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AN EVALUATION OF THE IMPLEMENTATION OF THE NEW INNOVATIVE INTEGRATED CARE CONCEPT FOR FRAIL ELDERLY MASTER THESIS HEALTH SCIENCES



# Foreword

This thesis is the final part of my study period at the University of Twente. In my study period I have met wonderful persons and did wonderful things. Besides the Bachelor Gezondheidswetenschappen and the Master Health Sciences, I have done many extracurricular activities, like the organisation of the minor International Exploration, being the chairmen and good board member of consultancy office 'UniPartners'. Furthermore, together with two friends we started up the Sorority O.D.D. Sapphira. My days as a student were great and for now I am looking forward to a new chapter in my life.

Writing the thesis was all but easy; there were many challenges and changes along the road. I started to doubt myself and because all of this the motivation dropped down. But I would not have been myself, if I had quit. I knew the problems had to do with the concurrence of circumstances. I have learned a lot about my environment and myself.

During the research period I learned about the difference between theory and practice. Especially, how important it is to make a clear and achievable plan in agreement with the involved parties. Expectation towards each other can be different, especially between the office managers and the executers. To my opinion, this thesis is very usable in practice.

Under the guidance of Karin Groothuis-Oudshoorn and Marjan Hummel I accomplished this Master Thesis. I would like to thank them for their patience, support and guidance. I would also like to thank Henk Snijders for his hospitality, guidance, enthusiasm and his belief in me. Furthermore, I would like to thank Cees van den Helder, Irma Beettjer, Dianne Veehof and Thea Huurneman for their cooperation, openness, trust and for helping me to accomplish my master thesis.

Above all, I would like to thank my friends and family, especially my husband, who stood by my side, supported me and gave me the motivation to move on.

Thank you all for this experience.

Enjoy reading!

Sharon Bijen-Groenberg Enschede, August 2015 Introduction Due to our ageing society, the number of frail elderly is increasing. The Dutch government responded by changing the long-term healthcare legislation. As a response, several initiatives to deliver integrated healthcare arose, one of these initiatives is the new innovative integrated care concept. The goal of this care concept is to prevent further deterioration of frail elderly, and thereby enabling these elderly to live non-institutionalized for a longer period of time and to decrease the healthcare costs. The care concept consists of a frailty screening (patients  $\geq$ 80 years) during a home visit (basis of care concept). Based on the screening outcome, follow-up actions are determined and executed. Examples of follow-up actions are: supplementary tests, referral to welfare plan if patient is not frail and a second screening at home if a patient is frail including a referral to care. Finally, the effect for the patient is evaluated. A good implementation is important to succeed this new innovation and subsequently achieve the goal of the concept. The goal of this study is to gain insight in whether the home screening of the care concept leads to more well fitted types of referral (welfare or care), since an incorrect interpretation and execution can influence the usefulness of the rest of the care concept in a negative way. Furthermore, whether the general practitioner (GP), the nurse practitioner of the GP practice (POH), the district nurse and the elderly counsellor (mediate users) comply with the developed care concept and which determinants could interfere with a (proper) implementation of the care concept, by evaluating the implementation process of the care concept at the GP practice Van den Helder.

Methods
 First, the type of referral (welfare/care plan) of 49 patients in the GP practice Van den Helder in Delden, aged eighty years and older were retrieved by the means of the formerly used indication method, the actual referral and by the means of the Groningen Frailty Indicator (GFI) (frail when GFI score is ≥4) of the home screening. Then, the agreement between the two methods was calculated by the Cohen's Kappa. The home visits took place during the period of October 7<sup>th</sup> 2014 until July 7<sup>th</sup> 2015. Second, the execution of the developed care concept and the implemented care concept were compared by observing home visits (n=5) and interviewing the mediate users of the care concept (n=4). Third, to gain insight in facilitators and barriers experienced by mediate users towards the implementation, they were interviewed by the means of the MIDI questionnaire.
 Results
 From 21 out of 26 patients who were visited at home the GFI score was known. Ten of the 21 patients (47.6%) were frail (GFI score ≥ 4), according to the 'gut-

feeling' POH and GP together 46.6% of the patients were frail. The strength of agreement between the formerly used indication method and by the means of the GFI-score according to the Cohen's Kappa was fair for the 'gut feeling' of the POH and of the GP separately and a moderate for the 'gut feeling' of the POH and of the GP together. The referrals were not based on the outcome of the screening; all follow-up actions were related to care. The main deviations between the developed and the implemented concept were: additional selection criteria and opportunistic criteria were used, no second home screening, Transmuraal Zorg Assessment Geriatrie (Trazag) questionnaire was not used if GFI score  $\geq$ 4, multidisciplinary consultation was not always present and there was no evaluation of the effect of the process. The main reasons for deviations were a lack of a detailed and sufficiently concrete plan, sufficient preconditions and no agreement between the mediate users on the content of every part of the care concept. Furthermore, the most potential barriers concerned time, formal engagements, replacement at labour turnover, capacity/ occupancy rate, financial means, turbulence within organisation and feedback to user. And the most important facilitators concerned complexity, outcome expectation, importance of the goal to prevent further deterioration, cooperation client, social support of colleagues and the legislation and regulation.

Discussion

Since the GFI is a validated measurement instrument and the agreement between the screening outcomes of the home visits and the former used indication method was mediate, the screening would probably contribute to well fitted and correct referrals to welfare plans and care plans for elderly patients. Since, the screening formed the basis of the concept; it is plausible the use of the care concept would have positive effects on the health of elderly. However, the implementation of the care concept must be executed as intended. According to the deviations and barriers found, the plan of the care concept needs to be worked out more in detail in dialogue with the mediate users. Furthermore, the preconditions need to be sufficient such that all stakeholders do not experience problems, do agree on the plan, and will act on topics in the plan that is considered important. In that way, the mediate users will not experience barriers during execution, they will agree with the content of the concept and it will make the care concept more unequivocal. To improve every barrier and to solve every problem, without compromising on something else (e.g. facilitator), is challenging. The facilitators found in this study showed the determinants which had a positive influence towards the implementation process of the care concept.

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# **1. Introduction**

Due to our ageing society, the number of frail elderly is increasing. Therefore, the long-term healthcare legislation is changing. This affects the health care provision. As a respond, several initiatives to deliver integrated healthcare to frail elderly arose. A good implementation is important to let the new innovations succeed.

# 1.1 Ageing

# Increase of senior citizens

Two problems arise for the society due to the ageing population First, the number of elderly who need care will increase and second the working population is greying. Correspondingly, this greying working population will lead to a smaller working population in the near future. With reference to this, the ageing problem leads to a lot of discussion on how to solve (upcoming) problems around ageing in the Netherlands. For instance, an increase of 700.000 frail elderly in 2010 to 1.000.000 frail elderly in 2030 is expected in the Netherlands. This means that in 2030 a quarter of the elderly population is frail (1). In this study frailty is described as a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (cognitive, physical, psychological, social) that are caused by the influence of a range of variables and which increases the risk of adverse outcomes (complete description of frailty can be found in appendix 1 (1-3)).

To continue, the increase of frail elderly is a problem, because risk for admission into an institution is nearly five times bigger for the group of frail elderly who live on their own, than it is for the group of non-frail elderly (4). Next to that, frail elderly have multiple and/or complex problems which affect their healthcare demands. In other respects, there is an overlap between the group of healthcare users and the group of frail elderly (4). Besides the change in healthcare demands, frailty is associated with lowered life satisfaction and quality of life (1). In the same way, elderly want to live their own life following their own insights and they want to stay independent (5).

# Long-term healthcare reform

In respondse to this ageing problem, the government proposed a long-term healthcare reform which is aimed at several groups, including elderly, social network and voluntary care givers of these groups (6). To illustrate, there are six main reasons for the long-term healthcare reform 1) people must receive well fitted support, 2) people must be supported to improve their self-reliance, 3) elderly prefer to live on their own, 4) to improve quality of care, 5) healthcare must stay affordable and 6) it is good when people support and look after someone (6). The required

support and care will be received by them at home and not in centralized organizations (7). This means that elderly people with the need for long-term healthcare will be able to live longer on their own. The new reform came into force on the first of January 2015 ( $\underline{6}$ ).

# 1.2 Innovative care concepts

# Gain insight and support frail elderly

In order to support frail elderly and to improve self-reliance of elderly, it is necessary to find the frail elderly. Almost all people who are frail having several diseases or disabilities, so the importance to prevent deterioration of self-reliance and welfare is high. Furthermore, frail elderly are at high risk for development of functional decline(8). Therefore, the extent of frailty needs to be assessed so that the need for care can be tapered towards each individual (1, 9). Early detection of frailty facilitates interventions in order to prevent frailty, by intervening in an early stadium and to promote the recovery, which could increase the survival rate of the group of frail elderly (4, 5, 8). Moreover, this way and due to the insights gained by frailty interventions, the need for hospitalization would decrease (4, 5, 8). Currently, (emergency) care is focussed on curing diseases and not performed until there are no other possibilities (10). For example, a general practitioner (GP) is trained on approaching a patient with the focus on a possible disease, while determining frailty needs another approach. Furthermore, the care is fragmented over several medical institutions. It is important these fragments of care will be integrated into one care plan because the concept frailty is very dynamic. There is never only one main complaint and frailty need to be detected over time during multiple assessments on different possible problem areas(8). Therefore, it is important that interventions focus on multiple assessments and different problem areas.

## **Existing innovations**

Existing interventions for frail elderly are more likely to be called assessments methods for frailty. These interventions are mostly developed as prognostic instruments and several instruments provide recommendations for more care like the Groninger Frailty Indicator (GFI) and Transmuraal Zorg Assessment Geriatrie (Trazag)(3, 9, 11). The problem with these existing interventions is that they do not aim to prevent further deterioration, to decrease the health care costs or to make it possible for the elderly to live in a non-institutionalized home for a longer period of time. Thereby, these interventions do not focus on multiple assessments. Other existing interventions, like nutritional interventions and physical exercise interventions do not cover all domains of frailty(12). Above all, the effects of the existing interventions are not clear(3, 12).

To obtain insight in the current health state of elderly patients, an inventory must be made of the provided and needed care (bring the fragmented care together) of this group of patients. Several initiatives for new care concepts arose and were developed. These concepts can be described as multidisciplinary (home) screening methods to measure the extent of frailty of elderly patients in a GP practice (1, 9). These concepts include suitable subsequent welfare and healthcare intervention possibilities for patients, including follow-up steps. Beside the focus on the elimination of a disease or a symptom, these concepts also focus on social aspects (1, 9). The innovative integrated care concept of GP practice Van den Helder, is one of these concepts.

## The innovative integrated care concept of GP practice Van den Helder

Since three years, the nurse practitioner (POH) of the GP practice Van den Helder in Delden wants to provide additional and suitable care arrangements to frail elderly on a structured way and coordinate this process in a correct way. Therefore, they developed a procedure to identify frailty. Within this procedure it is necessary to obtain insight in 1) the current health state of elderly patients in the GP practice, 2) to make an inventory of provided and needed care of this group of elderly patients and 3) to evaluate the effects of the new provided care. The new innovative integrated care concept is subsidised by the health insurance company Menzis via the M&I module "Voorbereiding op de zorg voor kwetsbare ouderen". The step-by-step-plan of M&I module is used as guidance for the design of the care concept(13). A summary of the M&I module is visualized in appendix 3. In summary, the care concept consists of a (frailty) screening (patients ≥80 years) during a home visit. Based on the screening outcome, follow-up actions are determined and executed. Examples of follow-up actions are: supplementary tests, referral to welfare plan if patient is not frail and a second screening at home if a patient is frail including a referral to care. Finally, the effect for the patient is evaluated. At the GP practice Van den Helder they have called this concept the innovative integrated care concept; in this study also called: the care concept.

