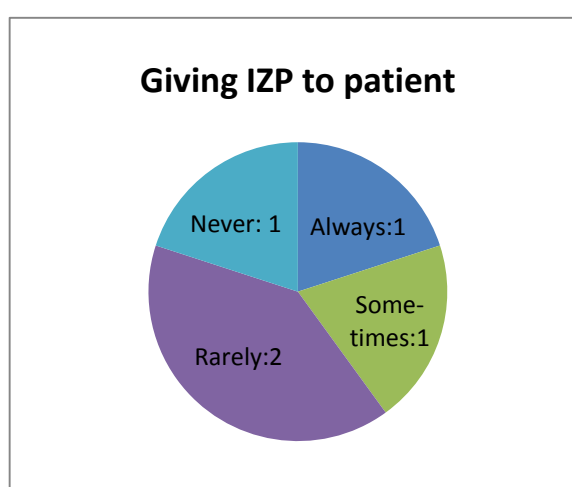


Table 7: Reasons not to give IZP to patient

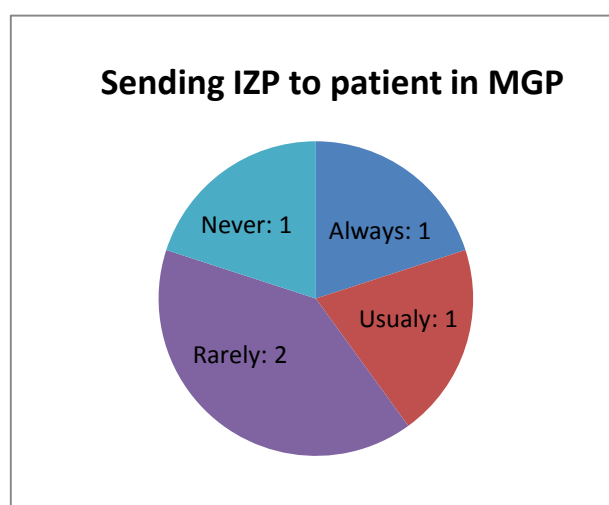
Reasons not to give IZP to patient	Respondent number	Quote
Missing values in Care2U	1	"You can give a print of the IZP. But that does not always work, because sometimes for example the medication list is not known, while we do have the medication list. The system triggers a blackout, and then I can't give the IZP." (respondent 1)
Patients have little need for IZP	3, 4	"But my experience is that many people still do not want it on paper. Many people have no desire for that. They say they already know what is agreed to do, and they do not need to have it on paper." (respondent 3)

Lack of time to fill in during consultation	3, 4	"I fill in the IZP at the end of the consultation, when the patient is still there. If I want to give it to him, it must be completed. And sometimes I do it afterwards, if the consultation took too long and someone else is waiting. Then you can't give it." (respondent 3)
Lay-out print IZP inconvenient	4	"Very occasionally I print the IZP, but I almost never do that. Because if I print it I get three or four pages, and I do not think the print has a good overview. That is so confusing. The layout is not practical and that is an impediment. " (respondent 4)

5.3.4 Use of IZP in MGP by POHs

A part of the abovementioned limitations for giving the IZP to the patient could be solved by forwarding IZP digitally to the patient. During the data collection the IZP in MGP was in implementation phase, as mentioned in the introduction. This means the POHs could send the IZP in a PDF version in the MGP-mail to the patient. The patient can open this PDF version at home in MGP. This functionality is not used by all POH, mainly because they did not know it was possible to mail the IZP (Figure 9). Nevertheless,

Figure 9: Sending IZP to patient in MGP



all POHs think positively about further rollout of the digital IZP with exchange of goals and actions in MGP, because patients can then see and work with the goals immediately (respondent 1, 2, 3, 4, 5).

"I have seen that they are developing the IZP, but I have not seen what it looks like. It would be useful if you can easily set new goals of the IZP in MGP. So they really gain insight in their goals." (respondent 3)

5.4 Sub question 3: Implementation of MGP

5.4.1 Expectations about MGP

There is a great diversity among the POHs in the motivation and enthusiasm about MGP (respondent 1, 2, 3, 4). According to them this is caused by the extent to which they have been involved in the implementation of MGP and how they feel about changes and innovations in general. It is striking that in every practice one of the POHs or GP takes the lead, for example by being part of a MGP evaluation group or by trying to inspire colleagues. Respondent 2, 3 and 5 were afraid that few patients would want to use MGP. It was difficult for them to assess the added value and to sell MGP to patients.

"I think I could motivate it more with patients. I think that is difficult sometimes. Besides viewing the blood values, what more is the added value? That is sometimes hard to sell." (respondent 5)

5.4.2 Training and education

Before the start of MGP two of the five POHs went to a briefing by primary care group DOH in which they were introduced with the overall content, the including of new patients and the functionalities of MGP (respondent 3, 4). They were also given a manual. The briefing was informative enough to get started by themselves and become familiar with MGP. Two other POHs did not attend a briefing, but received information from DOH via e-mail (respondent 1, 2). The first global training and explanation gave them a basis. Furthermore, it was mainly trying and discovering MGP themselves and learning by doing. Therefore, it sometimes happens that POHs do not know about certain features in MGP or what patients could do with that (respondent 2, 3). When POH have any questions or problems about MGP which they can't solve themselves, they mail with DOH (respondent 1, 5) or contact the creators of MGP via the helpdesk (respondent 2, 3, 4). When reporting problems, the helpdesk can be difficult to reach (respondent 3, 4).

"People can also contact the helpdesk themselves, but some people do not succeed, or it is difficult, or they get an answer that makes no sense. Sometimes they are given a reply that leave them none the wiser. Then I will contact them again. The problem with the helpdesk is often to reach them, every time we miss each other." (respondent 4)

5.4.3 Maintenance of training

Since the start of the MGP-pilot there was no repetition of the training with information specific about MGP. Still, continuity and maintenance of the training is an important issue for the POHs to keep abreast of all the possibilities in MGP (respondent 1, 3, 5) (Table 8). Some new POHs are employed by the GP practices. They did not get any beginners briefing about MGP, they obtained the information from colleagues. One POH who was not employed at the time of the briefing, but has gotten

information about MGP from the self-management & eHealth staff member from DOH (respondent 5). In other practices, knowledge of MGP is transferred to new colleagues by the other POHs (respondent 2, 3). There is need for education for new POHs, so they can make a good start with MGP (respondent 1, 5). There is also need for regular maintenance of the training. Herein the POHs want to learn more about how they can fit MGP in their daily routine (respondent 1, 5), what the patient view of MGP is like (respondent 1, 3) and receive timely updates of any new functionalities (respondent 1, 2, 3).

Table 8: Improvements in maintenance of training for POH

Improvements in maintenance of training	Respondent number	Quote
Beginners briefing for new POHs	1, 3	<i>"The three new POHs had never worked with MGP, so they also missed the introduction of MGP. So they actually did not know so well how to use it. I was the only one who knew. A part of the knowledge of MGP is transferred to the new POHs. But they will take a beginners course again, or else they miss the overall explanation." (respondent 3)</i>
Embedding in daily routines	1, 5	<i>"Maybe I should once again take a look at another general practice, how to do it, or how it fits in the consultation. I'm still not familiar enough, that is what I notice. (respondent 5)</i>
Patient side of MGP with test account	1, 3	<i>"What has long been a stumbling stone, and still is not clear: I see MGP from the POH view in the general practice. I can't see what the patient sees in the computer and what they encounter. [...] Since recently I can see more things with such a test patient account. If there is more schooling about that, I'm sure many more POHs are well motivated." (respondent 1)</i>
Timely coaching about new features	1, 2, 3	<i>"Now and then I hear things that I did not know were in MGP. As a POH, I do not see what a patient can do with it. So of course I miss quite a few things, because the functionalities are increasingly expanding." (respondent 3)</i>

5.4.4 Including patients in MGP

During consultations the POHs approach their patients about using MGP. This often happens by providing verbal explanations (respondent 1, 2, 3, 4, 5). They give the patient a mark in Care2U; M + for MGP users and M- for not interested. One POH also sometimes gives patients a brochure about MGP, which she thinks contains good information. Yet she forgets to give the brochure often (respondent 2). In the past one of the general practices has sent letters to patients to introduce them with MGP. This worked well, but the general practice stopped when new POHs were employed who had no experience with MGP (respondent 3).

Before including the patients the POH makes a selection in which patients are suitable for MGP (Table 9). After the introduction some patients drop out, others do want to use MGP (respondent 1, 3, 4). The

main inclusion criteria for patients are computer skills and interest in self-management. This interest in self-management is high in patients who are interested in their own health and lifestyle, patients who want to have their own responsibility, patients who monitor values in for example Excel lists, patients who are familiar with using the Internet, and patients who take an active role in the dosage of medication. Both computer skills and the interest in self-management are related to the age. These competences are more developed in the younger generation. The POHs consider older patients as less suitable for MGP, because few older patients have the combination of both computer and self-management skills. A related criterion is that patients need to have a level of thinking to be able to plan their own actions and can reflect the consequences themselves (respondent 1). Furthermore, patients must have the right resources at home, such as their own measurement equipment like a sphygmomanometer, in order to conduct their own measurements and record them in MGP (respondent 3).

Table 9: Inclusion criteria for MGP participation

Inclusion criteria for MGP participation	Respondent number	Quote
Skills/competences		
Computer skills	1, 3, 4, 5	<i>"They must have a computer at home, have computer skills, and also have some understanding of the whole business. You can guide them in learning that. But this target group is not currently available. I have a lot of octogenarians who have no computer. They are left by the wayside. Less than half of them has computer skills." (respondent 1)</i>
Interest in self-management	1, 2, 3, 4, 5	<i>"It is mainly for patients who really like to work on their health or have clear goals they want to achieve. Then I use MGP." (respondent 3)</i> <i>"I always look who I have in front of me. Patients who always come to me with Excel-lists and things like that are suitable for MGP. Because they are already engaged in self-management, and are self-monitoring in many ways." (respondent 4)</i>
Certain thinking level	1	<i>"Yes, that's also a thing, a certain level of thinking is required, they need to understand it. That are not all the patients." (respondent 1)</i>
Resources		
Measuring equipment (e.g. sphygmomanometer) available at home	3	<i>"I do not expect, especially in the elderly, it is the standard that they can do blood pressure measurements at home. In the majority of patients that is because they do not have a sphygmomanometer. And you cannot compel people to purchase a blood pressure meter themselves." (respondent 3)</i>

5.4.5 Motivate MGP-users

The POHs are disappointed in the low number of patients who actively use MGP. Active MGP-users are patients who regularly fill in home measurements or work with the lifestyle coaches, and have genuine looked at MGP when they come to a consultation (respondent 1, 2, 3, 5). POHs try to motivate patients to continue to use MGP (Table 10). Respondent 2, 3 and 5 think they can improve themselves by discuss MGP more frequent in the consultation. They would like to ask patients more often for reasons why they have not used MGP anymore. They also think it is their task to give the patient new goals to work on in MGP to stimulate the use (respondent 3). According to the POHs MGP is not sufficiently persuasive so that patients get started with new goals, there is an important role for the POH. Respondent 4 indicates that she motivates MGP-users already by discussing MGP and the potential problems in the consultations. With less motivated patients the POHs can try to support or remember them, but pushing or forcing them will not work (respondent 2, 3, 4).

Table 10: Means to motivate MGP-users

Means to motivate MGP-users	Respondent number	Quote
Discuss MGP more often in consultation	2, 3, 5	<i>"I urge people insufficiently to keep using MPG. I actually have to ask more about MGP. That can be a big improvement for me." (respondent 3)</i>
Give goals to patient	3	<i>"My own job is to give new goals to patients once in a while. So that people will stay busy with MGP. I believe that is the ultimate goal of MGP." (respondent 3)</i>
Unmotivated patients can't be forced	2, 3, 4	<i>"At some point I find it the personal responsibility of the patient. You want to motivate someone, of course, and urge him to do something. But on the other hand, if someone just does not want to, who am I to put him under pressure. Then we won't do it." (respondent 4)</i>

5.5 Sub question 4: Facilitators and barriers of MGP

5.5.1 Perceived facilitators

The POHs noticed several advantages when comparing MGP to regular care (Table 11). The most frequently cited advantage is that the contact is easier, faster and more accessible between the patient and the POH in the general practice, both in transmitting the measurements and in asking questions (respondent 2, 3, 4). Another important advantage is that the POHs can monitor the patients in between the consultations by means of the home measurements (respondent 2, 3). A major expected benefit is that the mail contact and the questionnaires in MGP can take over part of the consultations and therefore lead to more optimal time management for the POH (respondent 1, 2, 3, 4).

The POHs notice positive changes in patients who come to their consultations. The coaches in MGP act as a support in lifestyle changes (respondent 4). Overall, patients are more enthusiastic, stimulated for joint decision making, understand their health situation and take more responsibility (respondent 1, 3, 5). It follows that patients are more prepared when they come to the consultation. They are more aware of the details in their values (respondent 1, 3, 4, 5). This makes the consultation more fun and easy for the POHs and allows that they can achieve results faster.

Table 11: Facilitators of MGP for POHs

Facilitators of MGP	Respondent number	Quote
Accessible and fast forwarding information	2, 3, 4	<i>"Having contact via the MGP-mail makes it more accessible to patients to get in touch." (respondent 3)</i>
Interim monitoring	2, 3	<i>"The added value is particularly the interim monitoring. For diabetes those sugars, for asthma/COPD the symptoms list. You can monitor that and let it be filled in by the patients, and you can have contact about it." (respondent 2)</i>
Fewer consultations due to mail contact	1, 2, 3, 4	<i>"It would also be of added value if MGP can be truly used instead of a consultation here. That you really have contact via mail and ask if they have completed the questionnaires, how it goes, how it goes with the medications." (respondent 2)</i>
Support in lifestyle changes	4	<i>"If people want some more guidance in their diet or exercise, and just want a big stick, but for example not feel anything for a dietician. Then it's a good option to do something with the coach." (respondent 4)</i>
Enthusiastic and triggered patients in consultation	1, 3, 5	<i>"When a patient joins in the thinking process, measure himself and becomes more aware, then you achieve something. That's the fun of MGP: when you have persuaded patients, you have enthusiastic patients who want to get ahead. Then you can also see results, as far as feasible, in any form whatsoever." (respondent 1)</i>
Better prepared patients in consultation	1, 3, 4, 5	<i>"People really come to the consultation well prepared. Because they can see what they're doing it becomes really clear. They already know what the values are by the link of the HIS and MGP. They see if there are any particulars compared to last year. That's easy, because you won't have to discuss these results because it is already known." (respondent 3)</i>

5.5.2 Perceived barriers and recommendations

MGP is still not widely used in everyday practice, according to the POHs this is caused by a number of reasons (Table 12, 13, 14). A wide variety of barriers is found, therefore these barriers are divided into Delone's three dimensions of quality; systems, content and service (Delone & McLean, 2003; J. E. W. C. van Gemert-Pijnen et al., 2011). In addition, the POH give their recommendations about items that could be improved in MGP.

System

The POHs consider the incompatible connection of Care2U to MGP as a great deal of uncertainty. Regularly there are bugs in the connection of the lab values, medication list and lung function values. This causes empty fields in MGP (respondent 1, 3, 4). Furthermore, two POHs indicate that the layout of MGP is confusing for both themselves and their patients (respondent 3, 5).