The mediate users of the care concept are the GP, the POH of the GP practice Van den Helder, the district nurse of Carintreggeland and the elderly counsellor of Stichting Welzijn Ouderen (SWO)'t Hof van Twente. A short description of the mediate users is shown in appendix 2.

The available description of the care concept is very brief and on several steps incomplete. The care concept can be described as follows:

First, people of the GP practice aged eighty years and older are selected from the patient population of the GP practice by the GP and POH. The GP and POH determine which professional visits the patient. The POH prepares the home visit; e.g. put lab forms ready, check latest blood pressure and peculiarities. Second, the selected elderly will be screened at home by means of the questionnaire of the GP practice, which includes questions about informal care,

other care, contact persons in case of emergency, gender, date of birth, family situation, length, weight, BMI, blood pressure, glucose level of last lab, the Groninger Frailty Indicator (GFI), life style (smoking, use of alcohol, nutrition and mobility) and use of medication. Thereby, the home situation of the patient will be observed by the interviewer, for example 1) 'How does the patient make a cup of coffee or tea?', 2) 'Are there (many) small rugs in the house?' and 3) 'Are the necessary support measures taken for the toilet and shower?'. Afterwards, the POH processes the data in the information system of the GP and gives feedback to the GP practice. If the GFI-score is <4, no second home visit takes place and a welfare plan is recommended. If the GFI-score is  $\geq$  4, a second home screening takes place in which the same interviewer screens the patient by the means of the Trazag. If necessary, the second screening is complemented with a biometry, extra laboratorial check-ups, an X-ray, a Snaq test and/or a MMSE. Afterwards, the POH processes the data in the information system of the GP practice.

Thereafter, the GP and district nurse will decide whether the patient will be treated by a welfare plan or by a care plan. A welfare plan can consist of: receiving support from volunteer, daytime activities and meal provision. A care plan can consist of: Extra moments for care, medication management, deploy a case manager and referral to geriatric physiotherapist and/or dietician. The SWO will provide the welfare plan. Carintreggeland or the POH will provide the care plan, for example the patient will be referred to district care, case manager dementia, dietician, pharmacy and/or geriatric physiotherapist. The feedback on the welfare and care plans will be sent to the GP practice.

Subsequently, consultation with the GP practice, community care and SWO takes place with input of a geriatrician when needed. Then, the decision whether multidisciplinary consultation is necessary will be made. At the end of the process, the effects for the screened patient will be evaluated.

The new innovative integrated care concept is visualized in a flowchart made by the POH, see appendix 4. The invitation letter for the home visits is presented in appendix 5 and the questionnaire of GP practice Van den Helder is presented in appendix 6. Also a short description of the GFI and Trazag will be given in appendix 7.

## Effects of similar care concepts

The effects of the implementation of the innovative integrated care concept of GP practice Van den Helder are not researched yet. However, effects of care concepts similar to the innovative integrated care concept of GP practice Van den Helder have been researched. Results of these studies are not univocal and thus it is not clear whether early detection is effective for patients and for different aspects of welfare and health (10, 14, 15). It appears, effects of similar concepts

are small either because the frail elderly were already receiving the right care of the care concepts were not well implemented.

For example, the evaluation of the implementation of Prevention of Care (PoC). PoC is a comparable, interdisciplinary and primary healthcare program for non-institutionalized elderly in a frail position (GFI  $\geq$  5). During the evaluation at six general practices in the control group and six general practices in the intervention group (n completed=270), no evidence was found that PoC was more effective in preventing and reducing (further) disability functional decline than usual care; no significant difference was found (multilevel analyses, CI=95%, P<0.05) (10).

In another study, the extent of frailty (frail if  $GFI \ge 4$ ) of the elderly patients from the health care centrum Ommoord in Rotterdam was measured based on outcomes of the self-screening form of the GFI. The study found that the number of subsequent actions and needed measures was small. In total, 30 subsequent actions were needed in 587 participants. Thereupon, it was stated that the majority of elderly received adequate care, even though they were not 'in the picture' as such (15).

This means that the effects of similar care concepts to the Van den Helder concept are small, probably because the frail elderly were already 'in the picture' and received the right care or the care concepts are not well implemented which can lead to small effects. Which can reflect the expected effects of the Van den Helder concept. In the Van den Helder concept.

# **1.3 Implementation of care concepts**

# Innovation and implementation

This study focusses on the implementation process of the care concept. Implementation is a stage of the innovation process. Different models of an innovation process exist, see e.g. (16) and (17). One commonly used model consists of four steps: first distribution, next adoption, then implementation and finally continuation (16). During the implementation stage the innovation is put into practice for the first time(18). The implementation stage consists of three stages which are: 1) redefining/restructuring, 2) clarifying and 3) routinizing(18). The implementation stage has come to an end when the new innovation loses its 'distinctive quality as the separate identity' (18). After the innovation is adopted, the organization and innovation are expected to change in important ways (18).

## **Barriers and facilitators**

The implementation stage appears to be a pitfall. More than 70% of the companies fail to implement new strategies(19). This is not due to a lack of understanding and knowledge about the inappropriate strategic intent and environmental forces , but the problems lay in how to

achieve the changes(20). The barriers are that during the implementation stage problems on how new innovation should be used arise and stack up. Thereby, users of the innovations are seeking for information about the use of the innovation and mostly, in an organisation different people are involved in the innovation process (18). For implementation of a new innovation it is important that the involved parties exactly know how to use the new care concept, otherwise the intended effects for the aimed group cannot be reached (16). However, the stability and continuality in an organisation structure can also be a resistant force for the implementation (18).

The success of the implementation depends on 29 determinants of these four domains: the intervention, the user(s), the environment and the social political environment (16). The determinants can be experienced as a barrier (negative) or as a facilitator (positive) e.g. the completeness of innovation can be experienced as a barrier or as a facilitator. Which determinants are experienced as facilitator or as barrier is unknown for the innovative integrate care concept.

#### **1.4 Research questions**

The effect of the innovation depends on the implementation. So, to succeed this new innovation, a good implementation is important. But as read above, a lot of problems arise during the implementation stage without people knowing the exact reason. Therefore, the implementation process will be evaluated during this study; by studying the effects of the frailty screening (the basis of care concept) and if these effects depend on the implementation, mapping out the implemented care concept with the reasons for deviations compared to the developed concept. Furthermore, by gaining insight in barriers and facilitators, which could interfere with a (proper) implementation of the care concept.

The execution of the first screening at home, interpretation of the results and following referrals after the first home screening, form the basis of the care concept. An incorrect interpretation and execution can influence the usefulness of the rest of the care concept in a negative way. To see whether the first screening at home has leads to well fitted referrals, the type of referral (welfare or care plan) to the elderly aged eighty years and older according to the formerly used indication method will be compared to the outcomes of the first home screening (GFI score). The formerly used indication method is determine the extent of frailty and the type of referral based on the 'Gut'-feeling' of the GP and POH.

The differences between the outcomes of the formerly used indication method and the outcomes of the first home screening (GFI score) will show whether the frailty screening (the basis of the concept) will lead to different types of referral. Since the GFI is a validated screening instrument (1, 11, 13); it is assumed that when the frailty screening by the means of the GFI has no

agreement with the formerly used method, the first screening part leads to more correct referrals and subsequently the care concept will contribute to well fitted care.

Thereby, the implementation process will be evaluated on the basis of the deviations and the reasons for these deviations between the developed and implemented care concept. The developed care concept is the care concept in theory (intended plan). The implemented care concept is the care concept as executed in practice. Also, the barriers and facilitators experienced by the healthcare workers which influence the implementation of the innovation process of the whole care concept will be evaluated.

By comparing the developed and the implemented care concept, it is possible to map out how far the implementation is in comparison to the developed care concept. Whether, there are any problems which could interfere with a proper implementation of the care concept and thus can influence the effect of the home screening. The gathered information (e.g. any problems) can form a basis for improvement of the implementation.

The barriers and facilitators researched in this study will provide guidelines on how to improve the care concept. Barriers should be the focus for improvements of the innovation process. This way, the implementation of the innovation will have less resistance. Facilitators should remain the same.

The results of this study are not only useful for the involved parties of this study, but also for other parties who already use an innovative integrated care concept or who have the intention to implement one.

Summarizing, the goal of this study is to gain insight in whether the home screening of the care concept leads to more well fitted type of referral (care or welfare), whether mediate users comply with the developed care concept, and which determinants influence the implementation process, by evaluating the implementation process of the care concept at the GP practice Van den Helder. The following research questions are defined to reach this goal:

- 1. What are the differences between the type of referral (welfare and/or care plan) at the elderly aged eighty years and older according to the formerly used indication method compared to the outcomes of the home screening by the actual referral and the GFI?
- 2. In which ways and for which reasons does the developed new innovative integrated care concept deviate from the implemented care concept in practice?
- 3. Which facilitators and barriers towards the implementation of the care concept do mediate users of the care concept experience?

The first question is restricted to a part of the care concept namely, the first screening at home and the determination of the follow-up action(s). The other questions are related to the entire

care concept, which include the frailty screening (patients ≥80 years) during a home visit, the determination and execution of follow-up actions and the evaluation of the effect for the patient.

# 2. Methods

Per research question the research objects, research variables, the measurement and analysis methods will be discussed.

# 2.1 Question 1

What are the differences between the type of referral (welfare and/or care plan) at the elderly aged eighty years and older according to the formerly used indication method compared to the outcomes of the home screening by the actual referral and the GFI?

# 2.1.1 Research objects - question 1

To answer this question, a prospective study was performed. All patients in the GP practice Van den Helder in Delden who met the inclusion and exclusion criteria were selected. According to the mediate users it was not feasible to perform all home visits before July 2015. The POH of GP van den Helder, the elderly counsellor of SWO and the district nurse counsellor of Carintreggeland each could visit a maximum of two patients per day and could not perform other tasks in the practice or at work. Therefore a sample of the selected patients was included according to the following randomisation procedure: include every first, third, sixth, eighth and tenth patient of the list with selected patients sorted in alphabetic order.

# Inclusion criteria

- 1. Patients aged eighty years and older from the GP practice Van den Helder.
- 2. Patients who were not screened on frailty (like, with GFI or Trazag) before.

# **Exclusion criteria**

The exclusion criteria were determined by the POH and the general practitioner Van den Helder.

- 1. Patients, who had severe psychological or cognitive dysfunction, like dementia.
- 2. Patients who were very ill (terminal).
- 3. Patients who were unable to communicate in Dutch.

The number of elderly, aged eighty years and older, was 151 on September 21<sup>th</sup> 2014. From the 151 patients, 21 patients were already screened with the GFI. In total 115 patients met the inclusion- and exclusion criteria. Finally, 49 patients were included in this study.

# 2.1.2 Research variables, measurement and analysis – question 1

The type of referral was assessed by the formerly used indication method, the actual referral and by the means of the GFI.