A recommendation to make MGP more clear is to sort the lab values based on condition rather than alphabetically (respondent 1). A cleaner and simpler layout would ensure that people with less computer skills can also use MGP easily (respondent 3, 5). Another wish is to automatically adapt the functionalities to the situation and needs of the patient, so that the patient does not see any functionalities that are not applicable to him (respondent 1).

Table 12: Barriers and recommendations of POHs in the field of system

System	Respondent number	Quote
Barriers		
Incompatible with Care2U	1, 3, 4	<i>"The blood values of the laboratory do not always come through in the right way. People wanted to look at that, but there was nothing there. Then I need time again to say that we are working on it, but ultimately it doesn't do anything for me. So, then it is time-consuming, and there are no advantages." (respondent 3)</i>
Lay-out unclear	1, 3, 5	<i>"I'm not the only one to find that it looks cluttered. You get a lot of information in one screen. If I already find it unorganized, then I think patients will find it even more confusing. [...] There could be some real improvements in terms of layout, how it looks." (respondent 3)</i>
Recommendations		
Sort lab values on condition rather than alphabetically	1	<i>"I do not want to get the values in MGP alphabetically, that is inconvenient. I would want to copy the lab values to Care2U and MGP the way they are sorted in Medicom [HIS]." (respondent 1)</i>
Lay-out more simple and clean	3, 5	<i>"It may be a little cleaner, so it is easier to use for people who have no knowledge of computers." (respondent 3)</i>
Activate functionalities that the patient needs at that moment	1	<i>"MGP should be chronologically stepped. If I continue to the next step in the treatment, MGP should automatically follow in opening that information. For example, a diabetic who only has a diet, should be given basic information about diabetes. In the future there might be needed medication or insulin, then there must open something so they can read more about this." (respondent 1)</i>

Content

Some respondents feel that the values in MGP do not match the demands and needs they have in the consultation in practice. For example, the average blood pressures are the most important for the POHs, and MGP does not show the averages (respondent 1, 2). Another disadvantage is that MGP sometimes gives false alerts for patients, such as an alert for 'calibration of glucose meter' while patients do not even have a glucose meter, or an alert for 'healthy weight' while they are clearly overweight. The POH would never give this kind of advice (respondent 1, 3, 4). The POHs do not entirely trust on the reliability of patients' home measurements, because patients use unreliable measuring devices or because patients only fill in the good measurements (respondent 1, 3). In addition, it is difficult that POHs do not get any confirmation when data is transmitted to MGP. For example, they can't tell whether the IZP has been successfully sent to the patient or not (respondent 2, 3).

Functionalities which would be a good expansion to MGP according to the POH are: Information in MGP that is line with other information sources they use (respondent 2), the possibility of sending questionnaires on health status such as the ACQ and CCQ (respondent 2, 3), an eConsult with a video chat (respondent 5), and an online appointment function to schedule an appointment in the general practice (respondent 4).

Table 13: Barriers and recommendations of POHs in the field of content

Content	Respondent number	Quote
Barriers		
Not in line with needs consultations in practice	1, 2	<i>"I sometimes feel that MGP is made by IT people who are really willing, but do not know what we really want to see in the consultation." (respondent 1)</i>
Incorrect alerts and advice	1, 3, 4	<i>"I've had a patient with a weight of over a 100 kilos, whereby MGP indicated 'good weight'. That patient also knew that that was not a good weight, but the patient loses confidence in the system with this kind of early errors." (respondent 3)</i>
Unreliable home measurements	1, 3	<i>"And if you rely on the home measurements, you must be a 100% sure that people have a good reliable sphygmomanometer. With home weight measurements someone should also have a good reliable scale. So you're always dependent on the equipment someone has at home. " (respondent 3)</i>
No confirmation notifications	2, 3	<i>"It's difficult that you do not get notified when a new blood pressure in MGP is filled in. You do not get any notifications that MGP has transferred or send something. [...] Then I have to click in my agenda every time and look into the diagnostic file whether a patient has filled it in or not. It would be nice if I got a message when there is something new completed in MGP such as blood pressures." (respondent 2)</i>
Recommendations		
Provide information that matches usual information sources	2	<i>"It would be easy that you would also have all the information from thuisarts.nl in MGP. We are obviously promoting thuisarts.nl very hard so we provide that information. Otherwise you will get small differences. And then you do not have to give an extra site." (respondent 2)</i>
Send questionnaires to measure health status	2, 3	<i>"I would like to have more questionnaires in MGP, that ACQ and CCQ can be put into it. That would be nice, because then you can also fill them in." (respondent 2)</i>
eConsult with video chat	5	<i>"Using FaceTime [app for video chat] would of course be a step, to contact MGP via FaceTime. Using FaceTime one hour a week." (respondent 5)</i>
Schedule appointments and send reminders	4	<i>"I would like it if there would be an appointment feature in MGP. So that people get a reminder when they have an appointment with the POH." (respondent 4)</i>

Service

The POHs get a lot of questions in the MGP-mail that should be answered by the physician assistant or by the GP. It costs the POH a lot of extra time to answer and refer these patients to the correct healthcare provider (respondent 2, 4). A limitation of the use of technology in healthcare is in the storing and sharing of medical data. According to one respondent the privacy guarantee of those data is doubtful; everything can be hacked. Adverse effects may occur for example in the provision of health insurance. However, most respondents indicate that they find the security in MGP sufficient, or do not know how MGP is secured, but are assured that their data is safe (respondent 2, 3, 4, 5).

One POH thinks security would be safer with the use of DigiD, but this additional protection does not seem to be a good idea because it makes logging in too complex and creates a high threshold for patients (respondent 4). To make MGP more in line with the care system there is a high demand for adding other caregivers in MGP, such as the GP, physician assistants and specialists. Then all information will be united in one patient-centered systems and all caregivers can be easily contacted by mail (respondent 1, 2, 4). If MGP would be connected with new functionalities such as eAppointment and eConsult, the wish is that all these functionalities can be accessed in the same system. In this way there is an integrated program with only one login code (respondent 4, 5).

Table 14: Barriers and recommendations of POHs in the field of service

Service	Respondent number	Quote
Barriers		
Mail is intended for other healthcare providers	2, 4	<i>"Sometimes people email me via MGP with questions for the GP. [...] And then I have to assess whether he should go to the GP or not. For the patient, it is obviously difficult to assess who to contact. Questions end up in the wrong place." (respondent 4)</i>
Dubious privacy guarantee	1	<i>"The privacy is a big question mark for me. They can hack everything all over the world. So they are not going to tell me that it is waterproof. Big Brother is watching you. I hope it is secured in the best way possible and that privacy is safeguarded in the best way possible, but this is also possible to hack it all. " (respondent 1)</i>
Recommendations		
More protection creates high threshold	4	<i>"I think for MGP it is good enough as it is now. Maybe it's less secure than DigiD, but it also makes it less complex. And I think the more things you are linking at it, the higher the threshold is to use." (respondent 4)</i>
Involve other healthcare providers	1, 2, 4	<i>"It would be very nice if you had a network where everyone is joined. That we can use it for professional care, and lists of blood pressures, coaching and stuff like that. And that the physician assistant can also have contact with the patient." (respondent 2)</i>
Integration with new features	4, 5	<i>"If there are other applications as additions such as an appointment program or a Skype program, then that will each be different systems. So that's a pity. Because so many different programs, that will not make it any clearer. I would like to have everything in one system with only one login code." (respondent 4)</i>

5.6 Sub question 5: Effect of MGP on care process

There is only one respondent who clearly notices that MGP is resulting in more optimal consultation management and a more efficient organization of work (respondent 1) (Table 15). Patients who use MGP need fewer consultations, because they have more digital contact via mail. In total, she spends less time on MGP-users than on patients without MGP. The remaining POHs do not notice an increase in efficiency in their work schedule since the use of MGP. Implicitly, the POHs are strongly driven by the lack of MGP-use by the patients. The POH themselves do not spend a lot of extra effort on MGP, but on the other hand they notice no major changes in the care process which yields something for themselves (respondent 2, 3, 4, 5).

Table 15: Perceived effect on POHs' working method

Perceived effect on working method	Respondent number	Quote
More optimal consultation management	1	<i>"MGP could make the whole consultation management so much more optimal. [...] I spent more time on the mail and less on the consultation. In total, this is less time. The yield is actually higher while I see them less. And that is where we must go." (respondent 1)</i>
Lack of patients' MGP-use causes little return in own consulting management	2, 3, 4, 5	<i>"I do not notice any big changes yet. I think that's still a bit to come, also for the reason that there are few people really using MGP." (respondent 2)</i>

5.7 Sub question 6: Future of technology in healthcare

The respondents forecast a prominent role for technologic developments and eHealth in the future healthcare (Table 16). They are open-minded towards working with new technologies (respondent 1, 3, 4, 5). It can provide better connections and linkage between patient and caregiver (respondent 1). Respondent 5 indicates that technology is a good tool to identify bottlenecks in the care process and improve them. Another POH thinks that technology can help in more efficient care (respondent 2).

Respondents expect many positive effects in terms of patient-centred care. Technology creates more patient-centred care, patient are closer to the healthcare provider (respondent 3). Besides, care will be provided more independent of time and place (respondent 4). The respondents expect that there is a huge need for self-care with the use of technology in the new generation of patients who have more experience with digitalization, are more assertive and take more responsibility (respondent 1, 3, 4).

Technology can be a supportive tool to reduce the frequency of consultations, but as a precondition the POHs indicate that technologies such MGP will never totally substitute physical contact, it can only be complementary (respondent 1, 2, 4, 5). It is very important that the physical personal contact is maintained, because the motivation for behaviour change can be supported the best in face-to-face contact in which a relationship of trust can be built between caregiver and patient (respondent 1, 2, 4). The attitude, facial expressions and body language can say a lot about the mind-set of the patient (respondent 5). In addition, physical consultations are important to give personal attention and support so that the patient feels safe.

Table 16: Future of technology in healthcare according to POHs

Future of technology in healthcare	Respondent number	Quote
+ (positive result)		
Connects patient and healthcare provider	1	"Technology makes connections. It can provide better care, as the links and circuits are fixed." (respondent 1)
Insight in evaluation and optimization of care process	5	"With technology you can compare things better, you can better see the problems, how can we do it better, so it does provide more insight." (respondent 5)
More efficient care	2	"You want to burden the patient as little as possible, while still look at their health as much as possible. But, with the least possible time and with minimal costs. Technology makes it more efficient." (respondent 2)
Patient-centred care	3	"Depending on how it develops, I think it is always easier for us to meet the wishes and needs of patients. A website as MGP, or for example sending a list of questions via Care2U, makes it much easier for us to really focus on patients' questions." (respondent 3)
Independent of place and time	4	"People do not always physically have to come to a practice to regulate everything, or to call and have to be on hold for half an. So for the patients, it is nice to be able to communicate in that way too. In any case mail, or Skype." (respondent 4)
Need for technology with new generation	1, 3, 4	"Within the next generation I think a very large group will much more self-manage. They have been doing everything themselves for a long time, e.g. at work. Therefore, they are much more accustomed to doing things themselves. The elderly of today are used to do everything we tell them to do." (respondent 3)
- (negative result)		
Physical contact required for motivation of behaviour change	1, 2, 4	"I do hope you keep contact in person. I notice that with MGP, you are very quickly talking about how the values are, and how his weight dropped and how his blood pressure was. While there is a lot of behaviour in which you want to motivate people. Things like that can be very difficult in an email. You surely just need real contact." (respondent 4)
Physical contact required for judging patient's body language	5	"What I notice in my consultations is that by questioning further and seeing someone, and sometimes by seeing someone's facial expression or body language, I see: oh there is a difficult issue, or he finds that difficult. And I think that is the added value. And if you use eConsult or emails, I do not see that." (respondent 5)
Lack of personal care and mercifulness	5	"And what people really need, is a hand on the shoulder and a support chat, we are losing that a bit. And I find that a pity, The mercifulness, to really care for one another, we lost that a little I think." (respondent 5)

6. Results from the chronic patient perspective

6.1 Respondent characteristics

Six chronic patients participated in this study. Table 17 shows the characteristics of these respondents.

Table 17: Patient characteristics

#	General practice	Sex	Age	Condition	Computer skills (poor, fair, moderate, good, very good)	Experience with MGP (years)
6	C	M	77	CVRM (<i>high blood pressure</i>)	Fair	1,5
7	B	M	64	Diabetes Type 2 + CVRM (<i>heart failure</i>)	Fair	1
8	C	M	67	CVRM (<i>high cholesterol</i>)	Good	1
9	A	F	49	Diabetes Type 2 + CVRM (<i>high blood pressure</i>)	Moderate	1,5
10	A	F	55	CVRM (<i>high blood pressure + high cholesterol</i>)	Good	2,5
11	D	M	63	CVRM (<i>high blood pressure</i>)	Good	1

6.2 Sub question 1: Current care pathways and MGP

6.2.1 Used functionalities

Table 18 provides an overview of the functionalities in MGP. The interviewed patients indicated whether they use the features or not (respondent 6, 7, 8, 9, 10, 11). The most used and most important functionalities for the respondents are: checking the lab results and filling in the home measurements. Almost all patients use these functionalities regularly. The forwarding and checking of the IZP is rarely used in MGP. Some patients did receive an IZP in MGP from their POH, but they did not notice or did not know what to do with it themselves. The lifestyle coaches are not regularly used, it is looked at but often not completed. Additionally, two patients fill in changes in their medications in MGP. Striking for the MGP-mail is that some patients regularly ask questions and others would never send in any questions through the MGP-mail. The information page in MGP is rarely used, respondents prefer searching via Google or use information of the NHG.

Table 18: Used functionalities in MGP by patients

Functionality		Respondent 6	Respondent 7	Respondent 8	Respondent 9	Respondent 10	Respondent 11
1	Checking provided data from KIS						
a	Measurements and lab results	++	+	++	+	-	+
b	Goals and actions in IZP	--	--	--	--	+/-	+/-
2	Fill in data in personal record						
a	Home measurements (manual)	-	++	++	++	++	+
b	Lifestyle coaches	-	--	--	+/-	--	-
c	Diary notes about condition		-				
d	Tracking of medication			+	++	-	
3	Online communication (eConsult)						
a	Ask questions via MGP-mail	+/-	--	--	+	+	+/-
4	Searching for information						
a	General information about condition	+	+/-	--	+/-	--	-

Legend

- ++ *Frequent use*
- + *Occasional use*
- +/- *Not much experience / started but stopped using it*
- *Not used*
- *No intention to ever use it / did not even know about it*

6.2.2 Time expenditure MGP

According to all patients, MGP is discussed during the consultation (Table 19). They discuss the striking results in the tracked home measurements and lab values with the POH (respondent 6, 7, 8, 9, 10, 11). Half of the patients look at this on paper with their own list of tracked values or with a printout of MGP. They do not actually see MGP on the computer screen, but notice that their POH enters some measurements into her computer (respondent 9, 10, 11). Unknown is whether patients prefer using the paper or digital version, they gave no further argumentation in their responses.

Table 19: MGP use during consultation

MGP use during consultation	Respondent number	Quote
Discuss values with digital version of MGP on computer screen	6, 7, 8, 9, 10, 11	<i>"It is always opened in the consultation. The POH has the values and those red smileys with it. For such a consultation blood is tested and some of those values are reviewed." (respondent 8)</i>
Discuss values with list on paper	9, 10, 11	<i>"During the consultation the POH opens MGP on the screen. She also fills in things like blood pressure and other values that are tested. Those are also put in MGP. But often we still look in the booklet that I have brought with me." (respondent 9)</i>

How often patients use MGP at home is logically a result of which functionalities they use (Table 20). Patients who fill in their home measurements use MGP more regular, ranging from one to seven times a week (respondent 7, 8, 9, 10), than patients who only look at their lab results once in a while (respondent 6). One respondent chooses to first collect his home measurements on paper for a period of time and then fills them in on MGP all at once (respondent 11). There is almost no time spent on the other functionalities.

Table 20: Moments to use MGP for patients

Moments to use MGP	Respondent number	Quote
Fill in home measurements (almost) on a daily basis	8, 9	<i>"I often try to fill in the values immediately in the morning, but that does not always happen because of chaos in the house. Then I'll do it later that day. Or sometimes I do not visit MGP for a couple of days and then I later enter a few in a row. So I do not fill in my values every day, sometimes I just fill it in for three or four days straight." (respondent 9)</i>
Fill in home measurements once a week	7, 10	<i>"I fill it in for a week at a time. The last time I measured my blood pressure, usually the day after I quickly fill it in. And if there something comes up in between, I will use the mail." (respondent 10)</i>

Irregular, no fixed routine	11	<i>"The values need to be entered, but it is inconvenient to do that one value at a time. I do not know how you would do it differently. So I save all of the values in my own stubborn way. [...] How often I fill in MGP is varying. I just do it when I think about it." (respondent 11)</i>
Only when POH sends lab results	6	<i>"I use MGP if there are changes. Nothing changes in MGP until for example blood is tested, so I do not have to look very often. There won't be any changes." (respondent 6)</i>

All respondents indicate that it does not take a lot of time to use MGP, only a few minutes at a time (Table 21). Therefore, it is not burdensome for them to keep track of MGP (respondent 6, 7, 8, 9, 10, 11). Some situations are described in which the time spent on MGP could be experienced as burdensome. An example of this is when the home measurements aren't filled in for too long and then many values need to be filled it all at once (respondent 9, 10). The computer start-up and MGP-login is a reason to postpone the MGP-use, because at that moment it takes too long (respondent 8, 9, 11). Three respondents say that if they would have a busy job, they would have other priorities of how to spend their leisure time rather than with MGP (respondent 6, 7, 10). Moments when MGP-use goes by the board is during holidays, when the weather is nice or during a move of house (respondent 7, 8). Patients agree with the POHs that they must have self-discipline and enough motivation to continue using MGP. This is their own responsibility and they have no need for additional support or encouragement from their POH (respondent 6, 7, 9, 10, 11).

Table 21: Time consumption on MGP by patients

Time consumption on MGP	Respondent number	Quote
Takes little time	6, 7, 8, 9, 10, 11	<i>"Furthermore, it is not difficult at all to fill it in. It is only minutes of work, so that's no problem. It does not disturb any other things I have scheduled." (respondent 9)</i>
Fill in multiple measurements is time consuming	9, 10	<i>"Sometimes I forget to fill in the values for a week. Then of course I have to go and sit down for it for a while. Then you need to save and re-enter every value separately, that takes a lot of time." (respondents 9)</i>
Computer start-up and login is time consuming	8, 9, 11	<i>"What is a drawback, is that you need to login every time. Suppose you made a measurement, then you first need to login, password, wait. Then it takes ten minutes before you have completed it. If you always have to login again, it takes lots of time, yet no one has time for that. Fill in your list in Excel or on paper is much faster." (respondent 11)</i>
Combine with busy job could be a burden	6, 7, 10	<i>"When you have a big job, and besides do MGP, then you might experience a time pressure. Then people perhaps have too little yield of it and they can better use their time otherwise. But for me that is not the case at all." (respondent 6)</i>

Not used during vacation, nice weather or move	7, 8	<i>"With a move or on vacation you really do not have time for it. Therefore, I did not do anything in MGP for five weeks." (respondent 7)</i>
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6.3 Sub question 2: Role of IZP

6.3.1 Expectations of IZP

One out of the six patients is familiar with the term Individual Care Plan (respondent 6). All others are not familiar with the term, but do recognize some personal guidance they get from their POH in the IZP. Three patients have never discussed setting goals and working towards an IZP with their POH (respondent 6, 9, 10). The other three patients did discuss some goals in a conversation with their POH (respondent 7, 8, 11) Two of these patients think the POH might write down a plan somewhere, but do not know this for sure (respondent 8, 11). No patient has ever received an IZP to bring home.

The first patients' reactions are very reserved. Patients are open to the idea of making plans, but do not want to write them down in an IZP. They are perfectly able to remember and manage their own goals (respondent 6, 7, 8, 9, 10) (Table 22). Scheduling actions with the IZP feels like a homework assignment. So improper introduction quickly appeals to a fear of paternalism. Patients expect few applications for themselves and think an IZP is only required for unmotivated patients who don't know what a healthy lifestyle is.

Respondent 7 is afraid that in the future there won't be any time for personal attention via an IZP, because it will be too expensive to go to consultation with the POH. Other respondents expect that working on goals via an IZP is on the rise. They consider the IZP a good development for more awareness and engagement in personal goals and also recording this in a written plan (respondent 11). By joint goal setting with the POH, patients expect to be more motivated because they will better understand why the goals are set (respondent 6, 10).

Table 22: Patients' expectations of the IZP

Expectations of the IZP	Respondent number	Quote
No need to use IZP, feels too paternalistic	6, 7, 8, 9, 10	<i>"I do not expect I'll do something with the IZP. For me personally I do not see much use for that. For the same reason as that nutrition coach, I participated with that in the beginning and then I think: I know what to do myself, and I leave it alone. I believe with the IZP it is the same. I will know that already. And I'll do something with the goals or not, but that is up to me." (respondent 9)</i>
Decrease of personal attention	7	<i>"I expect that the personal attention by the POH will be less. Because it all costs money, those conversations or visits from twenty minutes too. That's perhaps going to be less." (respondent 7)</i>
Clear documentation of plan	11	<i>"I think it is a good development, why not? Why not capture that and see what we have agreed. And then you will stick to it." (respondent 11)</i>

Joint goal setting gives understanding and motivation	6, 10	<i>"Now you get more advice that has some reason to it. There must be talked about why you should follow that advice. Then you yield something yourself and it also works preventively. I think it's an advantage that you know why something is happening." (respondent 6)</i>
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6.3.3 Expectations of the IZP in MGP

Four patients evidently do not want to use the IZP in MGP (respondent 6, 7, 8, 9) (Table 23). They know what they need to do themselves and it is patronizing for them to get orders from a plan in MGP (respondent 6, 7, 9). One patient is not enthusiastic about the IZP in MGP, because he did not see any adequate sample goals in MGP. He would like to receive better options of goals to choose from (respondent 8). Only one patient thinks it is easy to connect the IZP to MGP and thinks he will also use MGP more often with an integrated IZP (respondent 10).

Altogether, there is little knowledge and experience from the patient's side regarding the IZP. Patients have little interest and do not want to keep track of the IZP in MGP. The IZP came into being from the perspective of insurance companies. It was not a bottom-up conceived need of the patient. This is confirmed in the patients' responses, they are not interested in an IZP and mostly notice benefits only for others instead of for themselves.

Table 23: Patients' expectations of IZP in MGP

IZP in MGP	Respondent nummer	Quote
Don't like to get patronizing assignments	6, 7, 9	<i>"I think that I know myself what things are not going well. No, that is not necessary in MGP. I do know that it occurs somewhere in MGP, that's right. I saw that, but then I thought: I know what I should do with it myself. I do not want to get instructions from MGP." (respondent 7)</i>
MGP provides unclear sample goals	8	<i>"I do not want to track goals and actions in MGP. I will not lie awake at night from the proposals that I see in My Plan. I am not triggered to activate this. And goals such as 'I want to cope with my treatment well'. Yes, hello, who would not? Or 'I want to responsible use of alcohol', what is that? And 'own goals', what do you mean? I think it is not very clear." (respondent 8)</i>
Stimulates more frequent use of MGP	10	<i>"I think it is nice to keep track of the IZP in MGP. When the IZP is integrated in MGP, you will use MGP more frequently." (respondent 10)</i>

6.4 Sub question 3: Implementation of MGP

6.4.1 Education about MGP

During a consultation patients get an introduction from their POH about MGP (Table 24). Four out of the six patients were satisfied with the oral explanation they got from their POH, although when they started to work with MGP, they still had to figure out how everything exactly works themselves. Patients need to be highly motivated to put in some efforts in MGP. Only then becomes MGP clear (respondent 6, 7, 8, 9). The other two respondents received an MGP brochure, but still found it very difficult to use MGP. One patient thought the brochure was clear, the other found it too simple and containing too little information. A more comprehensive instruction manual that explains all functionalities step by step is desirable to assist in the navigation of MGP, especially for older people with poor computer skills (respondents 10, 11). If patients experience difficulty they do not call the helpdesk, but they report it to the POH. The POH ensures that their problem is reported when necessary.

Table 24: Education about MGP for patients

Education	Respondent number	Quote
Need motivation for introduction to MGP	6, 7, 8, 9	<i>"The POH did not really give much explanation. She did show what you can do and where you can see it, but all very briefly. But you can do that yourself, it will become clear by itself. I did not understand it right away though, you should really go into it a few times before you can find your way." (respondent 7)</i>
Difficult in daily use	10, 11	<i>"Since I do not work with it every day, I'm searching every time like: how again did I need to enter that? Maybe I also am doing it wrong, I don't know." (respondent 10)</i>
Recommend instruction manual for easier navigation	10, 11	<i>"What I miss in the whole story is an instruction of where, what and how. You just need a leaflet explaining what everything is, what you need and what it is in general. Just the basics. A kind of clear, simple instruction." (respondent 11)</i>

6.4.3 Expectations about monitoring

The patient and the POH both fill in data in MGP, but subsequently patients do not know what happens with that information and whether the POH remotely monitors them in between of the consultations. Patients expect their POH to fill in the lab results in MGP and immediately give their judgement as to whether these values are good. They think they are less capable in checking these values themselves (respondent 6, 7, 9, 10, 11) (Table 25). Patients 7, 9, 10 and 11 also expect their POH to check all the home measurements. Patients expect to be contacted when their values are deflecting and not within the health norm. According to patients the specific added value of home measurements is that the POH monitors them, and assume this will always happen.

Table 25: Patients' expectations about monitoring

Expectations about monitoring	Respondent number	Quote
Lab results are checked and feedback is given by POH	6, 7, 9, 10, 11	<i>"I consider the POH as a certain kind of control over what I do, that it is controlled and viewed. They will see if there are excesses before I would see it, if something falters, or other things that are interesting. They keep an eye on it, because it is all filled in, so attention is also paid to it." (respondent 6)</i>
Be contacted by POH if home measurements are deflecting.	7, 9, 10, 11	<i>"In principle, the POH can track in MGP what my blood sugar levels are and see what I have filled in. I'm actually assuming that they do keep an eye on it, and they will ring a bell with me if any strange occur." (respondent 9)</i>

6.5 Sub question 4: Facilitators and barriers MGP

6.5.1 Perceived facilitators

The patients noticed several advantages when comparing MGP with standard care (Table 26). The most frequently mentioned benefit was the easier, faster and more accessible connection and information provision between the patient and the POH (respondent 6, 8, 10, 11). Moreover, patients find that filling in the home measurements in MGP is user friendly. Although they occasionally experience some problems in some parts, the general impression of MGP is easy accessible, has a low threshold and is not too complicated (respondent 6, 8, 9, 11). Respondent 9 finds it particularly pleasant that the POH can monitor the values in between of the consultations (9 respondents). Other benefits are that MGP gives personal advice (respondent 6), is an insightful storage place of data which can also be read back (respondent 7, 11) and is a reliable information source (respondent 6, 11) .

Patients find MGP motivating because they can compare their own values to the standards and also get feedback by coloured smileys (respondent 8, 10). MGP creates more awareness about their health and lifestyle, they are consciously working on it on a daily basis (respondent 6, 8, 11). By keeping track of their values, patients can also better understand the impact of their lifestyle on their health values. They like that MGP gives them more insight (respondent 6, 7, 8).

Table 26: Facilitators MGP for patients

Facilitators MGP	Respondent number	Quote
Quick and easy contact and provision of data	6, 8, 10, 11	<i>"The advantage is that the mutual information provision is very quick. If you want you can see very quickly how things are going on the other side too. It just has its advantages in information provision between the practice and the user."</i> (respondent 11)
Filling in home measurements is user friendly	6, 8, 9, 11	<i>"I think MGP is user friendly and I can find everything. All I want to put in there, I can fill in. For me it is mainly for keeping my blood sugars, my blood pressure and my weight through my phone. That is all going fine."</i> (respondent 9)
Interim monitoring	9	<i>"It is nice that the POH can potentially see the values, that it is immediately connected to her. At least if she looks at it."</i> (respondent 9)
Personal customized advice	6	<i>"I like it that you can really go to the GP or POH with your questions. If you read something, you read it very general as it is offered, and now I can pick out the individual pieces that I find interesting".</i> (respondent 6)
Insightful storage place of data	7, 11	<i>"But I think MGP does have a function, collecting information in a standard place where all parties can take out information. And give signals when it threatens to go wrong."</i> (respondent 11)
Reliable information platform	6, 11	<i>"It gives some certainty that MGP is offered by the POH. If you read something in the newspaper about changes, it is always with a mixed feeling. You never know what's behind it, and from which point of view something is written. If you get it from you POH, it's more verified."</i> (respondent 6)
Receive feedback that compares values to the standards	8, 10	<i>"The red and green smileys are a motivating system. I've never seen it before, but I saw it here and it surely has something. It is a good sign that they are there, especially the red smileys [...] if there are standing a lot of those red smileys, then I'm sure my medications will be increased."</i> (respondent 10)
Awareness about health and lifestyle	6, 8, 11	<i>"I feel that it is a mean that makes you aware, you're thinking about it. If you would not have that, then you would let the issues of the day going by without a notice. And now you have been working on it, so that's it. I think that is important."</i> (respondent 11)
Effects of lifestyle reflected in values	6, 7, 8	<i>"I can trace back the effects of my weight in too much wine or if I ate too much. Then I can compare and reflect the values to my own diet."</i> (respondent 8)

6.5.2 Perceived barriers and recommendations

The patients ran into a number of barriers while using MGP. Some general barriers are confirmations of the POHs' barriers, others are added by the patients' own perspective (Table 27, 28, 29).

System

Almost all patients indicated that certain elements of the layout and navigation are not clearly organized (respondent 6, 8, 9, 10, 11). Interestingly, the respondents have reasonable to good computer skills and thus navigations problems still appear. Next, there are some problems with the user friendliness: patients experienced problems with logging in, filling in their blood pressure values, filling in multiple values simultaneously and opening some tabs on their mobile phone (respondent 7, 8, 9, 10, 11). Patients also reported that lab results from the blood tests are missing MGP, because the connection with Care2U is not correct (respondent 7, 10). The patients are very annoyed by the missing fields in MGP.