For the formerly used indication method, all included patients were scored with frail or not frail based on the 'gut-feeling' (a kind of intuition) of the GP and of the POH separately. However, if a patient was not scored, the score was recorded as a missing value. Patients had to be scored before October 7<sup>th</sup> 2014 to prevent that the home visits influenced the outcomes of the given scores frail or not frail based on the 'gut-feeling'.

The GFI consists of fifteen items which can be scored with zero or one. The GFI score was calculated by the sum of these items (1). However, if not all items of the GFI were filled in, the GFI score was not calculated, but recorded as a missing value. The questionnaire for the home visits had to be elicited by the POH of GP van den Helder, the elderly counsellor of SWO or by the district nurse counsellor of Carintreggeland in the period between October 7<sup>th</sup> 2014 and July 7<sup>th</sup> 2015. Subsequently, when a GFI score was calculated based on the first visit, the follow-up actions were collected.

First, the outcomes of the formerly used indication method were compared to the outcomes of the home screening; the prescribed follow-up actions and the GFI outcomes, e.g. percentage of frail patients and number of frail elderly who were frail according to both methods. According to the care concept, a patient should receive welfare plan or care plan when frailty was detected. Otherwise, the patient should receive a welfare plan. The outcomes were reported in percentages, numbers and means. Second, the agreement between the formerly used indication method and the GFI-score were calculated according the Cohen's Kappa based on the following cut-off points: formerly used indication method: frail = yes and not frail=no; cut-off points GFI-score: not frail when GFI<4 and frail when GFI≥4. The kappa value was interpreted accordingly table 1, after Landis and Koch(21).

#### Table 1: Interpretation of Cohen's Kappa(21)

Kappa Statistic	Strength of Agreement
<0.00	Poor
0.00-0.20	Slight
0.21-0.40	Fair
0.41-0.60	Moderate
0.61-0.80	Substantial
0.81-1.00	Almost Perfect

All analyses were performed in Microsoft Excel.

# 2.2 Question 2

In which ways and for which reasons does the developed new innovative integrated care concept deviate from the implemented care concept in practice?

#### 2.2.1 Research objects - question 2

To answer this question, five home visits (first screening) performed between October 2014 and January 2015 were observed. These home visits were performed by either the POH, the elderly counsellor of the SWO of the region Delden or by the district nurse counsellor of Carintreggeland.

Besides, people who elicited the questionnaires during the home visits were interviewed together using an open topic interview. This way they had the opportunity to complement each other and to let the interview be more spontaneous; and to anticipate as interviewer on the given information (22). The GP was interviewed separately, as the GP had different responsibilities in the developed care concept, namely the care concept was operationalized under his responsibility. In this way we prevented the other mediate users being affected by the director role.

#### 2.2.2 Research variables – question 2

The developed care concept was split up into 12 steps, see table 2. For each step a research variable was formulated (execution deviates from developed concept, yes or no). Per research variable it was determined wheter the implemented care concept deviated from the developed care concept.

In addition, it was registered for each home visit whether 1) extra questions were asked that were not in the questionnaire, 2) questions were skipped, 3) a different question sequence was used, 4) problems or obstacles occurred during the home visit, and 5) the duration of the interviews (split up in introduction, elicit the questionnaire and rounding off) was measured (in minutes).

1.	Selection patients
2.	First home visit, including first screening
3	Subsequent steps, based on the first home visit
4.	Second home visit, includes second screening
5.	Supplementary tests, if necessary
6.	Feedback to patient
7.	Decide if welfare- and/or care plan to patient is necessary
8.	Actions referral to health care providers, if necessary
9.	Feedback to general practitioner practice
10.	Multidisciplinary consultation about patient with mediate users, if necessary with geriatrician

#### Table 2: The 12 steps of the developed care concept:

11.	Evaluation of the process

# 12. Add information to the general practitioner's information system.

#### 2.2.3 Measurement methods and analysis – question 2

At the start of the research the mediate parties were told that they had to work according to the developed innovative integrated care concept.

# **Observation of home visits**

For each home visit, the duration, questions asked, and the problems which occurred around and during the home visit were noted. When the implemented questionnaire deviated from the developed questionnaire, the reason for deviation was deduced from the observation and noted as well.

# Analysis of the home visits

The duration of (a part of) the home visits was calculated by summing up the time of the introduction, time to elicit questionnaire and the time of rounding off the home visit. The mean duration of a (part of the) home visit was calculated over the six observations. However, if the duration of a part was unknown, the total duration of the home visit was not calculated, but recorded as a missing value. The results were reported as duration in minutes, means, minimum score and maximum score. All analyses were performed in Microsoft Excel.

The amount of data of the observations were reduced by deleting irrelevant data and labelling the remaining data (22). The labelling was done by giving important text parts labels like the label 'problems during home visits'. All asked questions during a home visit were compared to the questionnaire of the GP practice to get an overview of all extra questions asked that were not in the questionnaire, questions skipped, and when a different question sequence was used. Only when a reason for a deviation came forward during the home visit, the reason for the deviation was also given. The qualitative results (observation, extra asked questions, questions skipped, different question sequence and problems or obstacles about and during the home visit) were used to explain remarkable results.

## Interviews

The central question during the interview was: how is the innovative integrated care concept executed? So, these outcomes could be compared to the developed care concept. To be ensured all twelve research variables (topics) were discussed, a topic was brought into discussion by the interviewer when a topic was not discussed. In addition, the respondents were asked to discuss a topic more extensively when necessary. The topic interview is presented in appendix 8.

## Analysis of the interviews

The collected interview data was analysed as the following. First, all interviews were transcribed. Second, the amount of data was reduced by deleting irrelevant data and labelling the remaining data (22). The labelling was done by giving important text parts labels and classifying them as 'deviates from developed care concept' or 'does not deviate from developed care concept' (23). Then, for each label it was determined to which item of the twelve items of the care concept it is related. Subsequently, the labels were nested under that/ those items of the care concept.

Subsequently, the outcome of the interviews was compared to the developed innovative integrated care concept by the means of the twelve steps. Hence, the description of each step was compared to the given descriptions of the implemented care.

# 2.3 Question 3

Which facilitators and barriers towards the implementation of the care concept do mediate users of the care concept experience?

# 2.3.1 Research objects - question 3

To answer this question, people who work with the care concept (the mediate users) were interviewed face-to-face by the means of the MIDI (Meetinstrument Determinanten van Innovaties) by the researcher. To explain, face-to-face interviews gave more insight in the personal perspective of the interviewed person (24). The MIDI is a questionnaire model which can be used to predict the influence on the innovation process of new interventions of 29 determinants of the four domains: the intervention, the user(s), the environment and the social political environment, whereby the mediate users play a central role(16). When the predicted influence was negative it was seen as a barrier and when the predicted influence was positive it was seen as facilitators. The structure of the questionnaire prevented that the interviewer forgot a determinant or asked the questions in an illogical order. Moreover; each interviewee was asked to explain the given answer. The MIDI questionnaire was complemented with open questions on the background characteristics of the interviewee. In this study the mediate users were the GP, the POH, the elderly counsellor and the district nurse counsellor.

## 2.3.2 Research variables- question 3

The research variables were the 29 determinants used in the MIDI. For each determinant was defined if it was a potential barrier or facilitator towards the implementation process of the care concept.

# **2.3.3 Measurement methods and analysis– question** 3 MIDI questionnaire – operationalisation

The MIDI questionnaire was adjusted to make it applicable for the specific use of the new integrated innovative care concept at the GP practice Van den Helder. This was done according

to the accompanying manual of the MIDI questionnaire for the correct use of the MIDI(16). The following six adjustments were made:

- 1. The phrase 'new intervention' was replaced by the phrase 'the new care concept';
- 2. The goals of the new concept were added to the question of determinant 9;
- The tasks for the mediate users according to the care concept were added to the questions of determinants 10 and 16 with a distinction in common/general tasks and function specific tasks;
- 4. The people who had something to do with the care concept were added to the question of determinant 13;
- 5. The concerned parties from inside and outside the organisation were added to the question of determinant 15; and
- 6. The subjective question of determinant 17 was used, because there was no appropriate knowledge test available.

The operationalised MIDI questionnaire is presented in appendix 9.

# Analysis of the interviews

The scores per MIDI item were analysed as follows: for every determinant the mean score of the four respondents was calculated. When values were missing, these values were excluded. The scoring of these variables was either 0/1, 1-4, 1-5 or 1-7. The score was interpreted according to table 3. In order to identify and define potential barriers and facilitating factors, cut off points were defined for each determinant, see table 2. The determinants 1-13, 15-17, 20-24 and 27-29 were perceived as neutral (neither agree nor disagree).

Determinant	Scoring	Potential barrier	Neutral	Potential facilitator	High potential facilitator
19, 25, 26	1.0) no/ 2.0) yes	≤0.5	0.5	≥0.5<0.8	≥0.8
18	1.0) I do not know the new care concept/ 2.0) I do know the new care concept, but did not read through (yet)/ 3.0) I do know the new care concept and I read through the concept superficially/ 4.0) I do know the new care concept and I read through the concept thoroughly	≤2.0	-	≥3.0<4.5	≥4.5
1-8,9a-c,10- 13, 16-17, 20- 24, 27-29	1.0(totally disagree)/ 2.0(disagree) /3.0(neither agree nor agree)/4.0(agree)/5.0(totally agree)	<3.0	3.0	>3.0	≥4.5

#### Table 3: Interpretation of MIDI score

9d-f, 15a	1.0(most definitely not) / 2.0(definitely not)/	<3.0	3.0	>3.0	≥4.5
	3.0(maybe or maybe not)/ 4.0(definitely)/				
	5.0(definitely yes)				
15b	1.0(very little) / 2.0(little) / 3.0(not little, not much) /4.0(much)/ 5.0 (extremely much)	<3.0	3.0	>3.0	≥4.5
14	<ul> <li>1.0(no colleague)/ 2.0(almost no colleague)</li> <li>/ 3.0(the minority) / 4.0(half) 5.0(the majority) / 6.0(almost all colleagues) /</li> <li>7.0(all colleagues)</li> </ul>	<4.0	-	≥4.0<6.0	≥6.0

Determinants 8-10, 13, 15 and 16 consisted of sub questions in which either the average score (determinants 10 and 16) or the score per sub question (determinants 8, 9, 13 and 15) were reported. Furthermore, as the scoring (1 to 5 and 1 to 2) of determinants 4, 8b, 8d and 25 was opposite of the other determinants, its scores were recoded accordingly.

Per determinant the outcomes were reported as numbers, means, standard deviation, minimum score and maximum score. The qualitative results (amplification of the given answer), were used to explain notable (potential barriers and high potential facilitators) results.

All analyses were performed in Microsoft Excel.

For the open part of the interview, the collected interview data were analysed as follows: first, all interviews were transcribed. Second, the amount of data was reduced by deleting irrelevant data and labelling the remaining data. The labelling was done by giving labels to the important text parts by classifying them as 'experienced as a facilitator of the care concept' or 'experienced as a barrier of the care concept' (23). Then, for each label it was determined to which item of the twelve items of the care concept it is related. Subsequently, the labels were nested under that/ those items of the care concept.

# 3. Results

First, the research characteristics will be discussed shortly. Thereafter, the results will be presented for each research question.

# 3.1 Research characteristics

The research is carried out between October 2014 and July 2015. During this time, the results of 26 home visits between October 7<sup>th 2014</sup> and July7<sup>th</sup> 2015 were analysed to determine GFI scores of elderly patients from the GP practice Van den Helder. In September 2014, 151 patients at the GP practice Van den Helder were aged eighty years or older of which 115 patients met de in-and exclusion criteria.

Four individuals (GP, POH, elderly counsellor and district nurse counsellor) were interviewed according to the MIDI questionnaire about which barriers and facilitators they experienced regarding the implementation of the care concept.

In table 4-5, some characteristics about the respondents as well as the home visits are given.

## Table 4: Characteristics respondents

Mediate users	Age	Gender	Study, background
GP	51	Man	Medicine, general practitioner (WO)
РОН	45	Woman	Doctor's assistant (MBO) POH elderly care (HBO)
Elderly counsellor	46	Woman	Main course: Social work and services (HBO)
District nurse counsellor	53	Woman	A-course nursing (MBO) Social healthcare (HBO)

## Table 5: Duration observed home visits per elicitor, n = 5

Elicitor	Introduction in minutes duration (min)	Elicit questionnaire duration (min)	Rounding off duration (min)	Total duration (min)
РОН	2.0	34.0	7.0	43.0
РОН	5.0	60.0	7.0	72.0
Elderly counsellor	13.0	37.0	1.0	51.0
Elderly counsellor	0.0	29.0	10.0	39.0
District nurse counsellor	35.0	45.0	3.0	83.0
Average total duration	11.0(range:0.0-35.0)	41.0(range:29.0-60.0)	11.0(range:1.0- 10.0)	57.6 (range: 39.0-83.0)

# 3.2 Results research questions

#### 3.2.1 Question 1

What are the differences between the type of referral (welfare and/or care plan) at the elderly aged eighty years and older according to the formerly used indication method compared to the outcomes of the home screening by the actual referral and the GFI?

#### 3.2.1.1 Results of comparison type of referrals

In the period between October 7<sup>th</sup> 2014 and July 7<sup>th</sup> 2015, 26 of the 49 included patients were visited at home. Six patients were visited by the POH, ten by the elderly counsellor SWO of the region Delden, and nine by the district nurse counsellor of Carintreggeland. For the remaining patient, no information regarding who visited the patient was registered. For the 26 patients, 21 GFI questionnaires were completed (in 5 patients, the GFI score was unknown). The average GFI-score was 3.8 (SD=2.1). As can be seen in table 6, ten of the 21 patients (47.6%) were frail (score  $\geq$ 4) when measured with the home screening by the means of the GFI. According to the care concept, these patients should be screened by the means of the Trazag; subsequently, these patients should receive a welfare plan or care plan. Likewise, the remaining 52.4% of the patients who were not frail, should receive a welfare plan (GFI score <4).

According to the formerly used indication method of the 'gut-feeling' POH and GP together, out of the 49 scored patients 22 patients (GFI score <4) should have received a prescription for a welfare plan (GFI score <4) and 25 patients should have received a welfare or care plan. Two values were missing; the POH scored 47 patients instead of 49 patients as frail or not frail.

The GP scored based on his 'gut feeling two out of the 21 screened patients as frail and nineteen patients as not frail; out of the two patients scored as frail, two patients were frail (GFI score  $\geq$ 4) according to the GFI questionnaire and out of the nineteen patients scored as frail eleven patients were not frail (GFI score <4) according to the GFI questionnaire. The POH scored based on her 'gut feeling nine patients out of the 21 screened patients as frail and twelve patients as not frail; from which six patients were also frail (GFI score  $\geq$ 4) according to the GFI questionnaire and eight patients were also not frail (GFI score  $\geq$ 4) according to the GFI questionnaire. So, the Cohen's Kappa coefficient between Kappa (formerly used care concept POH/GP/POH and G together - by the means of the GFI) were respectively 0.21, 0.33 and 0.43. Which indicated a fair strength of agreement with the 'gut feeling' of the POH and of the GP separately and a moderate strength of agreement with the 'gut feeling' of the POH and of the GP together.

Table 6: Outcomes of the comparison of the extent of frailty by the means of the formerly used indication method and by the means of the GFI

Outcomes based on	Number of patients not frail (n (%))	Number of patients frail (n (%))	Total number of scored patients (n (%))	Number of patients, score unknown (n)	Value of kappa (GFI score - 'gut-feeling')
ʻgut-feeling' GP	45 (91.8)	4 (8.2)	49 (100.0)	0	0.21
'gut-feeling' POH	28 (59.6)	19 (40.4)	47 <sup>1</sup> (100.0)	2	0.33
'gut-feeling' POH and GP together	25 (53.2)	22 <sup>2</sup> (46.8)	47 <sup>1</sup> (100.0)	2	0.43
GFI score	11 (52.4)	10 (47.6)	21 (100.0)	5	-

1: Two missing values, the POH scored 47 patients instead of 49 patients as frail or not frail.

2: One patient was scored as frail by the POH as well as by the GP, so in total 22 (not 23) patients were scored as frail.

Neither one patient was screened twice or by the means of the Trazag. In nine of the 26 screened patients follow-up actions were noted, the GFI score of these nine patients was known. Two of the nine follow-up actions were given already; of the remaining seventeen patients it was not noted if there were follow-up actions prescribed. All follow-up actions were related to health care and in four out of ten patients who should receive a care plan or welfare plan (GFI  $\geq$  4), a follow-up action was noted. An overview of the noted follow-up actions per GFI score is presented in table 7.

GFI	Follow-up action	
score		
1	Control after one year and laboratorial check	General physiotherapist
2	Receives good care out of nursing home already	
3	Control Diabetes Mellitus at home	Geriatric physiotherapist
5	Somatic care	
6	Receives good care out of nursing home already	Mental care
7	District care	

#### Table 7: An overview of the noted follow-up actions per GFI score

To conclude, according to the care concept out of the 21 scored patients, eleven patients (GFI score <4) should have received a prescription for a welfare plan (GFI score <4) and ten patients should have received a welfare or care plan. And according to the formerly used indication method out of the 49 scored patients 22 patients (GFI score <4) should have received a

prescription for a welfare plan (GFI score <4) and 25 patients should have received a welfare or care plan. The strength of agreement between the formerly used indication method and by the means of the GFI-score according to the Cohen's Kappa was fair for the 'gut feeling' of the POH and of the GP separately and a moderate for the 'gut feeling' of the POH and of the GP together All follow-up actions were related to care and in four out of ten patients who should receive a care plan or welfare plan (GFI  $\geq$  4), a follow-up action was noted.

#### 3.2.2 Question 2

In which ways and for which reasons does the developed new innovative integrated care concept deviate from the implemented care concept in practice?

## 3.2.2.1 Results of the open interviews

First, the results of the open interviews on the ways the developed care concept deviated from the implemented care concept will be described and presented in a table per step of the care concept. Second, the reasons for these deviations (according to respondents) will be described and presented in a table per reason of the deviations. The results are very extensive and diverse, so only the main deviations are named.

At the end, the results of the observations of the home visits will be discussed in part 3.2.2.2

## Deviations from developed care concept

The implemented care concept deviates from the developed care concept in several characteristics. The main deviations were, that additional selection criteria and opportunistic criteria were used, e.g. the extent of frailty was based on 'gut feeling' of the GP and POH and two screenings were done during one single home visit if the spouse of a selected patient had to be screened as well. There was no second home screening and the Trazag questionnaire was not used if GFI score ≥4. The decision for whether a welfare- and/or care plan has to be prescribed was not a hundred percent based on the GFI score, but also in which areas the patients had low scores. For example, when it is not possible to improve a problem area, a welfare- and/or care plan will not add any value and will therefore not be prescribed. If no approval of the GP was needed, the interviewers took actions for the wellbeing of the patients themselves, for example deploying a volunteer and referring the patients to a physiotherapist. Another deviation was that multidisciplinary consultation was not always present, according to the respondents. Instead, there was a monthly consultation (called "werkoverleg") with the POH, elderly counsellor and district nurse counsellor. Furthermore, there was no evaluation of the effect of the process executed yet, instead a new evaluation plan was designed (and was being adjusted) by the mediate users.

A more detailed overview on the ways the developed new innovative integrated care concept deviated from the implemented care concept in practice is presented in appendix 10.

#### Reasons for deviations

The implemented care concept deviates from the developed care concept because of several reasons. First, there was a lack of a detailed and sufficiently concrete plan. For example, the plan was not very detailed and evoked differences in execution. Furthermore, there were no agreements between the mediate users on how to execute the plan; it was unclear to the mediate users how to interpret the outcomes of the home visits and the mediate users had the desire to fit the need of the client. Moreover the users felt the need to obtain more information about the patient. Third, the preconditions were not sufficient for the implementation of the developed care concept. A part of that was that the users were missing skills (for example computer skills) and there was a lack of resources and time. Fourth, since there was no agreement between the mediate users on the content of every part of the care concept, those parts were executed differently or not at all. For example, the mediate users took direct action instead of consulting the GP first (they had the desire to react as soon as possible on problems of the patient). Furthermore they adjusted the questionnaire of the GP and they did not perform a second home screening if GFI ≥4. Another example is that the Trazag was not used because it was too intensive (e.g. time consuming) and the mediate users did not check if the patient accepted the follow-up actions because it was, according to them, the responsibility of the patient. Fourth, not every phase of the care concept was reached yet, for example, the evaluation was not executed yet. A fifth deviation was that the mediate users performed extra tasks which were not mentioned in the concept. These extra tasks were, for example, making appointments for the home visit, filling out the 'survey monkey' for a GDD research about different target groups. Moreover, the POH gave ICPC code to chronically ill people and they filled out a M&I module for subsidy of Menzis for this pilot.

All reasons for deviations between the developed care concept and the implemented care concept are shown in appendix 11.

## 3.2.2.2 Results observations home visits

For further comparison between the implemented care concept and the developed care concept, five out of the six scheduled home visits where observed.

On average, the duration of a home visit was 57.6 minutes (min: 39.0 min; max: 83.0 min). The introduction took an average of 11.0 minutes (range:0.0-35.0), the elicitation of the questionnaire took an average of 41.0 minutes(range:29.0-60.0) and rounding off the home visit took an average of 11.0 minutes(range:1.0-10.0), see table 4.

During the observation of the five home visits, remarkable results about extra parts performed and parts executed differently were noticed. The outcomes showed deviations with the developed care concept and the reasons for these deviations.

#### Parts executed differently during the home visits

In some incidents, parts of the questionnaire were skipped during the home visit. A reason for this could be that different people interviewed the patient and each person worked different and has a different (study) background. This also influenced the sequence in which the questions were asked. There were questions that have only been asked by the elderly counsellor, for example, guestions on length of the patients and the guestion 'Are you familiar with the medication passport?' The reason why only the elderly counsellor asked these questions was unknown. The POH did not ask the question: 'How many days per week do you work-out for at least 30 minutes per day?' as well as the questions on BMI of the patient, weight (in kilograms) of the patient and used medication were never asked. Despite that, the POH and elderly counsellor both asked if the weight of the patient was constant, by asking the guestion "Did your clothing size remain the same?" Furthermore, the three questions 'Do you ever experience emptiness around you?', 'Do you ever miss people around you?' and 'Do you ever feel left alone?' were never asked together. The question 'Did you ever think about reanimation?' and 'Have you made agreements according to your end of life?' were not asked to every patient. According to the interviewers, the reason to not ask those questions was because it can be very sensitive issue. For more details, see appendix 12.