Respondents 8, 10 and 11 recommend that the layout must be clearer, simpler and more interactive so they can easier find their way. An example of this is that patients like to have improved graphs and diagrams that give better visual representation of their values (respondent 6, 8)

Table 27: Barriers and recommendations of patients in the field of system

System	Respondent number	Quote
Barriers		
Lay-out unclear	6, 8, 9, 10, 11	<i>"The layout is not clear. From web technical point of view, and I'm not a web designer, I think it can be better and more convenient. [...] This is past perfect tense of web design." (respondent 8)</i>
Login, filling in values and mobile use not user-friendly	7, 8, 9, 10, 11	<i>"If I want to fill in a lot of values in a row, for example, an entire week, then I should save every measured value, and then re-enter, again and again. You have to enter every day and change the date again. That takes time, especially on my phone." (respondent 9)</i>
Incompatible with Care2U	7, 10	<i>"In the beginning the values of the blood tests were not linked and I could not see them in MGP. This took a long time to resolve, nine months." (respondent 7)</i>
Recommendations		
Clearer, simple and more interactive navigation	8, 10, 11	<i>"You could build MGP more interactive. By asking a few questions, and linking it to a limited number of relevant websites, you'll progress many times further than this." (Respondent 8)</i>
Better visualisation of values	6, 8	<i>"I would like to have a better overview in the diagram of my values. If that standard period of time would be one year, I would find it more convenient than the current short period of one week. I think that's nonsense, I want to go to a year." (respondent 8)</i>

Content

Respondent 9 wants to have the averages of her glucose levels, but currently she can't see any averages in MGP. Respondent 10 remarks the limited information database of MGP and considers the information to have no added value. Two respondents do not use the personal guidance with the lifestyle coaches in MGP, the specified reason is they find the coaching patronizing and already know what they do wrong (respondent 6, 9). Furthermore, some patients do not understand the technical jargon of the lab results in MGP because the used language is too difficult (respondent 7, 9). They miss explanations about the meaning of the values and the associated standard. One respondent also says that she finds it inconvenient that she does not get a confirmation when she messages are sent in MGP (respondent 9).

As a point of improvement patients would like to have a more persuasive system, for example by sending a message on their phone if they need to take action (respondent 11). Another possible improvement is the ability to make online arrangements with the GP or POH via a digital appointment function in MGP (respondent 11).

Table 28: Barriers and recommendations of patients in the field of content

Content	Respondent number	Quote
Barriers		
No average glucose levels	9	<i>"I make three-day blood sugars averages. And then it's easier to look at your booklet, because then I have the three days all together. In MGP you cannot immediately see an average." (respondent 9)</i>
Limited and hard to find information	6, 8, 10	<i>"The information in MGP is limited. It has no added value, you can also just Google it if you want to know something. And it would be more convenient if you could enter a keyword." (respondent 10)</i>
Lifestyle coaching in patronizing	6, 7	<i>"I rebel a little against the personal guidance, about weight and all those things. Because I think we're not little children. I know what is good and what is not, because you live like that already. And I do not want to be patronized. That is an embarrassment for myself because then I'm not doing enough already." (respondent 6)</i>
Difficult jargon in lab values	7, 9	<i>"The POH puts other values in it, of which I do not always know what it means. Bilirubin, albumin, creatinine, ratio-something something in my urine, and all kinds of proteins or whatever, HDL cholesterol, all kinds of cholesterols and triglycerides. I do not know what it all is. There is no explanation." (respondent 9)</i>
No confirmation messages	9	<i>"Sending the mail did not work really well on my phone. I thought I could not send it, although afterwards she did receive it. But there was no good confirmation." (respondent 9)</i>
Recommendations		
Receive persuasive alerts about goals and actions	8, 11	<i>"I need an alert to get started with that plan. If you have a plan, I would like to get an alert or a message that you can respond to. If only a WhatsApp message, in which you can indicate that you have done the thing." (respondent 11)</i>
Plan appointments	11	<i>"Why can't we make appointments with the GP in this system? Why do not do that all in one system? That everything regarding the data and the connection to the general practice is done at the same time. That would be fantastic, because now that's separate." (respondent 11)</i>

Service

Respondent 10 is disappointed that she can't email with the GP or the physician assistant, this would be much more accessible than calling them. Furthermore, two respondents noted that privacy assurance can cause problems in monitoring medical data in MGP (respondent 10, 11). Respondent 5 and 8 rely on MGP being secure. Anyway, the majority of patients does not have privacy issues for themselves, because everyone may know all their medical data from MGP (respondent 6, 8, 9, 10). They do not assess their health data as privacy-sensitive information, such as they do for example for their bank details.

Patients would appreciate it if they could contact other health care providers such as the GP, the physician assistant and their hospital specialists in MGP (respondent 7, 8, 10, 11). Some patients are already thinking one step further in this expansion and think of MGP as a potential Electronic Health Record (EHR) in which all healthcare providers and the patient can have easy access to medical records. Respondent 9 and 11 would also like a mobile app version of MGP on their phone, so they have more user-friendly and faster mobile access to MGP (mHealth).

Table 29: Barriers and recommendations of patients in the field of service

Service	Respondent number	Quote
Barriers		
Not all healthcare providers accessible in MGP	10	<i>"It's a pity that you can't email with the GP in MGP. Now you have to call in the morning and then you explain everything to those physician assistants and then you get called back in the afternoon. And then I'm not always available, and I would rather not speak to the doctor during my work. I still think email is a bit easier." (respondent 10)</i>
Dubious privacy guarantee	10, 11	<i>"To guarantee the security will become increasingly difficult. So much is hacked nowadays. You can have so many passwords and security on your computer, if they want to get in they can do it anyway. They are getting smarter. But actually then you can do nothing." (respondent 10)</i>
Recommendations		
No need for more security, health data is not privacy-sensitive	6, 8, 9, 10	<i>"I haven't noticed yet that there are other people wandering around with my data. And I would not know what they would do with that to begin with. If this were bank details it would be a different story, but with this I do not have a problem." (respondent 9)</i>
Involve other healthcare providers and create EHR	7, 8, 10, 11	<i>"It would be convenient if the GP and for example the dermatologist in the hospital are also involved in MGP, so you can email them. Of course it would be nice if that is accommodated in there. I assume we will have access to the electronic health record. Then you really have all the data together." (respondent 10)</i>
Mobile app (mHealth)	9, 11	<i>"What I find a pity is that there is no mobile app of MGP. Now I have to login every time, an app would make that easier. It is easier for the phone and of course the tablet." (respondent 9)</i>

6.6 Sub question 5: Effect of MGP on care process

The purpose of MGP is to support patients in self-management. Patients do experience support of their self-management skills by MGP (respondent 6, 7, 8, 11) (Table 30). They notice this because on a daily basis they are more engaged in problem solving and decision making, because MGP forces them to be more aware. It helps them deal and understand their condition and the impact of their lifestyle. Patients think the patient-provider partnership is very important. In the use of MGP the patients yield much from the contact, input and coaching of their POH. They would not use MGP without the guidance of a healthcare provider (respondent 6, 7, 8, 9). It is more difficult to make further steps in self-management by using action planning and self-tailoring. As previously discussed, the joint personal goal and action setting in an IZP is increasingly used, but in the minds of the patients there is little need to embed this action planning in their daily routines. So far, one patient was able to achieve one of his health goals with the support of MGP (respondent 8). He noticed that the support works and was converted into visible results, although he might have to use MGP for a longer period of time to see the trend to the desired extent (respondent 8).

Contrasting, respondent 9 and 10 have experienced no support in self-management from MGP. These patients have used MGP a certain time now, but so far they did not notice that they were more in charge or that MGP has led to patient empowerment. They say that the responsibilities of MGP still lie with the POH and notice no added value for themselves.

Table 30: Perceived effects of MGP by patients

Perceived effects of MGP	Respondent number	Quote
MGP supports self-management	6, 7, 8, 11	<i>"By using MGP you can get more control of your own health. You can see more and more on the internet, it makes it all a lot clearer. You do not have to run to the doctor every time. I think that's very nice." (respondent 7)</i>
Achieved health goal	8	<i>"I can already clearly see that I lost weight since I use MGP, I'm very proud about that." (respondent 8)</i>
See structural trend in the long term	8	<i>"I don't get the control by MGP to the extent I desire. There are certain values, I can't do much with. When measuring something once, and then that red smiley appears. Then I want to measure it a second time or a third time, until I can see the trend. I want to see whether something is a systemic problem or a peak in the measured values." (respondent 8)</i>
Initiative still with the POH	9, 10	<i>"I can't notice a difference in that I get more control. In that respect MGP has no added value. It actually does nothing with me. I feel that it will go to the POH and she will do something with it. So that is the added value for me." (respondent 9)</i>

6.7 Sub question 6: Future of technology in healthcare

The patients forecast a prominent role for technology in the future of healthcare (Table 31). They expect more new technologies in healthcare are going to be deployed. Patients have a positive attitude towards technology (respondent 7, 8, 9, 10). It could provide better contact between patient and healthcare provider (respondent 9, 10). Another patients thinks that technology can play a big role to absorbing the rising costs in healthcare (respondent 7).

Through monitoring the independence of aging patients can be increased. Technology helps patients to keep in touch with their caregivers and social environment, which results in better medical control (respondent 8). Respondent 11 adds that his expectation for the future is that he has to go to the doctor less often and his treatment can occur more at home.

One patient has a differing view at technology, because he is afraid of the commercial influences of technology developing companies. Therefore, he does not know whether all technology actually has the promised effect (respondent 6). Just as the POHs, patients also think that PHRs such as MGP will never be a substitute for physical contact, but can only be complementary (respondent 6, 7, 8, 9). They greatly value the face-to-face contact to build a relationship of trust with their healthcare provider and get personal customized help.

Table 31: Future of technology in healthcare according to patients

Future of technology in healthcare	Respondent number	Quote
+ (positive results)		
More accessible contact with healthcare provider	9, 10	<i>"Because of technology in healthcare you are closer to the healthcare provider" (respondent 10)</i>
Absorbing rising healthcare costs	7	<i>"Everything is changing in healthcare, also the cost. If this helps in order to compensate for that, that's a good thing." (respondent 7)</i>
Increases self-reliance among elderly	8	<i>"I classify technology in healthcare under the heading of aging, self-reliance. [...] How can they take precautions in their own homes, or think independently, or request information which would be communicated via the GP, about how you can prepare for the day after tomorrow." (respondent 8)</i>
More medical control by monitoring	8	<i>"There are a lot of opportunities to get delivered services [...] in order to gain better control from the medical community, as well as from the social world and the municipality, on the everyday life of someone who needs help." (respondent 8)</i>
More care from home	11	<i>"I expect I may have to go to the doctor less often in five years, you can do more from home. If you have difficulty walking that can be an advantage." (respondent 11)</i>
- (negative results)		
Less reliable by commercial influence on technology development	6	<i>"The worst thing [for technology in health care] is just that universities surely become increasingly dependent on sponsorship. And then you'll get two hats on, and usually a lot of advertising is intertwined. The separation is not so strong. Every study has a 'but'." (respondent 6)</i>
Physical contact needed for personal coaching and guidance	6, 7, 8, 9	<i>"When more technology is used in healthcare, you'll miss the contact with the healthcare provider. Of course that contact is pleasant. That's the danger of it, that's going to happen. Now you can instantly open your mouth and say something" (respondent 7)</i>

7. Conclusion

The analysis of the current care process shows that POHs deal with some time pressure in their consultations. Their main task interpretation is to provide personal coaching to the patient, which can be compromised by time constraints caused by their administrative tasks. Thereby it is unclear how the POHs should integrate the additional MGP related tasks into the consultations. The option to monitor patients in MGP is not optimally used, because a protocol on who needs to contact who and when does not exist. Patients assume they are being monitored through MGP, while the POHs are not consistent in monitoring. In addition, the preparation of the consultation for the POH as well as the patient can be further optimized by adding pre-consultations to MGP.

The IZP fits in with the trend of increasing patients' involvement in the care process. Patients are aware of potential advantages in increasing their own involvement in the joined goalsetting process. However, patients repeatedly state not wanting to get paternalistic commands and notice limited applications to fit an IZP into their daily routines. POHs expect the IZP to help tailor their coaching to the patient's individual needs, because the intrinsic motivation and potential pitfalls of the patient will become more visible. Nevertheless, they still struggle in how to communicate the IZP to unmotivated patients and ultimately set up SMART-formulated goals.

Proper education appears to be a crucial point in the further implementation and adoption of MGP. Some POHs missed a beginners' course of MGP. Besides, they recommend to pay more attention to the embedding of MGP in existing working methods during the training. The continuity of education is important to have more up-to-date knowledge and be able to inform patients about the various functionalities and added value of MGP. For patients, the introduction of MGP could also still be improved. In the current situation, patients need to be very motivated to explore all the functionalities themselves. Patients require more comprehensive coaching in navigation and a more user-friendly system design.

A number of important factors have influenced the diffusion of MGP. According to the POHs and patients the advantages of MGP compared to traditional care are the faster contact and information provision, and the triggering of patients towards a more active attitude. However, a number of barriers hinder the use of MGP. In the category of 'system' the incorrect connection with the HIS and KIS particularly causes difficulties, as POHs must still manually copy values from system to system. In the category of 'content', the challenge is to make MGP more persuasive and motivating without being patronizing. The most striking recommendations in the category of 'service' are to create easier mobile access (mHealth) and to involve other healthcare providers from the healthcare pathway in MGP.

The platform is currently not used as much by patients as the POHs would like. According to the POHs this is because elderly have poor computer skills, or because patients are not motivated to monitor their health and change their lifestyle. However, POHs observed some positive effects of MGP, motivated patients seem to be better prepared for consultations. Unknown is whether an actual decrease in healthcare consumption can be achieved by MGP. Patients report mixed perceptions on the effect of MGP. Some patients experience more control over their health after using MGP through greater understanding and awareness. Other patients think, despite the use of MGP, that the initiative and responsibility of care still rest with the POH.

POHs and patients both forecast a growth for technologies such as MGP in the future of healthcare, because they allow care to be time and location independent. Yet they do not desire that physical consultations will be fully substituted by technology in a future image. Especially the POHs indicate that a technology such as MGP in itself is not sufficient to achieve changes in behaviour. Besides the use of technology they require an important human role in the motivation of patients by observing and reacting to visual and emotional cues. Both caregivers and patients attach great value to blended care.

Summarizing, MGP has made some good first steps in the support of self-management for chronic patients. Preconditions to sustain involvement with the platform are intrinsic motivation of patients and good guidance from the POHs. During the implementation process, deeper understanding is gained on several issues which need improvement measures for further embedding of MGP in the care process.