#### Extra parts added to the home visit

In some incidences, extra questions were asked by the interviewers to either get more information from the patient, clarify the given answer or as an icebreaker to the home visit. Like, the district nurse counsellor asked 43 questions before she started the screening to break the ice. For example: 'How are you doing?', Did you receive the invitation letter?', 'Can you cook by yourself?' and 'Do you still write?'.

The interviewer gave advice when it was regarded necessary. The advice was about, for example: 1) medication roll, 2) hydration, 3) automatic prescription of pharmacy, 4) geriatric physiotherapist, and 5) volunteer and daily activities. The interviewer gave more explanation about the intention of the home visit when it was necessary, also because patients thought the visits had to do with changes in the WMO legislation. Furthermore, all questions were understood by the patients, except for the term 'emptiness' in the question: 'Do you ever experience emptiness around you?' For two out of the five patients, it was difficult to answer questions about their physical condition and one out of the five patients could not give an answer. For four out of five patients it was difficult to answer question about the amount of fluid intake.

Moreover, a personal interpretation was given by the interviewers (e.g. different (study) background) to the home visit. This has led, as already stated before, to skipping questions and changing the sequence of the questionnaire, but also to a different area focus (welfare or care), different introduction and finish of the home visits, different observations of the home situation of the patient, different minutes made per home visits and different ways of giving feedback to the patient. Another remarkable point was that the district nurse was the only elicitor who left her phone number in case the patient had any questions which had to do with the home visit.

To conclude, the main deviations between the developed and the implemented concept were, additional selection criteria and opportunistic criteria were used, no second home screening, Trazag questionnaire was not used if GFI score  $\geq$ 4, multidisciplinary consultation was not always present and there was no evaluation of the effect of the process. The main reasons for deviations were a lack of a detailed and sufficiently concrete plan, sufficient preconditions and no agreement between the mediate users on the content of every part of the care concept.

On average, the duration of a home visit was 57.6 minutes (min: 39.0 min; max: 83.0 min). Parts executed differently during the home visits like, parts of the questionnaire were skipped during the home visit. Extra parts/questions were added to the home visits for example to either get more information from the patient, clarify the given answer or as an icebreaker to the home visit. Moreover, a personal interpretation was given by the interviewers (e.g. different (study) background) to the home visit and they gave advice when it was regarded necessary.

## 3.2.3 Question 3

Which facilitators and barriers towards the implementation of the care concept do mediate users of the care concept experience?

## 3.2.3.1 Results MIDI interviews

In table 8, the results of the MIDI are presented. As can be seen, particularly low scores (indicating potential barriers) were found in the domain environment. All items in the environment domain, except availability of information regarding the innovation, availability materials and facilities and coordination, had low scores. In contrast, in the domain innovation, almost no potential barriers were found, only the determinant congruency with the current method of working scored neutral. For the domain of the user, one out of 26 items indicated problems and one out of 26 scored neutral. The domain of the social political environment consisted of one determinant which indicated a potential facilitator.

#### Table 8: Results MIDI interviews, n=4

Determinants MIDI	Average score (SD) <sup>i</sup>	Min score	max score
Determinants with regard to the innovation			
1. Procedural clarity <sup>1</sup>	4.3(0.4)	4.0	5.0
2. Accuracy (concept is based on actual accurate knowledge) <sub>1</sub>	4.0(0.0)	4.0	4.0
3. Complete <sup>1,8</sup>	3.7(0.5)	3.0	4.0
4. Complexity <sup>1,8</sup>	4.7(0.5)	4.0	5.0
5. Congruency with the current method of working <sup>1</sup>	3.0(1.0)	2.0	4.0
6. Visibility outcomes <sup>1</sup>	4.0(0.0)	4.0	4.0
7. Relevance client (suitable for 80+) <sup>1</sup>	4.0(0.0)	4.0	4.0
Determinants with regard to the user			
8a. Personal advantage <sup>1</sup>	3.8(0.4)	3.0	4.0
8b. Personal disadvantage <sup>1</sup>	2.8(0.8)	2.0	4.0
8c. Advantage organisations <sup>1</sup>	4.3(0.4)	4.0	5.0
8d. Disadvantage organisations <sup>1</sup>	3.0(1.0)	2.0	4.0
9a. Outcome expectation, importance goal 1 <sup>1</sup>	4.5(0.5)	4.0	5.0
9b. Outcome expectation, importance goal 2 <sup>1</sup>	4.0(1.2)	2.0	5.0
9c. Outcome expectation, importance goal 3 <sup>1</sup>	3.3(1.5)	1.0	5.0
9d. Outcome expectation, probability goal 1 <sup>1</sup>	3.8(0.4)	3.0	4.0
9e. Outcome expectation, probability goal 2 <sup>1</sup>	4.0(0.7)	3.0	5.0
9f. Outcome expectation, probability goal 3 <sup>1</sup>	3.5(0.5)	3.0	4.0
10. Interpretation of one's job (is part of my job) <sup>7</sup>	4.0(0.0)	4.0	4.0
11. Satisfaction client <sup>1,8</sup>	4.3(0.5)	4.0	5.0
12. Cooperation client <sup>1</sup>	4.5(0.5)	4.0	5.0
13a.Social support- volunteer aid <sup>1</sup>	3.8(0.4)	3.0	4.0
13b.Social support- patients aged 80 +1	4.0(0.7)	3.0	5.0
13c.Social support- my colleagues <sup>1</sup>	4.5(0.5)	4.0	5.0
13d.Social support- my direct manager <sup>1</sup>	4.3(0.5)	4.0	5.0
13e.Social support- the management <sup>1,8</sup>	4.0(0.0)	4.0	4.0
13f. Social support- the involved HC professionals in HC chain <sup>1,8</sup>	4.3(0.8)	3.0	5.0

14. Descriptive norm <sup>2</sup>	4.0(3.0)	1.0	7.0
15a.Subjective norm- normative believes <sup>3</sup>	3.3(0.4)	3.0	4.0
15b.Subjective norm-motivation to comply <sup>4</sup>	4.0(0.0)	4.0	4.0
16. Own expectation of effectiveness <sup>7</sup>	4.3(0.4)	4.0	5.0
17. Knowledge (I have enough knowledge) <sup>1</sup>	4.0(0.7)	3.0	5.0
18. Data processing (informed about the care concept) <sup>4</sup>	3.8(0.4)	3.0	4.0
Determinants with regard to the environment			
19. Formal confirmation management <sup>6</sup>	0.3(0.4)	0.0	1.0
20. Replacement at labour turnover <sup>1</sup>	1.5(0.5)	1.0	2.0
21. Capacity/ occupancy rate (enough personnel) <sup>1</sup>	2.5(1.1)	1.0	4.0
22. Financial means (enough money) <sup>1</sup>	2.0(0.7)	1.0	3.0
23. Time (enough time provided by the organization) <sup>1</sup>	2.8(0.8)	2.0	4.0
24. Availability materials and facilities <sup>1</sup>	4.0(0.0)	4.0	4.0
25. Coordination (appointed coordinator within organisation) <sup>8,6</sup>	0.7(0.5)	0.0	1.0
26. Turbulence within organisation (are there other changes) <sup>8,6</sup>	0.0(0.0)	0.0	0.0
27. Availability of information regarding the innovation <sup>1</sup>	3.8(1.6)	1.0	5.0
28. Feedback to user (about implementation concept) <sup>1</sup>	2.8(1.3)	1.0	4.0
Determinants with regard to the social political environment			
29. Legislation and regulation (in line with) <sup>1</sup>	4.5(0.5)	4.0	5.0

i: Red= potential barrier, orange= neutral and green= potential facilitator

1: response categories 1.0) totally disagree),2.0) disagree, 3.0) neither agree nor agree, 4.0) agree, 5.0)totally agree

2: response categories: 1.0) no colleague, 2.0) almost no colleague, 3.0) the minority, 4.0) half, 5.0) the majority, 6.0) almost all colleagues, 7.0) almost all colleagues,

3: response categories 1.0) most definitely not, 2.0) definitely not, 3.0) maybe or maybe not, 4.0) definitely, 5.0) definitely not

4: response categories 1.0) very little, 2.0) little, 3.0) not little, not much, 4.0) much, 5.0) extremely much

5: response categories 1.0) I do not know the new care concept, 2.0) I do know the new care concept, but did not read through (yet), 3.0) I do know the new care concept and I read through the concept superficially, 4.0) I do know the new care concept and I read through the concept thoroughly

6: response categories 1.0) no, 2.0) yes

7: Based on average scores

8: Incomplete scores( 1,2 or 3 scores, per determinant)

#### 3.2.3.2 Potential barriers

As can be seen in table 6, eight potential barriers (i.e. having a score  $\geq 0.5$  (scoring 1.0/2.0),  $\leq 2.0$  (scoring 1.0/4.0), <3.0 (scoring 1.0/5.0) and <4.0 (scoring 1.0/7.0)) towards the implementation of the care concept were: personal disadvantage, formal confirmation management, replacement at labour turnover, capacity/ occupancy rate, financial means, time, turbulence within organisation and feedback to user. To further examine, each potential barrier will be discussed.

# 1. Personal disadvantage

Time investment to implement the care concept was experienced as a personal disadvantage by the POH, the elderly counsellor and the district nurse counsellor. The POH said that many things had to be arranged for the care concept. For the GP, it was not regarded a personal disadvantage, but can be imagined as a disadvantage for the persons who execute the care concept. However, the GP said: *"It is possible to make a plan for the execution. You make appointments with the patients at home".* This disadvantage is further amplified under the potential barrier Time (see point 6. Time).

2. Formal confirmation management

Overall, the content of the care concept was not clear to the respondents because the protocol was not up-to-date. Since this care concept was only a 'pilot', there were no formal confirmations on labour hours, labour times, available money for the implementation and operationalization of the care concept. This can be seen in the quotations from the POH: *"If you still going to do more work at home, for example also going to call people from home, there are no agreements (...) no agreement on when you go somewhere, traveling expenses. But often it is all in Delden, so never mind", "Anyway we have the report and clearly there is a protocol in how you want to work and that is broadly just the way we work. Like as it goes, I guess. (...) I should have to check it again because it's obviously been a while since that report.".* 

3. Replacement at labour turnover

Currently, there were no measures taken to replace the personnel who work with the care concept when needed. As said by the GP: *"It is a project which is slowly build up in a couple years and this whole period the same persons are involved in the project. So, when one of these persons is lost, a new person needs to be settled in the care concept."* According to the elderly counsellor, the SWO was not big enough and the care concept was still in the pilot phase. More certainty was needed before other personnel could be introduced to the procedure of the care concept.

4. Capacity/ occupancy rate

There was not enough staff according to the POH and the elderly counsellor; hence they had to work overtime. Moreover, the POH worked as POH and also still as assistance of the GP, because there were too many assistance tasks left to do. However, according to the GP, there was enough staff. The district nurse counsellor named a compromise between the two already named statements, saying: *"There are enough personnel, but not everybody is concerned to this care concept"*.

## 5. Financial means

According to the GP, there will be enough money if the subsidy from Menzis M&I module will be honoured. On October 16th, the GP needed to apply for the subsidy. The man-hours were not charged at the GP practice. The elderly counsellor and the POH said the financial mean were insufficient. However, the POH said she had the possibility to make declarations of the costs made, but that she did not always make use of that. According to the district nurse counsellor, there were sufficient financial means, but there was uncertainty about the future.