8. Discussion

8.1 Key discussion points and recommendations

While comparing the results of this research to Cain and Mittman's dynamics for diffusion some striking points stand out (Cain & Mittman, 2002). The relative advantage of MGP is difficult to establish for the POHs and patients, because the reported usability problems require to take more effort. One of the reasons why users are not aware of the added value is because the observability of MGP is small. Users do not notice visible results provided by MGP in better health outcomes or QALYs. The support in self-management is a less measurable and visible result. Advantageously MGP is easy to try out, because no big investments in form of time, money or effort are needed to create an MGP-account. On the other hand, this non-committal trialability does not motivate patients to continue using MGP.

A key component of Gee's eHealth Enhanced Chronic Care Model is the Self-management Support that leads to informed and activated patients (Figure 2) (Gee et al., 2015). The results of this MGP-study show that POHs are strongly focused on their own role in self-management support with their motivational and coaching skills, to accomplish more patient engagement in behavioural change. In the current situation, POHs play the role of a persuasive feature themselves by giving patients reminders to use MGP. Looking at the Persuasive Systems Design model (PSD), this kind of persuasive features to motivate and persuade users to reach their own personal goals can be expected from the system itself (Oinas-Kukkonen & Harjuma, 2009). A PHR such as MGP could be more responsive and persuasive to encourage patient engagement, without external motivation from the POH.

MGP is not a standalone system, but depends on the interoperability with other clinical information systems in the general practice (the KIS) and on the healthcare providers who use the system. This also means that patients do not have full autonomy over their own health data with MGP. Incompatibility of MGP with the infrastructure of existing information systems in general practices shows to be one of the main barriers for use. An efficient link with dependent systems is a prerequisite for patient safety. Gee's eCCM model focusses on this issue in eHealth implementation in the Delivery System Design. With the implementation of a PHR the healthcare delivery system is required to be able to exchange data between healthcare providers and patients (Gee et al., 2015). To ensure effective management of the interactive data, policies should be created to facilitate the correction of missing or incorrect data in the PHR. Besides, patients express their desires to be able to contact multiple healthcare providers through MGP. This would require a more extensive interconnected system with multiple information systems (HIS, KIS, ZIS etc.) from e.g. the general practice, hospital, dietician and physiotherapist. Studies from Tang and Pagliari both state that the lack of ubiquitous EHR usage that

can reach across organizational boundaries to interface with other systems remains the greatest environmental barrier for an integrated PHR (Pagliari et al., 2007; Tang et al., 2006).

Training for both patients and healthcare providers on how to use and implement the eHealth application is proven to increase confidence and self-efficacy (Gee et al., 2015). Nevertheless, the lack of training is reported as a barrier to use MGP, and also frequently reported in many other eHealth technologies. Therefore, eHealth Education is a crucial element of the eCCM. An extension of the training and education about MGP could help to increase the health literacy and result in activated patients who understand what the values mean they are monitoring in MGP (Gee et al., 2015). Baker states that health literacy means that patients understand their medications, treatment and health values. Therefore, patients can better formulate their exact care needs when they go to the POH, and hence further optimize their health outcomes. This is important for successful self-management (Baker, 1999). Furthermore, Bodenheimer indicates the significance of patient activation in the education, because emphasis shifts towards the patient as the principal caregiver, while healthcare providers are getting a more assisting and informative role in the self-management process (Bodenheimer, Lorig, Holman, & Grumbach, 2002)

Using an eHealth technology requires a skills set of its own, the health literacy is supplemented with the digital understanding of electronic sources (Norman & Skinner, 2006). POHs expect most of the elderly patients to have insufficient eHealth literacy to be able to use a PHR. They notice significant differences in the computer and internet skills of older patients compared to the younger generation. POHs find this worrying because the target group for the PHR is chronic patients, of whom most are elderly. The latest national CBS figures on computer and internet skills confirm these findings. From people over 75 years of age, only 2% has good computer skills. The vast majority of this oldest age group has little or no computer skills at all (87%). Yet a significant growth in computer skills can be seen over the past years, also among elderly (Centraal Bureau voor de Statistiek, 2015). While the elderly will increasingly keep using the internet for managing their health, literature on interventions that aim to improve eHealth literacy among older patients is lagging behind (Watkins & Xie, 2014). Because eHealth literacy is a concept that continues to grow in the aging and digitalizing society, performing more research on eHealth literacy interventions could be very helpful.

According to the healthcare providers and patients, full substitution of the consultations by technology is not desirable, because online care and face-to-face contact both have benefits. Advantages of regular face-to-face consultations that are reported in this study are for example that the healthcare provider can read facial expressions and body language, and create an overall relationship of trust. The interaction between computers and humans (HCI) is getting better by the development of more

complex interaction techniques (Van Os, 2014). Latest technologies are already able to digitally recognize human emotions by using facial recognition software and artificial intelligence (Microsoft, 2016). It is interesting to see to what extent technology will be able to mimic the human recognition and motivational skills in the near future. Further development of these complex skills in eHealth technologies might be useful in the realization of blended care in practice.

Since the advent of using the Internet for collecting and sharing health data, digital privacy has been a constant matter of concern. The results of this study show that patients have great confidence in the security guarantee of their data in MGP. For most patients the content of their medical records are no reason for them to worry about the security. This confirms Falkmann's earlier findings from research on MGP, showing that patients are unaware of privacy and security (Falkmann, 2015). Data from the Consumers and Health Information Technology Survey reaffirms that in general the majority of PHR-users are not worried about the privacy of the information contained in their PHR (CHCF, 2010). When patients would demand to improve the security of their private health information through stronger protection, this might have adverse effects. It might obstruct the accessibility for patients and healthcare providers and could make the PHR less approachable.

8.2 Limitations and quality assurance

The aim of this research was to strive for objectivity in relation to the context of the research question. Therefore, quotes from the respondents are used in the report to show real data and give a more specific thick description. There is a personal interpretation of the researcher, but this was minimized by the following measures. The used method is well documented and reported, so the design is clear and can be repeated in another study. The primary research material such as the interview frameworks are accessible to third parties.

There might be some researcher bias in this study, because the codes are established by only one researcher (A.V.). Although the second researcher (A.B.) did not independently coded the data, all questionable quotes were discussed with the second researcher. The relatively small number of respondents (five POHs and six patients) limits the generalizability of the study, but this qualitative research can be valuable to give more insight into the requirements for successful eHealth technology use and implementation. Saturation is reached with this number of respondents. After five interviews with POHs and six interviews with patients, no new codes were found in the data analysis. There are no patients from the care program COPD/Asthma in the sample. Therefore, no comment can be given on this group of patients. During the interview period, the IZP was not fully integrated in MGP yet. The respondents could not yet state any experiences, only expectations. Their opinions might have changed since they actually started working with the IZP since then.

8.3 Further research

Most of the reported barriers for adoption and diffusion can be traced back to the development and implementation process of MGP. As described in the CeHRes roadmap involved stakeholders can help in this development in order to reach the full potential of the platform. The CeHRes roadmap shows the importance of beginning with the contextual inquiry and then pass on to determining the values and requirements (Center for eHealth Research and Disease Management, 2011). In further research the needs and desires can be studied by including less enthusiastic users in a larger sample. The collected needs and desires for MGP could then be converted into requirements. This may give direction in the development of a platform that can overcome the current barriers to widespread adoption. Tang adds to this matter that a better understanding of the needs and benefits of PHRs from the perspectives of multiple stakeholders, can lead to better enabling policies (Tang et al., 2006).

This qualitative study focused on the effects of a PHR on self-management of chronic patients and on the working methods of healthcare providers. There are many other potential benefits of PHRs such as improved health status, fewer hospitalization days, lower chronic disease management costs and lower medication costs (Lorig et al., 1999; Tang et al., 2006). Despite some demonstration for the efficacy of PHRs, so far systematic reviews on PHRs related to health outcomes and chronic disease management have been inconclusive (Gee et al., 2015; Tenforde, Jain, & Hickner, 2011). Although international research is useful, implementation of technology is highly context dependent and research on aforementioned outcome measures within the Dutch healthcare system is essential for further diffusion of PHRs in the care environment (Pagliari et al., 2007).

MGP is an example that provides opportunities for personalization of care by monitoring health data. The measuring, storage, processing and pattern recognition of health values in a PHR are some of the many applications of technology that increasingly collect in and around the human body. The enormous impact of all available health data for patients, healthcare providers, insurers and even data analysts still does not seem to have fully landed in the healthcare sector. This expanding field of 'big data' consists of a cloud system with unlimited access to a huge amount of data from different data sources (Raghupathi & Raghupathi, 2014). Further research into how the potentials of big data could be used in the medical context is needed. For example, a challenge in patient monitoring is to harmonize continuous physiological signal monitoring (e.g. EKG, oxygen saturation) with discrete data from patient records and use signal processing to finally lead to actionable insights such as alarming a physician (Belle et al., 2015). Therefore, further research is needed in the areas of harmonizing and signal processing techniques.

The great confidence of patients in the digital privacy of PHRs is a striking highlight that needs to be taken into account in the growth of information technologies. More quantitative research with descriptive and statistical analyses of surveys about the perceptions of users regarding the privacy of their health information, also when used for other than their own care, can provide more insight in concerns regarding privacy of PHRs (Appari & Johnson, 2010).