It was a time-consuming concept, particular due to the home visits. However the care concept may be profitable, as named by the POH: "Decreasing cost may be possible by investing more in the welfare of people and not only on the medical part." Moreover, if patients younger than 80 years will be included, it will be more profitable according to the POH: "Healthcare costs can be decreased by also including the group aged 80 and older, I also think it is at 75 years. From the group 80 plus, many people are in Care. So, I am wondering if you will see the effect at the younger people as well".

6. Time (enough time provided by the organization)

The time investment to implement and execute the care concept was experienced as high by respondents. As said by the elderly counsellor: *"We really have a shortage of personnel in relation to the time investment."* Hence, processing of the information was not optimal due to the different disciplines involved. It took a while (up to one month) before the POH received the outcomes of the home visits and actions that were taken, through which, as she said: *"a gap in one's knowledge can arise"*. The POH, the elderly counsellor and the district nurse counsellor had to do the extra activities within the same labour time as before the implementation of the care concept. According to the POH, district nurse counsellor and elderly counsellor, it was hard to find a fixed moment to execute the care concept.

Furthermore, there was not enough consultation with GP according to the POH. The GP was very busy and there was a real shortage of space at the GP practice. "*The practice is just too small physically, as to the location.*" (GP)

According to the elderly counsellor, the care concept will be too extensive and the time investment will be too big for the SWO. Especially when the care concept will be expanded to other GP practices, the home visits will be time-consuming. Moreover, according to interviewers, the questionnaire consisted of too many questions and the GFI-part was not specific enough to gather all the needed information. For the SWO for example, it was very important that the outcomes of the questionnaire can be quantified for evaluation. The Trazag was more specific than the GFI, but took a lot of time hence it was not used

# 7. Turbulence within organisation

The main change scheduled at the GP practice was that within a couple of years the GP practice will move to another location with more space and the opportunity to treat more patients. At that time, a new GP assistance will be employed, so that the POH only has to perform the activities of the POH, whereas currently, the POH did also performed the activities of a GP assistance.

Within Carintreggeland, there were turbulences as well. According to the district nurse counsellor: "Things will change around the managers (...) many employees will be fired or at least the number of fulltime employees has to decrease, which has great consequences for the different branches of the organisation. So, there is a slight unrest. As of the year 2015, we have to do with the revise of the health care system to which we have to adjust." The unrest about the health care system was endorsed by the Elderly counsellor.

8. Feedback to user

According to the GP, the feedback on the implementation of the care concept mainly took place during consultations with the mediate users and during the time, this research took place. There was great necessity of the POH for more feedback, mainly with or from the GP. Although, *"When the concept runs, it runs and feedback could be given less often." (POH).* 

Furthermore, according to the district nurse counsellor, there was general feedback given within Carintreggeland, but not especially about this pilot. However, Henk Snijders was involved in this pilot and was called for consultations. As said by the elderly counsellor: *"There is no feedback within the organisation (SWO), because the method of working within the pilot is different than the method of working in the organisation".* The elderly counsellor would only discuss the progress of the care concept with the rest of the organisation if the care concept was as great as the previous used methods.

## 3.2.3.3 Potential facilitators

As can be seen in table 6, 22 determinants were potential facilitators towards the implementation of the care. Furthermore, part a and c of determinant 8 were facilitators, too. The following five determinants had a high potential (i.e. having a score  $\geq 0.8$  (scoring 1.0/2.0),  $\geq 4.5$  (scoring 1.0/4.0 or 5.0) and  $\geq 6.0$  (scoring 1.0/7.0)) for being a facilitator: complexity, outcome expectation - importance goal 1, cooperation client, social support- my colleagues and legislation and regulation. To further examine, each high potential facilitator will be discussed.

1. Complexity

According to the POH, the elderly counsellor and the district nurse counsellor the care concept was not too complicated to use. As said by the POH: *"it is not complex, you can work with it. However, the theory deviates from the practice."* For the GP the concept is *"plain and clear".* 

# 2. Outcome expectation - importance goal 1

The first goal of the care concept was to prevent further deterioration of the frail elderly. To the respondents, this goal was important and could be achieved. Nevertheless, the elderly counsellor answered: *"somewhere in the middle, because you only have partly influence on it."* 

In general, all respondents were positive about the visibility of the outcomes of the care concept. The GP said that the care concept helped by making a better overview of the patients for whom no good overview was present. Sometimes these were small things like, information of the contact person. Sometimes, more surprising subjects came forward, like for example, conversations about the end of one's life. According to the POH, due to the care concept, frail patients were tracked down and follow-up steps were undertaken. Even patients who would not be tracked down without the questionnaire were followed. The reason for that mainly was because these patients score frailty on invisible areas like loneliness and mobility. Nevertheless, she did not see the benefits of asking all the questions of the questionnaire. This was endorsed by the district nurse counsellor: *"The effect is visible, because you can calculate the GFI scores and know on which areas the frailty of a patient can be reduced."* 

# 3. Cooperation client

Patients aged 80 years and older would cooperate if the respondents worked according to the care concept. The GP said: "*The letter is written as an invitation for a home visit, apart from who will elicit the questionnaire. It is written on behalf of the GP practice and I suppose and actually know that everyone assent to it. And as far as I know, we did not receive any rejection yet.*" The district nurse counsellor endorsed that the patients were well willing to cooperate because you came on behalf of the doctor.

The elderly counsellor and POH added on to this and said that the patients found it pleasant to have a conversation and get attention and that help was given when the patient needed it. Yet, the district nurse counsellor noticed some patients were a little suspicious towards the home visits due to the fear of fraud, breaking in or entering their home.

## 4. Social support- my colleagues

The respondents did agree that they can count on enough support from their colleagues. For example, the colleague GP assistance of the POH would work more and would change appointments for the POH when this would be necessary. According to the elderly counsellor, this support resulted in the increased attention of welfare in this care concept, and that the mediate users learned that problems of patients were not always medical. However, the high time investment remained difficult.

5. Legislation and Regulation (in line with)

The opinion of the respondents was that the care concept was in line with the existing legislation and regulation. According to the district nurse counsellor, it was especially in line with the new legislation. This was underlined by the POH, who said: "*We want to take great care at home as much as possible.*" The elderly counsellor thought that the care concept was in line with the existing and new legislation, because the measures remained reasonably the same, they were only organised differently.

To conclude, the potential barriers and facilitators were found. Potential barriers were particular found in the domain environment. In contrast, in the domain innovation, almost no potential barriers were found. For the domain of the user, one out of the 26 items indicated problems and one out of 26 scored neutral. The domain of the social political environment consisted of one determinant which indicated a potential facilitator.

The important barriers were determinants regarding time, formal engagements, replacement at labour turnover, capacity/ occupancy rate, financial means, turbulence within organisation and feedback to user. And the important facilitators found were regarding the following determinants: complexity, outcome expectation, importance of the goal to prevent further deterioration, cooperation client, social support of colleagues and the legislation and regulation.

# 4. Discussion

This study was performed to evaluate the implementation process of the care concept at the GP practice Van den Helder. Therefore the differences between the type of referral (welfare or care plan) to the elderly aged eighty years and older according to the formerly used indication method compared to the outcomes of the home screening by the means of the GFI were researched. This part of the research was restricted to a part of the care concept namely, the first screening at home and the determination of the follow-up action(s).

Thereby, the deviations and the reasons for the deviations between the developed and implemented care concept were researched. Furthermore, the barriers and facilitators experienced by the mediate users were also explored, because they have an influence on the implementation of the innovation process. The other questions are related to the entire care concept, which include the frailty screening (patients  $\geq$ 80 years) during a home visit, the determination and execution of follow-up actions and the evaluation of the effect for the patient. This part of the research was related to the entire care concept, which include the frailty screening (patients  $\geq$ 80 years) during a home visit, the determination and execution of follow-up actions and the evaluation of the frailty screening (patients  $\geq$ 80 years) during a home visit, the determination and execution of follow-up actions and the evaluation of the frailty screening (patients  $\geq$ 80 years) during a home visit, the determination and execution of follow-up actions and the evaluation of the effect for the patient.

#### 4.1 Weaknesses of the methods

As every study, this research has its weaknesses. First, the extent of frailty and the types of referral were based on a small pool of data and (existing) data processed by the POH. Hence, more research is needed. Merely 26 patients of the 49 included patients were screened, unfortunately it was not feasible for the mediate users to screen all included patients at home. Furthermore, not all data was processed. The reason for this was that the mediate users screened patients who were not on the list, because e.g. to the opinion of the mediate users it had priority to screen these patients, appointments were already made or they screened the spouse at the same time as the included patient.

Second, only five home visits were observed due to difficulties with planning the home visits. The intention was to observe two home visits per elicitor, thus 6 observations in total. More observations would have led to more elaborated and more representative reflection about the execution in practice. Furthermore, the time between the observation of the first home visit and the last home visit could have influenced the outcomes, because the experience of interviewers has grown.

Third, the care concept exists of twelve steps, from the selection of the patients to the evaluation of the patient. Yet, not every phase after the first home visit was reached yet, almost all effort was spend on the home visits. To the respondents the home visits were simultaneous to the care concept. Therefore, the following eight quantitative results of the MIDI should be interpreted with caution: 1) procedural clarity, 2) accuracy (concept is based on actual accurate knowledge), 3) complete, 4) complexity, 5) congruency with the current method of working, 6) satisfaction client, 7) availability of information regarding the innovation, and 8). Feedback to user (about implementation concept). For example for procedural clarity, the answers of the elderly counsellor and the district nurse counsellor were only based on eliciting the GFI instead of the complete care concept.

Fourth, the respondents worked for different organisations with different social environments. The results of the following six determinants of the MIDI referred to the social environment of the respondents. Because of the differences in social environment, the answers on these determinants were not completely comparable to each other and therefore need to be interpreted with caution: 1) social support - my colleagues, 2) social support- my direct manager, 3)social support- the management, 4) descriptive norm 5) subjective norm- normative believes and 6) subjective norm-motivation to comply.

#### **4.2 Support or refute of the results with literature**

At the GP practice Van den Helder, 47,6% of the visited patients aged 80 years and older were frail. The percentage of frail elderly at the GP practice Van den Helder in Delden was high compared to the percentage of frail elderly according to the Socio-cultural Planning Department of the Netherlands. This percentage of frail elderly aged 65 year and older was 27.0% in 2010(4). The extent of frailty was also high compared to the GP practice 'De Watertoren' in Borne. At the GP practice De Watertoren, 25.0% of the patients aged 75 year and 34.0% of the patients aged 75 (Average 82) years and older were frail(25). On the other hand, the percentage of frail elderly at the GP practice Van den Helder is comparable to the percentage frail elderly aged seventy years of GP practices in Utrecht and Limburg, which was 46.3%(26).

As can be seen from this data and according to Dutch research (1, 9, 11), age might have an effect on the percentage of elderly who are frail as well as the operationalisation of the definition of frailty. This makes the comparison of current prevalence measurement of frail elderly in the Netherlands difficult(4). However, in comparison the percentage of frail elderly in GP practice Van den Helder stayed high, which underlines the importance of the focus on frail elderly.

The developed new innovative integrated care concept differs from the implemented care concept for reasons which are (in)direct in line with the main barriers and facilitators during the implementation process of health and evidence based innovations found in other studies, e.g. the facilitating strategies: continuous and interactive education and making learning plans on personal and group level (27). It is recommended to use these facilitating strategies to improve the implementation of the care concept, as the respondents said that they missed skills to work with the computer, to elicit the questionnaire and to interpret the outcomes of the home visits. Examples of the barriers are 'compulsion to act', for example referring the patient to second line
care while there is no or a little indication to do so. Furthermore, the perception of liability for example the GFI-score was not used as such; instead, the diagnosis was based on the 'gut-feeling' of the interviewer. Next, a suboptimal designed implementation process with insufficient puzzled out interventions and inadequate means, and insufficient committed recourses (e.g. time, money) to execute the process as intended (28). Probably, these complications could have been prevented if more preparatory/extensive/elaborate research was done. However, differences in evidence (theory) and practice will always exist: "One of the most consistent findings in research of health services is the gap between evidence and practice" (27). So, differences are not unusual, also not for individual differences in adherence to the new care concept found in this study. For example, in the study to the adherence to the Geriatric Care Model, the individual differences in adherence between POH and the GP were moderate and the nurses deviated from protocol due to contextual factors and personal work routines(29).

During the first home visit, patients are not only screened by the means of the GFI, but the questionnaire of GP practice Van den Helder is used. This questionnaire also includes questions about informal care, other care, contact persons in case of emergency, gender, date of birth, family situation, length, weight, BMI, blood pressure, glucose level of last lab, life style (smoking, use of alcohol, nutrition and mobility) and use of medication. Thereby, the home situation of the patient will be observed by the interviewer, for example 1) 'How does the patient make a cup of coffee or tea?', 2) 'Are there (many) small rugs in the house?' and 3) 'Are the necessary support measures taken for the toilet and shower?'. The outcomes of these questions influenced the 'gut feeling' of the interviewer and the information was used to update the information system of the GP. However, how the answers of the questions should be interpreted and when to take action remained unclear for the mediate users. This way, the added value of the questionnaire used by the GP practice Van den Helder is small.

This study showed that the use of the care concept leads to several different (Cohen's Kappa =0.43) and more objective referrals compared to the formerly used indication method. Probably, this empowers the mediate users to achieve the goals of the care concept, e.g. prevent further deterioration of frail elderly. This outcome is not in line with the outcome of similar care concepts discussed in the introduction. During the evaluation of the implementation of a comparable, interdisciplinary, primary healthcare program for non-institutionalized elderly in a frail position (GFI  $\geq$  5) (Prevention of Care (PoC)), no evidence was found that PoC was more effective in preventing and reducing (further) disability functional decline than usual care; no significant difference was found (multilevel analyses, CI=95%, P<0.05) (10). Other research in which the extent of frailty (frail if GFI  $\geq$ 4) was measured, stated that the majority of the elderly receive enough care, even though they were not 'in the picture' as such. It appeared that the number of subsequent actions and needed measures were small. In total 30 subsequent actions were needed by 587 participants (15). Because the outcomes were not unequivocal and it is not

known if the implementation of the other two studies succeed properly, more researched to the effectiveness is recommended.

#### Validity of the research

The outcomes of this study were based on one particular care concept implemented at one GP practice. The group mediate users was small (n=4.) Other practices may use a different former indication method and have a different patient population, which can lead to a different change in GFI scores and referral types. Furthermore, the mediate users of the (similar) care concepts at other GP practice can experience other barriers and facilitators towards the implementation of a care concept, because for example other implementation strategies are used. Just as for different deviations and reasons for deviations between the implemented and the developed care concept. Like, the mediate users may have another background, for example more or less experienced with eliciting the GFI or detecting dementia. Thereby, not all outcomes will be applicable to other practices, like a lack of room at the GP practice. However, this study offers attention points for other GP practices who want to implement this care concept or a care concept which is similar to this one. For instance, which preconditions are needed and how to prevent problems which can occur during the implementation process.

## **5 Conclusion and recommendations**

#### **5.1 Conclusion**

It could be assumed that the first home screening does not lead to more well fitted referrals (welfare and care), because the differences between the outcomes of the formerly used indication method ('gut-feeling' POH and GP together) and of the home screening by the means of the GFI showed no great difference, respectively 46.8% and 47.6% of the patients were frail. However according to the Cohen's Kappa the agreement was moderate (Cohen's Kappa =0.43). Thereby, the strength of agreement between the formerly used indication method and by the means of the GFI-score according to the Cohen's Kappa was fair for the 'gut feeling' of the POH and of the GP separately. This result shows that the outcomes of these methods differ a lot. Only one out of the 49 included patients was scored as frail by both, the GP and POH. Seven patients of the 22 patients scored as frail were indeed frail by the means of the GFI score. Consequently, this means that based on the 'gut-feeling' of the GP and POH fifteen patients were scored as frail and would have received welfare or care unjust. In other words, if the frailty measurement was not done, three out of ten frail patients would not have received the right referral. Nevertheless, the mediate users must refer patients based on the GFI-score, otherwise the screening will not add any value to the daily routine and the intended effects will not be reached. However, the referrals were not based on the outcome of the screening. In fact, eleven patients should have been referred to a welfare plan and ten patients should have been referred to a welfare plan or care plan. It appeared that in nine patients a follow-up action was noted in the excel file by the POH, five out of these nine patients were not frail, and should actually receive a welfare plan. However, follow-up actions related to care were noted. In only four out of ten patients who should receive a care plan or welfare plan (GFI  $\geq$  4), a follow-up action was noted.

Since all actions after the first screening are based on the screening and the mediate users keep following their 'gut feeling' after the first screening, the care concept will have no effect other than gaining insight in the home situation of the patient and update the contact information of the patient. If the mediate users act upon the GFI outcomes of the home screening, not all patients will receive the care they need. Furthermore, most patients will not receive unnecessary care anymore.

So, with this knowledge it can be said that the home screening of care concept contributes to well tapered care or welfare for the elderly patients of GP practice Van den Helder. This will plausibly contribute to the prevention of further deterioration of frail elderly, and thereby enabling these elderly to live non-institutionalized for a longer period of time and to decrease the healthcare costs (goal of care concept). The effect of new care concept needs to be assessed during a next study. More time is needed to perform a baseline measurement of the extent of

frailty and a measurement of the extent of frailty of the same patients who participated in the new care concept after e.g. one year.

Looking at the implementation process of the complete care concept, it can be said that it did not go as planned. Currently, there was no second screening if  $GFI \ge 4$ , for the mediate users the added value was unclear and the time investment was high. Based on the results of the first screening by the means of the GFI, it is feasible that the second screening leads to an even better and trustworthy insight in the health state of a patient and better fitted welfare and care plans. Furthermore, as discussed in the introduction, There is never only one main complaint and frailty need to be detected over time during multiple assessments on different possible problem areas(8). It is important that care concept focusses on multiple assessments and different problem areas. This underlines the importance of the second screening.

Furthermore, the care concept was not fully implemented; the stage of evaluation of the effects for patients was not reached yet. Moreover, there are deviations found in the execution of the care concept in comparison to the developed care concept and different insights as to the operationalisation of the care concept. The main deviations were: additional selection criteria and opportunistic criteria are used, no second home screening and Trazag questionnaire was not used if GFI score ≥4. Thereby multidisciplinary consultation was not always present and there was no evaluation of the effect of the process. The main reasons for these deviations were a lack of a detailed plan that was sufficiently concrete, insufficient preconditions, no agreement with the content of several parts of the care concept and extra tasks were executed which were not mentioned in the concept. These reasons were all problems which interfered with a proper implementation of the care concept and form a basis for improvement. Reasons for deviations were similar to the barriers found during this study which provide insights in the reasons for resistance towards the implementation of the complete care concept. Five important barriers: personal disadvantage, turbulence within organisation, replacement at labour turnover, capacity/ occupancy rate, financial means and time are subject to reason insufficient preconditions. In the same way, the two important barriers formal confirmation management and feedback to user are subject to a lack of a detailed plan that was sufficiently concrete.

On the contrary, the barrier with regard to the financial means to execute the care concept, namely the problems about the subsidy was not completely necessary. Given the fact that the M&I module was a small financial support and that it was plausible the care concept will save enough money to repay the costs made. According to the mediate users the care concept could have a bigger preventive value for patients younger than eighty years, which could lead to even further decrease of the health care costs. This was endorsed by the outcome of the business case SamenOud, which included patients aged 75 years and older. The project SamenOud can produce an estimated saving of 274 euro (range: 599 euro and 169 euro) on average per person

per year (calculation was based on the legislation of healthcare in 2013) (25). In the essence the project SamenOud, is similar to the new integrated care concept. General Practitioners asked their patient's aged 75 years and older to fill in a questionnaire about their health, well-being, welfare and living(26).

On the other hand, the lower adherence to several parts of the care concept does not mean the implementation failed. Sometimes it can take a while before the adherence to the innovation increases (or decreases), as can be seen in the study to the adherence to the Geriatric Care Model. According to this study, the adherence to the majority of the important intervention parts was high, however this decreased over time. At the beginning, adherence to the multidisciplinary consultations was low but increased overtime (24). More time is needed to find out if the adherence to the care concept will change as well.

Nevertheless, it is of great concern to execute the care concept as intended (thus including the screening and referrals based on the screening outcomes), it yields benefits as can be seen by the effects of the screening and the facilitators found in this study. The most important facilitators were found regarding the determinants complexity, outcome expectation - importance goal 1, cooperation client, social support- my colleagues and legislation and regulation. Benefits of the care concept are e.g. detecting patients who are frail, get insight in the home situation of the patients, decreasing healthcare costs by giving well fitted care for the patients which can prevent further deterioration of the frail elderly and gaining insight in e.g. the contact persons, received care, use of medication, dietary patterns and effects of the follow-up actions. Thereby, it promotes multidisciplinarity, exchange of information and expertise and makes it possible to divide the labour over different disciplines. Multidisciplinary consultation and the exchange of data are very important to the motivation to comply and to succeed the implementation (22). However, the information system of the GP did not support the multidisciplinarity. Therefore, the POH preferred "A system where everyone can work with and in which you can very clearly specify how you have to take minutes, otherwise you will receive different rapports from everybody" (POH) and the speed of the information exchange could increase. Currently, similar kinds of questionnaires were also used by other healthcare workers and the municipality. An example of the questionnaire used by the geriatric physiotherapist in Delden can be found in appendix 13. However, outcomes were not shared with each other. More research is needed to look at the feasibility of sharing the information. The processing of the information was not optimal due to a lack of consultation between the different disciplines involved. For example, information exchange took a long time and the minutes made of the home visits differ a lot per interviewer. This leads to knowledge gaps.

In any case, the differences in execution can be decreased by making a more detailed plan with formal engagements to which the mediate users agree (23). For example, the interviewers gave

a different introduction or no introduction for the home visit, because the introduction was never discussed. Also, it is important to give an introduction which clarifies what the goal of the home visits is: what will be asked, what will be done with the outcome, the privacy of the patient, expectations of the patient, time of the home visits and finally to ask permission for the interview(18). So, it is plausible that a standard introduction will contribute to a decrease in deviations of execution between the individuals.

When solving the problems towards a good implementation of the care concept, it is important to attempt to preserve the facilitators found in this study because this enhances the implementation. However, it will not always be beneficial to solve the problems and to preserve the facilitators, because it may create new problems. For example the barriers time and financial means, in case the mediate users will have more time and financial means to execute the care concept, it may not be at the expense of the availability of materials and facilities. To improve every barrier and to solve every problem, without handing in on something else (e.g. facilitator), is challenging (if not impossible). If the national legislation changes in a negative way for the execution of the care concept, the mediate users cannot preserve the facilitator legislation and regulation. However, the implementation process can have more resistance then.