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Appendices

Appendix A: Screenshots MGP components

Figure 10: Start

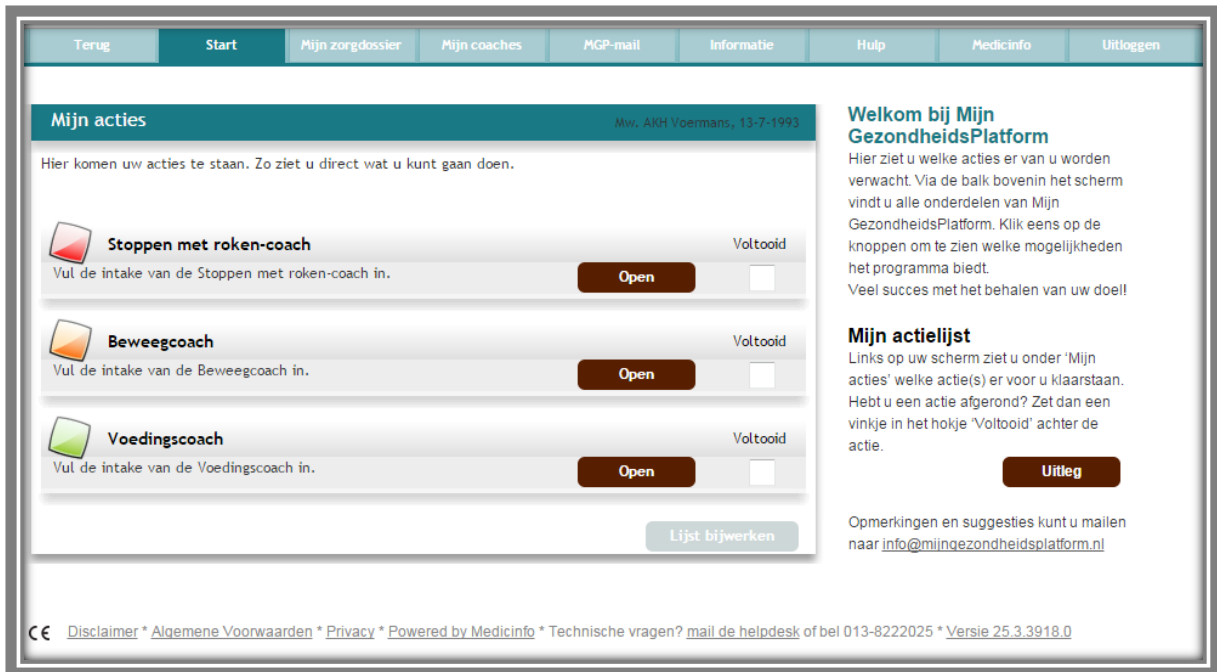


Figure 11: My care file



Figure 12: My coaches



Figure 13: Example of a coach: Exercise coach

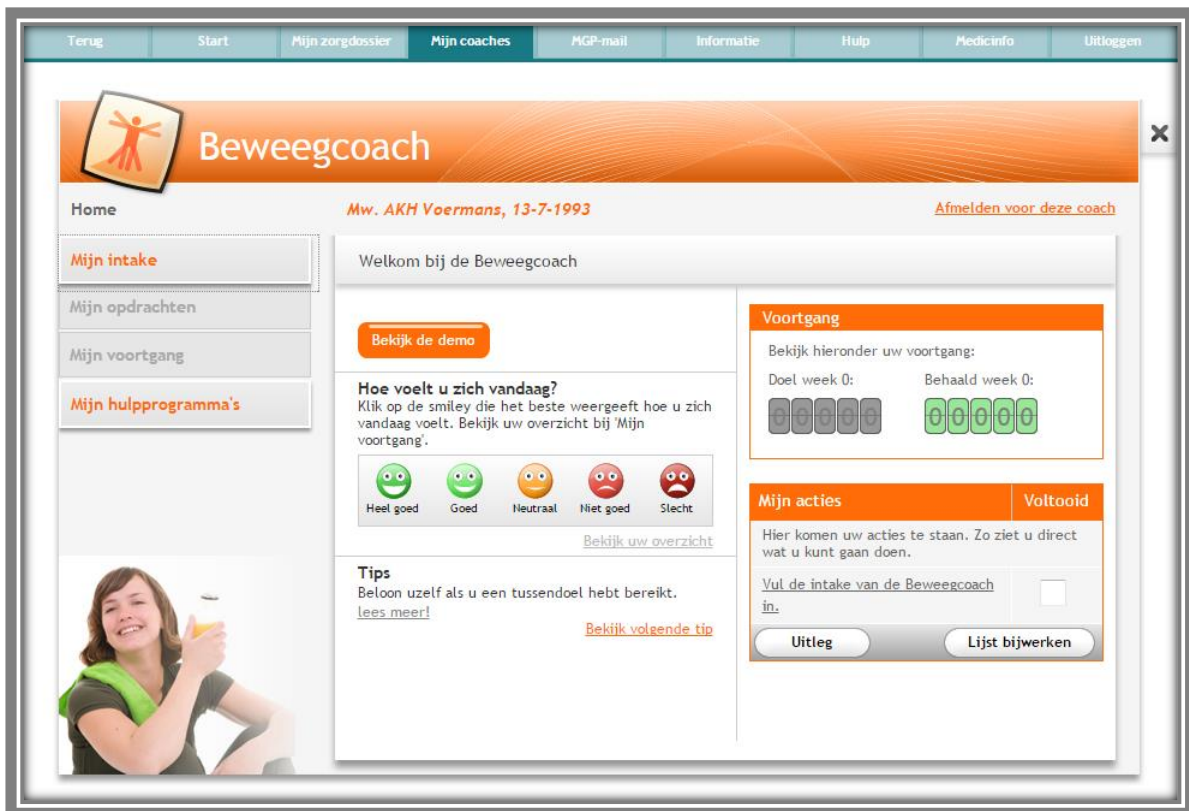


Figure 14: My MGP-mail

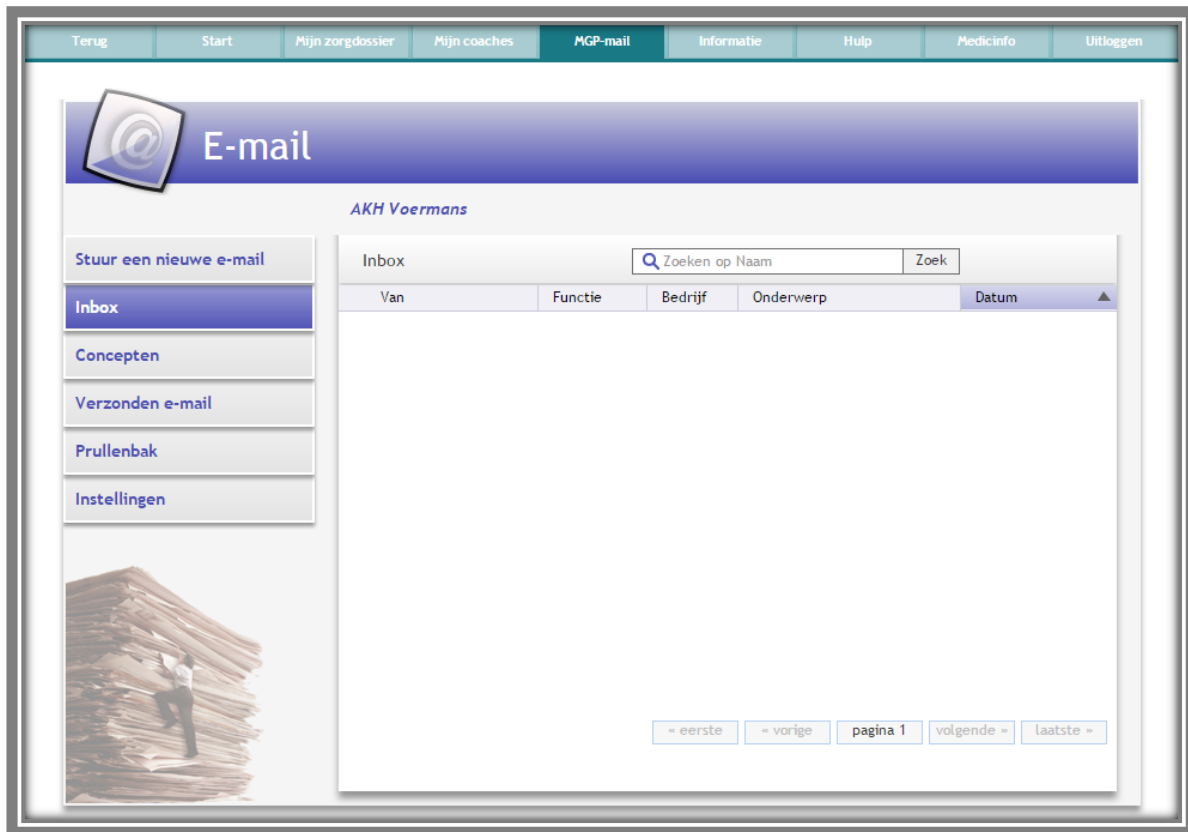
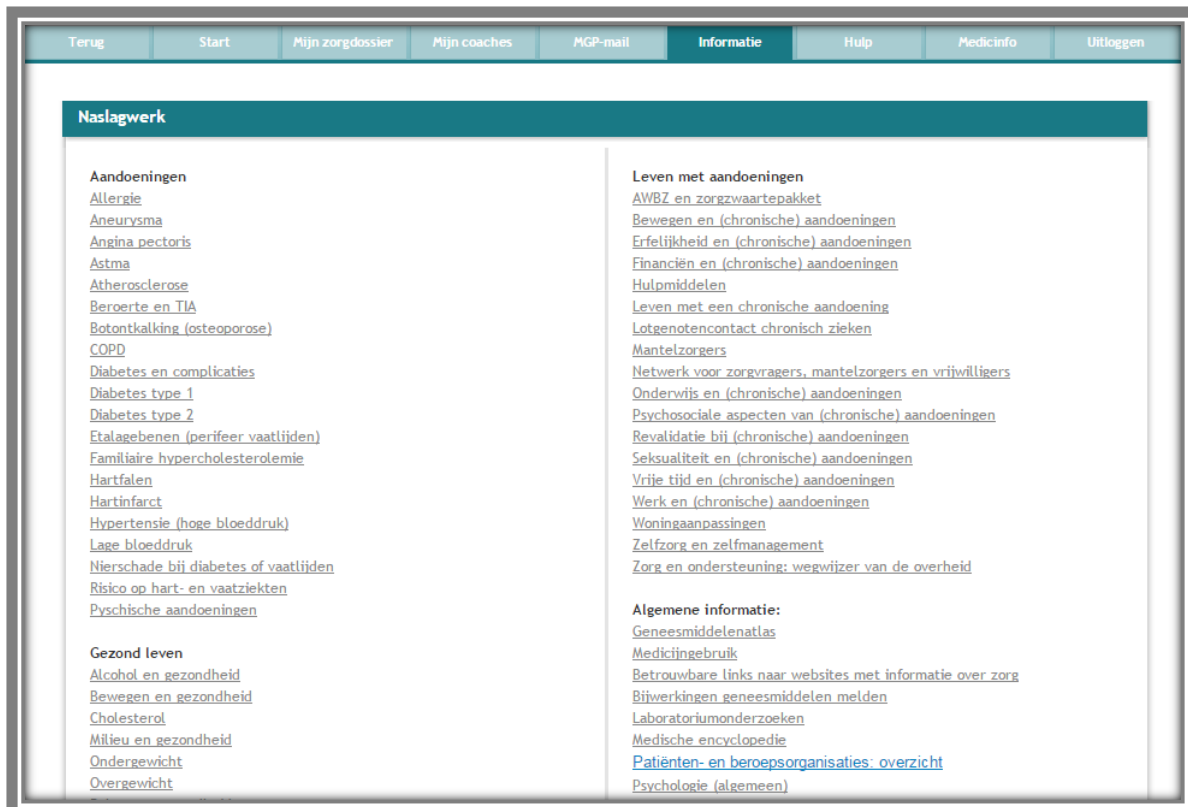


Figure 15: My Information



Appendix B: Overview of conditions of MGP-users in DOH-practices

Table 302: Overview of conditions of MGP-users in DOH-practices

Condition*	M/F	Number
Essential hypertension without organ damage		437
Diabetes mellitus type 2		292
Atherosclerosis		256
Hypertension with organ damage or secondary hypertension		109
Lipid metabolism disorder(s)		87
Arterial fibrillation or flutter		73
Depression		62
Angina pectoris	F	6
Angina pectoris	M	47
Asthma	F	26
Asthma	M	26
COPD	F	15
COPD	M	31
Myocardial infarction, acute		45
TIA		41
Stroke	F	5
Stroke	M	27
Anxiety disorder or anxiety		29
Intermittent claudication		25
Peripheral arteries, other disease(s)		24
Down or feeling depressed		23
Non-rheumatic valve disease		18
Allergic asthma		15
Ischemic heart disease, other or chronic		15
Aortic aneurysm		14
Mitral Regurgitation		11
Tobacco abuse		11
Emphysema		10
Remaining		176

* 1 user can have multiple conditions

Appendix C: Figures MGP use and IZP use

MGP use

The latest quarterly report from 22 June 2015 showed that there were a total of 670 MGP-users in the four DOH practices at that moment. The log data shows that the number of unique users a month was significantly lower (Table 33) (Medicinfo, 2015).

Table 33: MGP use in DOH-practices, Quarterly report Q2 2015 (Medicinfo, 2015)

Period	Number of unique users	Number of log-ins
April 2015	75	257
May 2015	88	323
Until 22 June 2015	89	227

IZP use

Table 34 shows the percentage of the patients that has an IZP in the DOH practices in 2014. DOH set the standard for 2014 at 30% of all patients that needs to have an IZP. This goal is reached for all care programs. DOH set a new standard for the end of 2015 of 60% of all patients having an IZP.

Table 34: Percentage of IZP users in 2014 at DOH

Care program	Percentage of patients with IZP
Diabetes	57%
COPD	53%
CVRM	47%
Asthma	43%

Appendix D: Invitation letter for interview for POHs

Uitleg over het onderzoek van Mijn Gezondheidsplatform (MGP)

Geachte praktijkondersteuner,

Uw huisartsenpraktijk maakt sinds enige tijd gebruik van Mijn Gezondheidsplatform (MGP). Omdat MGP een nieuw hulpmiddel in de zorg is, zijn wij benieuwd naar uw ervaringen. Daarom werkt uw huisartspraktijk mee aan wetenschappelijk onderzoek. Het onderzoek wordt uitgevoerd in een aantal huisartspraktijken die zijn aangesloten bij zorggroep DOH, samen met de Universiteit Twente en de maker van MGP, Medicinfo.

Welke vragen willen we met het onderzoek beantwoorden?

Het doel van het onderzoek is om inzicht te krijgen in het zorgpad voor chronische patiënten en vast te stellen hoe Mijn Gezondheidsplatform hierin van toegevoegde waarde kan zijn. We vinden het belangrijk om naar de wensen en behoeften van gebruikers te luisteren. Met die informatie kunnen we MGP verbeteren. Wij vragen uw medewerking voor dit onderzoek. Hieronder leggen we uit wat dit betekent.

Waaruit bestaat het onderzoek?

Het onderzoek bestaat uit een interview van ongeveer een uur. In het interview krijgt u vragen over de dagelijkse zorgprocessen voor chronische patiënten. We vragen daarbij ook naar uw gebruik en ervaringen met MGP en met het individueel zorgplan. We zijn ook geïnteresseerd in eventuele tekortkomingen en verbeterpunten van MGP. Het interview wordt opgenomen zodat alles terug te luisteren is.

Wie is de onderzoeker?

Mijn naam is Aniek Voermans. Ik ben masterstudent Gezondheidswetenschappen aan de Universiteit Twente. Momenteel ben ik bezig met mijn afstudeeronderzoek bij Medicinfo.

Wat gebeurt er met mijn gegevens?

Alle gegevens die in dit onderzoek worden verzameld worden vertrouwelijk behandeld. Alle medewerkers hebben een geheimhoudingsverklaring ondertekend. Als de onderzoeksresultaten gebruikt worden in wetenschappelijke artikelen, dan wel op een andere manier openbaar worden gemaakt, zal dit anoniem gebeuren. Dat wil zeggen dat niemand kan zien dat de gegevens van u afkomstig zijn. Als bewijs dat u de uitleg hierover hebt ontvangen en begrepen, vragen we u voor de start van het interview een toestemmingsformulier in te vullen en te ondertekenen.

De door u aan het onderzoek bestede tijd wordt via DOH aan de praktijk vergoed.

Wij hopen dat wij u voldoende geïnformeerd hebben over het onderzoek en dat u bereid bent om mee te werken. Ik neem per email contact met u op voor het maken van een afspraak. Mocht u toch nog vragen hebben, dan kunt u mij bereiken via onderstaand telefoonnummer of e-mailadres.

Bij voorbaat hartelijk dank voor uw medewerking!
Met vriendelijke groet,

Aniek Voermans

Student, Universiteit Twente

E-mail: a.k.h.voermans@student.utwente.nl

Nathalie Eikelenboom

Stafmedewerker zelfmanagement & eHealth, DOH

Appendix E: Invitation letter for interview for patients

Uitleg over het onderzoek van Mijn Gezondheidsplatform (MGP)

Geachte heer of mevrouw,

U maakt sinds enige tijd gebruik van Mijn Gezondheidsplatform (MGP). Omdat MGP een nieuw hulpmiddel in de zorg is, zijn wij benieuwd naar uw ervaringen. Daarom werkt uw huisartspraktijk mee aan wetenschappelijk onderzoek. Het onderzoek wordt uitgevoerd in een aantal huisartspraktijken die zijn aangesloten bij zorggroep DOH, samen met de Universiteit Twente en de maker van MGP, Medicinfo.

Welke vragen willen we met het onderzoek beantwoorden?

Het doel van het onderzoek is om inzicht te krijgen in de zorg rondom chronische patiënten en vast te stellen hoe Mijn Gezondheidsplatform hierin van toegevoegde waarde kan zijn. We vinden het belangrijk om naar de wensen en behoeften van gebruikers te luisteren. Met die informatie kunnen we MGP verbeteren. Wij vragen uw medewerking voor dit onderzoek. Hieronder leggen we uit wat dit betekent.

Waaruit bestaat het onderzoek?

Het onderzoek bestaat uit een interview van ongeveer een uur. In het interview krijgt u vragen over uw zorgproces. We vragen daarbij ook naar uw gebruik en ervaringen met MGP. We zijn ook geïnteresseerd in eventuele tekortkomingen en verbeterpunten van MGP. Het interview wordt opgenomen zodat alles terug te luisteren is.

Wie is de onderzoeker?

Mijn naam is Aniek Voermans. Ik ben masterstudent Gezondheidswetenschappen aan de Universiteit Twente. Momenteel ben ik bezig met mijn afstudeeronderzoek bij Medicinfo, waarmee ik een bijdrage wil leveren in het verbeteren en afstemmen van technologie in de zorg. Uw medewerking aan dit onderzoek zou me hierbij helpen.

Wat zijn de voor- en nadelen van meedoen aan dit onderzoek?

Door mee te doen, werkt u mee aan het verbeteren van een modern computerprogramma. Mogelijk profiteert u daardoor zelf ook van de voordelen die een dergelijk programma kan bieden. Deelname heeft geen nadelige invloed op de zorg die u normaal gesproken van uw huisarts en andere zorgverleners krijgt. U kunt op elk moment uw deelname stoppen. Ook dit heeft geen nadelige gevolgen.

Wat gebeurt er met mijn gegevens?

Alle gegevens die in dit onderzoek worden verzameld worden vertrouwelijk behandeld. Alle medewerkers hebben een geheimhoudingsverklaring ondertekend. Dat is vergelijkbaar met het beroepsgeheim van uw huisarts. Als de onderzoeksresultaten gebruikt worden in wetenschappelijke artikelen, dan wel op een andere manier openbaar worden gemaakt, zal dit anoniem gebeuren. Dat wil zeggen dat niemand kan zien dat de gegevens van u afkomstig zijn. Als bewijs dat u de uitleg hierover hebt ontvangen en begrepen, vragen we u voor de start van het interview een toestemmingsformulier in te vullen en te ondertekenen.

Vergoeding

Voor uw deelname aan dit gedeelte van het onderzoek betalen wij een vergoeding van € 25,- per interview. Wij kunnen dit bedrag ook namens u doneren aan een door u te kiezen goed doel.

Wilt u meedoen?

Als u mee wilt werken aan dit onderzoek, dan kunt u contact met mij opnemen via onderstaande gegevens. We maken dan een afspraak voor het interview. U kunt ook uw praktijkondersteuner vragen om uw e-mailadres door te sturen naar de onderzoeker. Vervolgens wordt er via e-mail contact met u opgenomen voor het maken van een afspraak.

Wij hopen dat wij u voldoende geïnformeerd hebben over het onderzoek en dat u bereid bent om mee te werken. Mocht u toch nog vragen hebben, dan kunt u mij bereiken via onderstaand telefoonnummer of e-mailadres.

Bij voorbaat hartelijk dank voor uw medewerking!

Met vriendelijke groet, mede namens uw praktijkondersteuner,

Aniek Voermans

Student, Universiteit Twente

e-mail: a.k.h.voermans@student.utwente.nl

Appendix F: Informed consent form

Toestemmingsverklaring

Ik verklaar hierbij op voor mij duidelijke wijze, schriftelijk te zijn ingelicht over de aard en methode van het onderzoek. Mijn vragen hierover zijn naar tevredenheid beantwoord.

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud daarbij het recht deze instemming weer in te trekken zonder dat ik daarvoor een reden hoeft op te geven en beseft dat ik op elk moment mag stoppen met het onderzoek.

Indien mijn onderzoeksresultaten gebruikt zullen worden in wetenschappelijke publicaties, dan wel op een andere manier openbaar worden gemaakt, zal dit volledig anoniem gebeuren. Dat wil zeggen dat niemand kan zien dat de gegevens van mij afkomstig zijn.

Alle bij het onderzoek betrokken personen hebben een geheimhoudingsplicht. Mijn gegevens zullen niet door andere mensen worden ingezien zonder mijn uitdrukkelijke toestemming.

Ik wil **wel/niet** (doorstrepen wat niet van toepassing is) per e-mail geïnformeerd worden over de uitkomsten van dit onderzoek.

Als ik nog verdere informatie over het onderzoek zou willen krijgen, nu of in de toekomst, kan ik me wenden tot de onderzoeker (Aniek Voermans).

Aldus ingevuld op (datum):

Naam deelnemer:

E-mailadres (indien van toepassing):

Handtekening:

.....

“Ik heb toelichting verstrekt over het onderzoek. Ik ben bereid nog opkomende vragen over het onderzoek naar vermogen te beantwoorden. Waar nodig kan ik u in contact brengen met andere medewerkers aan dit onderzoek, als dit nodig is om uw vragen goed te beantwoorden.”

Naam en handtekening student:

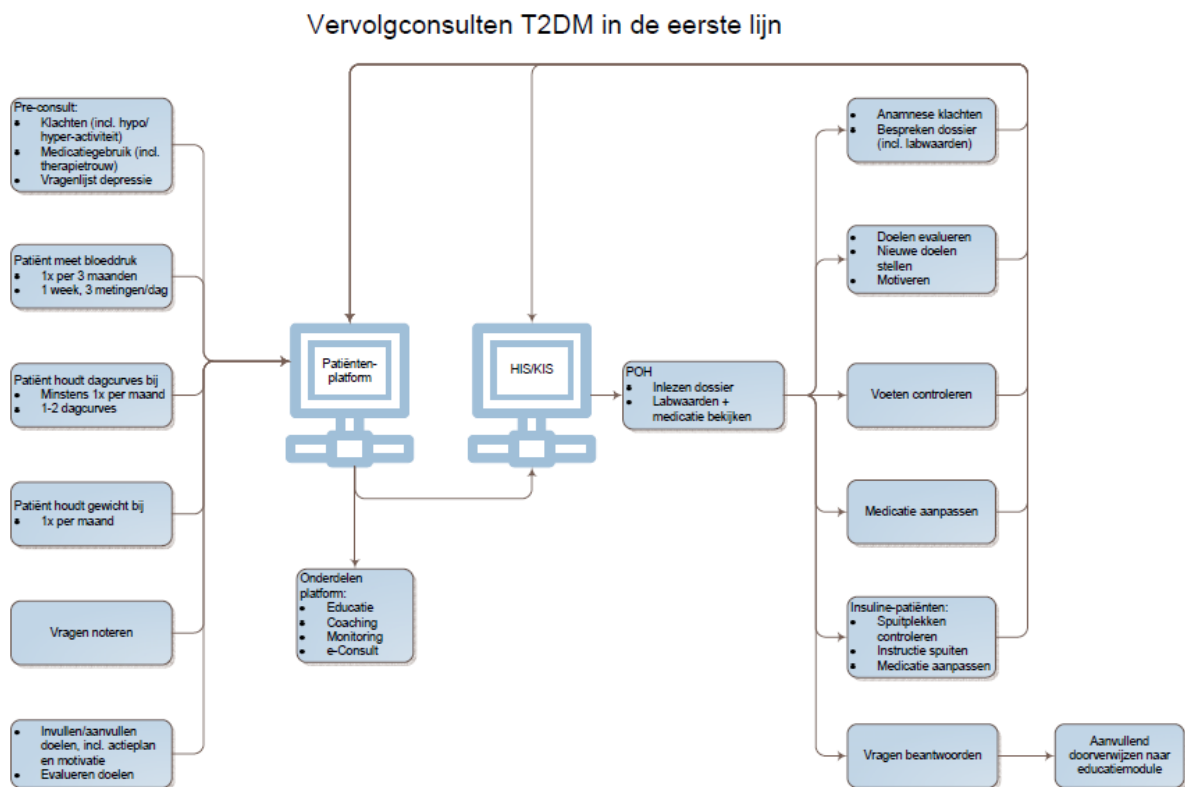
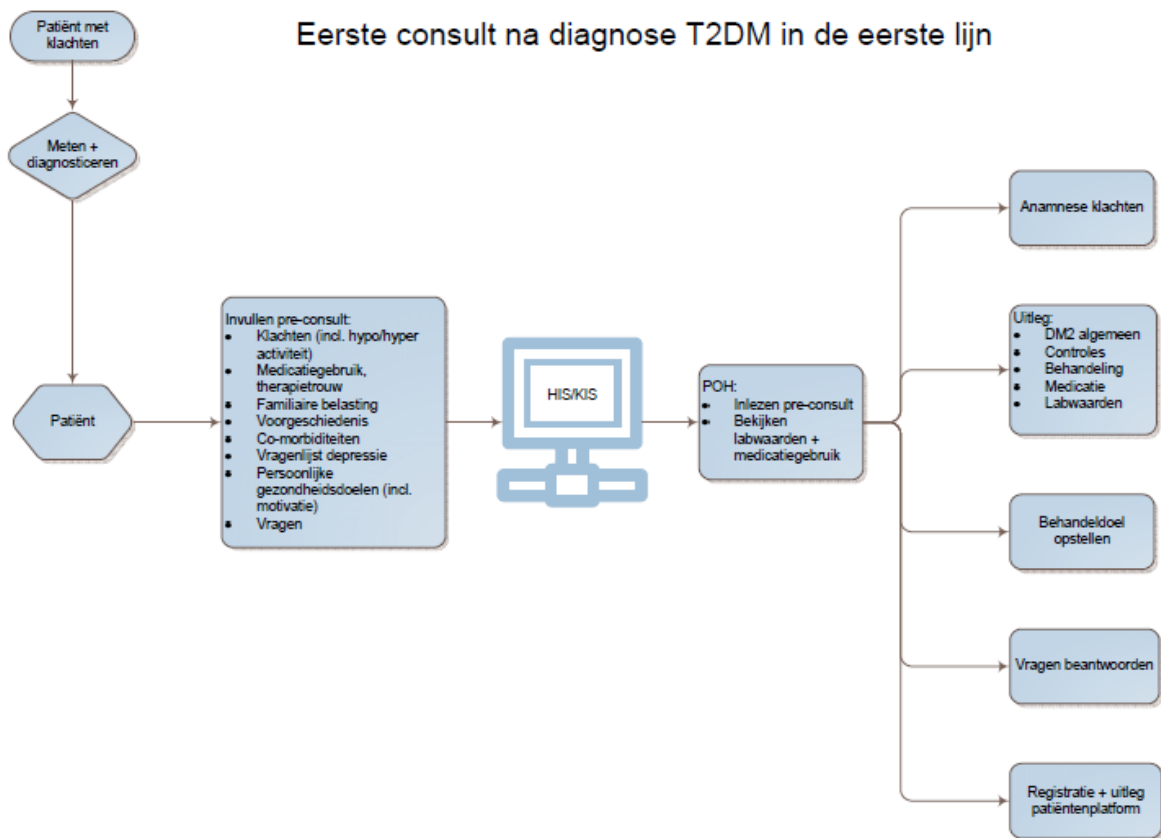
Aniek Voermans



Contactgegevens:

E-mail: a.k.h.voermans@student.utwente.nl

Appendix G: Flowchart diabetic care pathways (F.S., 2015)



Appendix H: Interview framework for POHs

Introductie

- **Voorstellen:** Masterstudent gezondheidswetenschappen aan de Universiteit Twente. Nu afstudeeropdracht bij Medicinfo.
- **Doel van het interview:** Inzicht krijgen in het zorgpad voor chronische patiënten, vaststellen hoe Mijn Gezondheidsplatform hierin van toegevoegde waarde kan zijn.
- **Reden van het interview:** Zorgverlenersperspectief meenemen in het onderzoek.
- **Reden waarom u gekozen bent:** POH betrokken bij MGP. Samenwerking met uw zorggroep DOH in dit onderzoek.
- **Relevantie voor betrokkenen:** Door MGP af te stemmen aan de behoeften en wensen van gebruikers in het zorgproces, kan MGP verbeterd worden. Meer tevreden zijn met het gebruik.
- **Soort interview:** Dit interview is een gestructureerd interview. Dat wil zeggen dat de onderwerpen en vragen van te voren vaststaan in deze interviewleidraad. U kunt zich wel vrij voelen om zelf te vertellen.
- **Invloed van het eindresultaat:** Het eindresultaat zal een beeld geven over het huidige zorgpad en problemen daarbij. Daarmee kunnen aanbevelingen gegeven worden over hoe MGP daarbij kan ondersteunen. Dit zal bij Medicinfo, de maker van MGP worden besproken.
- **Tijdsduur:** Dit interview zal ongeveer 60 minuten duren.
- **Vorm van rapportage:** Opnemen met spraakrecorder en notities maken. Na afloop van het interview zal het interview volledig uitgetypt worden.
- **Privacy:** De verkregen informatie is vertrouwelijk. Uw naam zal nergens worden genoemd, dus uw privacy is gewaarborgd.

Controle

- Is het voorgaande allemaal duidelijk?
- Gaat u akkoord met dit interview? → Informed consent tekenen

Algemeen

- 1) Ik wil graag beginnen met het stellen van wat algemene vragen over u en uw werkzaamheden als praktijkondersteuner.
 - a. Hoe lang bent u al werkzaam als praktijkondersteuner? Hoe lang bij deze praktijk?
 - b. Hoeveel uur per week werkt u?
 - c. Hoeveel patiënten ziet u op een dag? Welke diagnose hebben deze patiënten? (% DM2, COPD, Astma, CVRM)
 - d. Welk percentage van patiënten van elk van deze zorgprogramma's zijn geïncorporeerd in MGP? (schatting aantal per diagnose, bijv. % DM2-patiënten dat in MGP zit etc.)

Zorgproces

- 1) Wat zijn uw taken en verantwoordelijkheden als praktijkondersteuner voor de verschillende zorgprogramma's: diabetes, COPD, astma en CVRM?
 - a. Concretiseer op het moment dat patiënt binnenkomt voor een consult, wat gebeurt er dan? Wat gebeurt er bij vervolggconsulten?
 - b. Welke taken kosten u de meeste tijd? Waardoor komt dat?
 - c. Wie spelen er nog meer een rol in het zorgproces? Op welke wijze werkt u met hen samen?
 - d. Hoe verloopt de doorverwijzing van patiënten naar andere zorgverleners? Is de zorg van verschillende zorgverleners goed op elkaar afgestemd?
 - e. Gebruikt u zorgstandaarden en protocollen bij elk van deze chronische aandoeningen? Wat is daarin vastgelegd?
 - f. Hoeveel vrijheid geven de zorgstandaarden en protocollen u in het uitvoeren van uw taken? (in bijv. aantal consulten per jaar, inhoud consult, welke metingen, welke voorlichting etc.)

- 2) Dan wil ik u nu iets vragen over het gebruik van het Individueel Zorgplan binnen uw werkwijze. Bent u bekend met het Individueel Zorgplan?
 - a. Maakt u gebruik van het Individueel zorgplan bij chronische patiënten? Zo ja hoe?
 - b. Welke patiënten hebben een IZP? Is dit verplicht door het contract met de zorgverzekeraars?
 - c. Welke ontwikkeling merkt u in de inzet van het IZP? Hoe deed u het vroeger, hoe nu en hoe verwacht u in de toekomst met het IZP te gaan werken?
 - d. Wat is volgens u de meerwaarde van een IZP? Wat kan het toevoegen aan het zorgproces?

- e. Wat zijn de nadelen van werken met een IZP? Wat zijn de moeilijkheden bij een IZP?
 - f. Hoe reageert de patiënt op het IZP? Hoe verloopt de samenwerking met de patiënt aan het IZP?
- 3) Wat zijn knelpunten in de huidige zorg en hoe zouden deze volgens u verbeterd kunnen worden?
- a. Waar loopt u tegenaan bij de huidige zorg voor chronische patiënten? Zijn er dingen die zorgen voor moeilijkheden?
 - b. Wat is er al gedaan om het zorgproces gemakkelijker te laten verlopen? Waarom werkt dat wel/niet?
 - c. Op welke manier zou u verdere ondersteuning willen hebben? Wat hebt u nodig om de patiënt optimale zorg te geven?
 - d. Hoe zou technologie u kunnen helpen om optimale zorg te geven? Bij technologie kunt u denken aan een patiëntenplatform zoals MGP.
- 4) Dit is een gevisualiseerd schema van een mogelijk zorgpad van patiënten bij de POH. Het is opgesteld als mogelijkheid tot een optimaler zorgproces door middel van de inzet van een patiëntenplatform. Dit schema gaat uit van diabetespatiënten, maar het zal in grote lijnen ook voor de andere zorgprogramma's overeenkomen. Ik wil dit schema graag met u doorlopen om te kijken of dit een bruikbare werkwijze zou zijn.
- a. Komt dit schema overeen met uw huidige werkzaamheden die we net besproken hebben? Welke verschillen vallen u op?
 - b. Welke verschillen of aanvullingen op dit schema heeft u voor de andere zorgprogramma's COPD, astma en CVRM?
 - c. Hoe laat u patiënten voorbereiden op consulten? Gebruikt u hiervoor vragenlijsten? Hoe zou een patiëntenportaal in de consultvoorbereiding kunnen ondersteunen?
 - d. Wat vindt u van deze mogelijke werkwijze? Zou dit voor u bruikbaar zijn?
 - e. Mist er nog iets in dit schema wat zou kunnen zorgen voor werklastverlaging of voor meer stimulatie van de zelfregie van de patiënt?

Introductie MGP

Dan wil ik nu graag overgaan naar de introductie van MGP binnen uw huisartsenpraktijk.

- 1) Hoe hoorde u voor de eerste keer over MGP?
 - a. Van wie hoorde u de eerste keer over MGP?
 - b. Op welke manier? (mail / poster / leidinggevende)?

- c. Hoe lang geleden was dat?
- 2) Waarom doet uw huisartsenpraktijk mee aan MGP?
 - a. Wat denkt u dat de motivatie van uw huisartsenpraktijk is om een online gezondheidsplatform in te zetten voor chronische patiënten?
 - b. Wat is uw persoonlijke motivatie om gebruik te maken van een online gezondheidsplatform als MGP?
 - 3) Kunt u iets vertellen over de voorlichting en training die u of uw collega's hebben gevolgd rond het gebruik van MGP? Heeft u uitleg gekregen hoe u MGP moet gaan gebruiken?
 - a. Wat is er besproken?
 - b. Op welke manier is de training gedaan? (bijeenkomst / online / 1 op 1) Door wie werd u getraind?
 - c. Hoeveel tijd nam de training in beslag? Hoe vaak bent u getraind?
 - d. Kon u na de training aan de slag met MGP? Is er tijdens de training ook aandacht besteed aan het werken met MGP in de dagelijkse praktijk i.p.v. alleen over includeren van patiënten?
 - e. Wat waren uw verwachtingen van MGP voordat u ermee startte? Wat dacht u dat de voordelen en nadelen zouden zijn?
 - 4) Op welke manier introduceert u MGP bij uw patiënten?
 - a. Hoe maakt u een selectie van mogelijke participanten?
 - b. Hoe spoort u patiënten aan om MGP te gaan en blijven gebruiken?
 - c. Hoe zou u daarbij geholpen kunnen worden?

Gebruik en implementatie MGP

Nu ik weet hoe de introductie van MGP binnen uw huisartsenpraktijk is verlopen, ben ik benieuwd naar hoe het gebruik van MGP in de dagelijkse praktijk verloopt.

- 1) Hebben er veranderingen in het zorgproces plaatsgevonden sinds gebruik van MGP?
 - a. Welke onderdelen van MGP gebruikt u binnen de behandeling?
 - b. Wat zijn bij het gebruik van MGP uw taken en verantwoordelijkheden?
 - c. Wat zijn de taken en verantwoordelijkheden van de patiënt?
 - d. Op welk moment in de behandeling gebruikt u MGP? Tijdens het consult of tussen de consulten door?

- e. Hoe lang bent u daar dan mee bezig? Wat zijn hiervan de consequenties voor uw eigen taken?
- f. Is de tijdsbesteding aan uw taken veranderd door MGP? (bijv. vaker met een patiënt bezig maar minder minuten per week) Heeft u een andere dag- en week indeling dan voorheen?
- g. Hebben er veranderingen plaatsgevonden in uw taken bij het verwijsbeleid naar andere zorgverleners?
- h. Hoe begeleidt u patiënten bij het gebruik van MGP, als ze tegen moeilijkheden aanlopen?
- i. Hoe wordt u zelf begeleid bij vragen of problemen die problemen opleveren voor de behandeling?

2) In hoeverre gebruikt u de mogelijkheden van het IZP in MGP?

3) Wat zijn volgens u de voordelen van MGP ten opzichte van bestaande traditionele zorg?

- a. Welke onderdelen van MGP zorgen voor dit voordeel?
- b. Voor wie is het een voordeel? Bestaat er ook een voordeel voor u als zorgverlener?
- c. Wat zijn volgens u de nadelen van MGP?
- d. Wat is volgens u het effect van MGP op patiënten?

4) Wat ging goed bij het werken met MGP binnen uw huisartsenpraktijk?

5) Wat ging minder goed bij het werken met MGP binnen uw huisartsenpraktijk?

6) Het doel van MGP is om patiënten beter zelf de regie te laten voeren over hun zorg en gezondheid.

- a. Verwacht u dat patiënten dit doel daadwerkelijk behaald met MGP?
- b. Vindt u dat MGP aansluit bij de wensen en behoeften van de gebruikers (patiënten)?
- c. Sluit MGP aan bij uw eigen wensen en behoeften?
- d. Welke onderdelen mist u nog op MGP?
- e. Wat zou u willen dat er nog meer zou kunnen in MGP? Waarmee zou u het meest geholpen zijn?
- f. Sluit een online platform aan bij uw werkwijze in de begeleiding in zelfmanagement van patiënten?

- g. Voldoet een platform/website volgens u? Lijken andere soorten technologieën/devices u ook bruikbaar in het stimuleren van zelfmanagement van patiënten, en waarom? (bijvoorbeeld sensoren, realtime contact)

7) Wat zijn volgens u redenen dat men stopt met MGP?

Toekomst van eHealth

Tot slot nog wat vragen over de toekomst van de zorg met de komst van nieuwe technologieën.

- 1) Hoe veranderen nieuwe technologieën de zorg voor chronische patiënten in de toekomst, denkt u?
 - a. Wat voor rol kunnen nieuwe technologieën (zoals sensoren, monitoring, data-koppeling tussen patiënt en zorgverlener en andere devices) spelen in de toekomstige zorg voor chronische patiënten?
 - b. Wat is uw mening over het verzamelen, opslaan, koppelen en monitoren van patiënten data?
 - c. In hoeverre vindt u het inzetten van technologie in de zorg ethisch verantwoord? Wat vindt u van de veiligheid en privacy voor de patiënt en zijn gegevens?
 - d. Denkt u dat de komst van technologie de kwaliteit van zorg beïnvloed (positief of negatief)?
- 2) Hoe denkt u dat uw werkzaamheden er over vijf jaar uitzien door de komst van een platform als MGP?
- 3) Wat voor rol denkt u dat het IZP speelt in de toekomstige zorg voor chronische patiënten?
- 4) Hoe waarschijnlijk is het dat u MGP aan een collega zou aanbevelen op een schaal van 1-10?
 - a. Hoe komt u tot dit cijfer? Welke overweging heeft u gemaakt?

Afsluiting

Zijn er gebeurtenissen of onderwerpen die wij nog niet hebben besproken, maar die volgens u wel belangrijk zijn?

Bedankt voor uw tijd en moeite!

Appendix I: Interview framework for patients

Introductie

- **Voorstellen:** Masterstudent gezondheidswetenschappen aan de Universiteit Twente. Nu afstudeeropdracht bij Medicinfo.
- **Doel van het interview:** Inzicht krijgen in het zorgpad voor chronische patiënten, vaststellen hoe Mijn Gezondheidsplatform hierin van toegevoegde waarde kan zijn.
- **Reden van het interview:** Patiënten perspectief meenemen in het onderzoek.
- **Reden waarom u gekozen bent:** Werkt met MGP. Samenwerking met uw zorggroep DOH in dit onderzoek.
- **Relevantie voor betrokkenen:** Door MGP af te stemmen aan de behoeften en wensen van gebruikers in het zorgproces, kan MGP verbeterd worden. Meer tevreden met het gebruik.
- **Soort interview:** Dit interview is een gestructureerd interview. Dat wil zeggen dat de onderwerpen en vragen van te voren vaststaan in deze interviewleidraad. U kunt zich wel vrij voelen om zelf te vertellen.
- **Invloed van het eindresultaat:** Het eindresultaat zal een beeld geven over het huidige zorgpad en problemen daarbij. Daarmee kunnen aanbevelingen gegeven worden over hoe MGP daarbij kan ondersteunen. Dit zal bij Medicinfo, de maker van MGP worden besproken.
- **Tijdsduur:** ongeveer 60 minuten
- **Vorm van rapportage:** Opnemen met spraakrecorder en notities maken. Na afloop van het interview zal het interview volledig uitgetypt worden.
- **Privacy:** De verkregen informatie is vertrouwelijk. Uw naam zal nergens worden genoemd, dus uw privacy is gewaarborgd.
-

Controle

- Is het voorgaande allemaal duidelijk?
- Gaat u akkoord met dit interview? → informed consent tekenen

Algemeen

- 1) Ik wil graag beginnen met het stellen van wat algemene vragen over u en uw behandeling.
 - a. Wat is uw leeftijd?
 - b. Wat voor aandoening(en) heeft u?
 - c. Hoe beoordeelt u uw computervaardigheden?

Zorgpad

- 1) Wanneer en hoe krijgt u zorg voor uw aandoening? Dus hoe verloopt uw zorgproces?
 - a. Wanneer ziet u de praktijkondersteuner op een consult?
 - b. Hoe verloopt het consult? Wat bespreekt u daar gewoonlijk?
 - c. Ziet u nog andere zorgverleners? Hoe verloopt de doorverwijzing?
 - d. Is de zorg van verschillende zorgverleners goed op elkaar afgestemd? Sluiten de adviezen van uw praktijkondersteuner en huisarts goed op elkaar aan?
 - e. Wat gebeurt er buiten de consulten om? Wat doet u zelf actief thuis aan zelfmanagement of zelfzorg?
 - f. Hoe tevreden bent u over de voorlichting en begeleiding (bijvoorbeeld over uw aandoening, uw klachten en wat u zelf kunt doen aan uw gezondheid) die u krijgt van uw praktijkondersteuner?
 - g. Waar loopt u tegenaan bij de huidige zorg? Zijn er dingen die zorgen voor moeilijkheden?
 - h. Op welke manier zou dit volgens u verbeterd kunnen worden?

Introductie MGP

Dan wil ik nu graag overgaan naar de introductie van Mijn Gezondheidsplatform.

- 1) Op welke manier hoorde u voor de eerste keer over MGP?
 - a. Van wie hoorde u de eerste keer over MGP? Op welke manier? (mail /brief /gesprek)
 - b. Hoe lang geleden was dat?
 - c. Waarom bent u geselecteerd om mee te doen met MGP?
 - d. Hoe wordt u gestimuleerd om MGP te gaan en blijven gebruiken?
 - e. Krijgt u voldoende ondersteuning of zou u meer gemotiveerd willen worden?

- 2) Waarom doet u mee aan MGP?
 - a. Wat is uw persoonlijke motivatie om gebruik te maken van een online gezondheidsplatform als MGP?

- b. Wat denkt u dat de motivatie van uw huisartsenpraktijk is om een online gezondheidsplatform in te zetten voor chronische patiënten?
- 3) Heeft u voorlichting of training gekregen over hoe u MGP moest gaan gebruiken?
- a. Op welke manier is de voorlichting gedaan? (door wie/hoe vaak/hoe veel tijd)
 - b. Wat is er besproken?
 - c. Kon u na de voorlichting aan de slag met MGP? Was de voorlichting voldoende?
 - d. Wat waren uw verwachtingen van MGP voordat u ermee gestart bent?

Gebruik en implementatie MGP

Nu ik weet hoe de introductie van MGP is geweest, ben ik benieuwd naar hoe het gebruik van MGP in de dagelijkse praktijk verloopt.

- 1) Hebben er grote veranderingen plaatsgevonden sinds u MGP gebruikt?
- a. Welke onderdelen van MGP gebruikt u?
 - b. Hoe vaak gebruikt u MGP?
 - c. Op welk moment gebruikt u MGP? (tijdens consult of tussen de consulten door)
 - d. Hoe lang bent u daar dan mee bezig? Wat zijn hiervan de gevolgen voor uw dagelijkse bezigheden?
 - e. Hoe zouden volgens u de taken verdeeld moeten zijn bij het gebruik van MGP? Wat doet u zelf en wat verwacht u dat de praktijkondersteuner daarmee doet?
 - f. Hoe wordt u begeleidt bij het gebruik van MGP, als u bijvoorbeeld tegen moeilijkheden aanloopt?
- 2) Wat zijn volgens u de voordelen van MGP vergeleken met traditionele zorg zonder online platform?
- a. Welke onderdelen van MGP zorgen voor dit voordeel?
 - b. Voor wie is het een voordeel? (vooral voor uzelf of ook voor de zorgverlener)
 - c. Wat zijn volgens u de nadelen van MGP?
 - d. Wat is het effect van MGP op u en uw gezondheid?
- 3) Wat gaat goed bij het gebruiken van MGP?
- 4) Wat gaat minder goed bij het gebruiken van MGP?

- 5) Het doel van MGP is om patiënten beter zelf de regie te laten voeren over hun zorg en gezondheid.
- Sluit MGP volgens u aan bij dit doel?
 - Sluit MGP aan bij uw eigen wensen en behoeften?
 - Wat mist u nog op MGP?
 - Wat zou u willen dat anders is in MGP? Waarmee zou u het meest geholpen zijn?
 - In hoeverre is een online platform een geschikte manier om u zelf regie te laten voeren?
 - Welke andere soorten technologieën (bijv. sensoren, online consult) zouden u kunnen helpen om u beter zelf de regie te laten voeren?
- 6) Wat zijn volgens u redenen dat men stopt met MGP?

Individueel Zorgplan

Vervolgens ben ik benieuwd naar het gebruik van het Individueel Zorgplan in de dagelijkse praktijk.

- 1) Bent u bekend met het Individueel Zorgplan?

Als u niet bekend bent met IZP:

Het IZP is een overzicht van doelen en afspraken die u maakt met uw praktijkondersteuner om uw betrokkenheid in het zorgproces te bevorderen. (bijv. doel =gezond bewegingspatroon opbouwen, actie=elke dag een half uur wandelen)

- Stelt u wel persoonlijke doelen op met uw praktijkondersteuner, en acties om deze doelen te behalen?
- Wat heeft u nodig om daadwerkelijk met de doelen aan de slag te gaan?
- Wat verwacht u van een individueel zorgplan?
- Zou u de doelen en acties in MGP bij willen houden?

Als u bekend bent met IZP:

- Hoe maakt u gebruik van het IZP?
- Wat is de meerwaarde van werken met een IZP? Wat kan een IZP u opleveren?
- Wat maakt het moeilijk om met een IZP te werken?
- Wilt u uw IZP in MGP bij houden?

Consultvoorbereiding

Dan wil ik ook iets weten over hoe u zich thuis voorbereid op consulten met uw zorgverlener.

- 1) Hoe bereidt u zich voor op het consult met de praktijkondersteuner?
 - a. Krijgt u vragenlijsten opgestuurd van uw zorgverlener om voor uw consult in te vullen ter voorbereiding? Welke? Op welke manier worden ze verstuurd?
 - b. In hoeverre vult u deze vragenlijsten in? Waarom wel/niet?
 - c. Worden deze vragenlijsten besproken in het consult?
 - d. Wat voor effect heeft de consultvoorbereiding op het verloop van het consult?
 - e. Ziet u potentie om het gebruik van MGP bij het voorbereiden van de consulten uit te bereiden? Hoe zou MGP u kunnen helpen om u beter voor te bereiden?

Toekomst van eHealth

Tot slot nog een aantal vragen over de toekomst van de zorg met de komst van nieuwe technologieën.

- 1) Hoe veranderen nieuwe technologieën de zorg in de toekomst, denkt u?
 - a. Wat voor rol kunnen nieuwe technologieën (zoals sensoren, monitoring, data-koppeling tussen patiënt en zorgverlener en andere devices) spelen in de toekomstige chronische zorg?
 - b. Wat is uw mening over het verzamelen, opslaan, koppelen en monitoren van uw patiëntgegevens?
 - c. In hoeverre vindt u het inzetten van technologie in de zorg ethisch verantwoord? Wat vindt u van de privacy en veiligheid van uw gegevens?
 - d. Denkt u dat de komst van technologie de kwaliteit van zorg beïnvloed (positief of negatief)?
- 2) Hoe denkt u dat uw behandeling er over vijf jaar uitzien door de komst van een platform als MGP?
- 3) Wat voor rol denkt u dat het IZP speelt in uw toekomstige zorg?
- 4) Hoe waarschijnlijk is het dat u MGP aan iemand anders zou aanbevelen op een schaal van 1 tot 10?
 - a. Hoe komt u tot dit cijfer? Welke overweging heeft u gemaakt?

Afsluiting

Zijn er gebeurtenissen of onderwerpen die wij nog niet hebben besproken, maar die volgens u wel belangrijk zijn?

Bedankt voor uw tijd en moeite!