As a conclusion, it is plausible that the first screening of the care concept will contribute to correct referrals to welfare plans and care plans for elderly patients, which will lead to better fitted care, if the implementation is operationalised in the correct way. The mediate users must refer patients based on the GFI-score, otherwise the screening will not add any value to the daily routine and since the screening forms the basis of the care concept the intended effects will not be reached. To execute the care concept as intended, the problems which occurred during the implementation need to be solved. According to the deviations and barriers found, the preconditions needs to be sufficient, the plan of the care concepts need to be worked out in detail in dialogue with the mediate users; so the mediate users agree with the content of the concept and make the care concept more unequivocal. The facilitators found in this study showed the determinants which had a positive influence towards the implementation process of the care concept; therefore it is important to attempt to preserve these facilitators if possible and without creating new problems or barriers. When the barriers are improved, the problems are solved and the goals of the care concept are achieved, the implementation process is finished.

# 5.2 Recommendations

This study showed that the preconditions were insufficient and the plan of the care concept was insufficiently concrete. Furthermore, the mediate users do not agree with the whole content of the care concept. These were problems towards the implementation of care concept. To improve the implementation of the care concept it is useful to work on those problems. Concrete recommendations for improvement are the following:

#### A detailed plan that is sufficiently concrete and agreed by the mediate users

Make a complete concept in consultation with the mediate users to determine every single step of the concept in detail, so it does not evoke differences in execution and every involved party agrees with the new concept. For example:

- Make formal engagements about labour hours, labour times, work space, consultations and available money for the implementation and operationalization of the care concept.
- Improve the structure and execution of the consultations. Recommendations about the agendas and minutes of consultations are discussed in appendix 14.
- Clarify the selection process (develop clear, well-founded and sufficient selection criteria and set priorities for which patients need to be visited first). According to the report of the RIVM about early detection at (frail) elderly, there were indications that initiatives which focus on a more select group elderly would be more effective than initiatives which are focused on a more broad population (11).
- Clarify the first screening e.g. make a general introduction for the home visit (including the following: the goal of the home visits, what will be asked, what will be done with the outcome, the privacy of the patient, what is expected of the patient, how long the home visits takes and finally ask permission (22)), create one questionnaire which is specific, has a logical sequence and only tracks down the areas which need special attention or risks for which effective interventions are available and make agreement upon the invitation of the home visit, observing the home situation, possible follow-up actions and taking minutes. Recommendations about the invitation letter for the home visit are discussed in appendix 15.
- Clarify how to act after each performed home visit, including an overview of which actions are needed in which cases, within which period the patients should receive feedback on the outcomes of the home visit, if approval of the GP is obliged and how to give feedback to the GP practice and how to process the data. Use subsequent specific questionnaires for diagnose only when necessary and treatable. According to the report of the RIVM about early detection at (frail) elderly, tracking down areas or risks which needed special attention but for which no effective interventions were available was not meaningful (14).

- Clarify the procedure of the second screening e.g. in which cases a second screening is needed and include the most efficient and effective way for the execution of the second screening. More research is needed to determine which way is best and most feasible for the second line care givers, SWO or other people who help the people after referral of the GP or interview to give feedback to general practitioner practice.
- Finalize the concept plan for the evaluation of the process of the patient. Thereby, supplement the concept plan with the way the missing actions need to be performed and corresponding deadlines for each action. These deadlines need to be determined first.

#### Sufficient preconditions

Create sufficient preconditions to make it possible for the mediate users to execute the care concept as intended without restricting factors. For example:

- Give the interviewers information and training e.g. training about eliciting the used questionnaires, interpreting outcomes of the home visits, the content of advice which needs to be given about medication and lifestyle, the use of the computer (especially Excel and the information system of the GP practice)
  - Make a clear overview of all the needed information and advices related to the care concept in a booklet which makes it possible for patients, their friends and family to read back the given advice and find answers on questions they forgot to ask. Thereby it can be used as reference book for the interviewer (This is a suggestion of the researcher).
- Create one uniform system in which all the data can be processed and which is accessible by all mediate users with consent of the patient. And oblige the interviewers to fill in all the questions to complete the home visit or to process the data in the information system of the GP. For example by using an iPad with an application to elicit and process the data (This is a suggestion of the researcher).
- Give extra working hours to involved care parties and/or rearrange the division of tasks. (This is a suggestion of the researcher)
- Gain insight and increase the certainty about the finance.
- Create more room at the GP practice (this is already in execution).
- The multidisciplinarity and the exchange of data can be improved as recommended by the RIVM, to appoint a director on 'early detection'. So professionals, volunteers and people from the social network of the elderly could come together in one location to discuss the signalised elderly who are probably bated with early detection(14).

There is no scientifically evidence for the effectiveness of these recommendations, so it is not guaranteed that everything will improve and will work when following (all) these

recommendations. However, based on this study, the expectation is that these recommendations will improve the care concept and facilitate the implementation.

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# Appendix 1 - Frailty

#### Definition

There is no univocal definition of the term frailty. As a result of a systematic review to conduct a conceptual definition of frail community dwelling older people, a new definition of the term frailty is formulated:

- Frailty is a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (physical, psychological, social) that are caused by the influence of a range of variables and which increases the risk of adverse outcomes(2).

In the mean, frailty is described as:

An extent of vulnerability, a succession (increased risk) of poor health outcomes and/or loss of function in one or more of the four domains:1) cognitive, 2) physical, 3) psychological, and 4) social domain in the future (1). The extent of frailty can change over time (3).

In this study a combination of both definitions will be used. The first definition misses the cognitive domain, which has influence on the extent of frailty according the used measurement instruments in this study. But the second definition misses the aspect that the extent of frailty is dynamic. So, the definition used in this study will be:

- Frailty is a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (cognitive, physical, psychological, social) that are caused by the influence of a range of variables and which increases the risk of adverse outcomes (2, 3).

#### **Measurement instrument**

There are several measurement instruments available to measure frailty. Which of these instruments can be used, depends on the used definition of frailty? Examples of measurement instruments are the Tilburg Frailty Indicator(TFI)(4), the Groninger Frailty Indicator (GFI)(1), the 'Transmuraal Zorg Assessment Geriatrie'(Trazag)(9) and the Frailty Trait Scale (FTS)(30). There is no consensus of which instrument is the best instrument (4, 30).

These measurement instruments measure frailty by how the patient scores on the domains of frailty. For example, the physical health, mental health, nutrition, slowness, self-care and daily activities (1, 9, 30)

# Appendix 2 - Mediate users

#### The General practitioner practice Van den Helder

The General practitioner practice Van den Helder is located in Delden, The Netherlands. By estimation, the practice has 2750 patients of which 400-600 patients are 65 years and older. 185 Patients are eighty years and older. Currently, the early detection of frailty is based on the gut feeling of the general practitioner and the nurse practitioner of the general practitioner practice (Praktijk Ondersteuner Huisarts, POH).

#### POH

The POH is working in a General practice. The POH improves the quality of the provided healthcare and contributes to a decrease of the working pressure of the GP, because they take over GP tasks. They perform medical substantive work, like counselling and check-ups. Essentially, a POH is specialized in and contributes to the care of a specific group patients, like elderly and chronic patients. This leads to an increase in patient-oriented care (31).

#### Carintreggeland

Carintreggeland is a social organisation on the fields of housing, welfare and care in the region Twente. Their mission is to add value to the quality of life of our clients and let the direction in the hands of the clients. They provide personal care, nursing care, supportive counselling, active guidance, treatment and residence paid from the AWBZ. Also, they provide dietary counselling paid by the Health Insurance Act and social work paid by municipal subsidies. The target groups are: 1) people with a somatic disease or disability, 2) clients with psycho condition or restriction, 3) clients with a psychiatric disorder, 4) clients with physical disabilities and 5) clients with psychosocial problems. Furthermore, a variety of services is offered by the members of Carintreggeland on private basis (32).

#### SWO

Stichting welzijn ouderen is a foundation for elderly welfare. The SWO in Hof van Twente, a municipality in the east of Netherlands, is meant for all people aged 55 years and older in the 'Hof van Twente'. Elderly councillors of the SWO give advice and support focussed on housing, welfare and care. The basic principle of the services is the personal situation of the elderly and the improvement of their self-reliance. The services of the elderly councillors are free of charge. Family members, caregivers and volunteers can get information at the SWO.

Furthermore, the SWO organises activities for the elderly, like a Sunday Noon Café and computer courses (33).

# Appendix 3 –Menzis M&I Module "Voorbereiding op de zorg voor kwetsbare ouderen"



\* Dit is een visuele samenvatting van de M&I module "Voorbereiding op de zorg voor kwetsbare ouderen". Voor de uitgebreide informatie klikt u op de onderdelen, of kijkt u verder in dit document.

Figure I: Summary of the Menzis M&I Module "Voorbereiding op de zorg voor kwetsbare ouderen"(13)

# Appendix 4 - Flowchart of the innovative integrated care concept



# **Appendix 5 - Invitation letter**

C.J.M. van den Helder, huisarts Den Hof 10, 7491 DV Delden Tel: 074-3764025

Delden, mei 2014

Beste heer / mevrouw,

Het zal u niet ontgaan zijn dat er de laatste tijd veel te doen is over de zorg voor ouderen in Nederland. Het behoud van zelfstandigheid en zelfredzaamheid is van groot belang voor een prettige leefwijze, met of zonder extra hulp.

Er is gebleken dat met name oudere mensen niet snel de hulp van de huisarts inroepen, mede omdat ze denken dat ze alles zelf nog wel kunnen of moeten kunnen.

Gezien dit gegeven, heeft dr. van den Helder een pilot-project ouderenzorg gestart.

In dit project zijn meerdere professionals en disciplines actief, waaronder Stichting Welzijn Ouderen Hof van Twente en Carint / Reggeland.

Het project start in eerste instantie met een huisbezoek aan alle patienten die de tachtig zijn gepasseerd. Dit huisbezoek wordt afgelegd door een van de volgende medewerksters:

Irma Beettjer, praktijkondersteuner van dr. van den Helder,

Dianne Veehof, ouderenadviseur van SWO HvT,

Thea Huurneman, wijkverpleegkundige van Carint/Reggeland.

Doel van het huisbezoek is preventie. Dat betekent dat we willen proberen te voorkomen dat u ziek of afhankelijk wordt, door tijdig te signaleren dat er iets niet goed gaat. We willen ook samen met u kijken naar mogelijkheden om zo lang mogelijk zelfstandig te blijven wonen.

Tijdens het bezoek wordt er een vragenlijst ingevuld over uw lichamelijke, sociale en maatschappelijke situatie en uw psychisch en communicatief functioneren.

Ook uw medicatie wordt besproken.

U kunt uw vragen stellen en waar mogelijk worden deze direct beantwoord met advies of informatie over zaken die met uw welbevinden te maken hebben.

Na het bezoek vindt er een terugkoppeling plaats met dr. van den Helder.

Er wordt besproken of en welke zorg er eventueel nodig is. Door tijdig problemen te signaleren kunnen we samen kijken naar een mogelijke oplossing. Mochten er hierna toch nog onduidelijkheden zijn, dan zal de assistente van de huisarts contact met u opnemen.

Met vriendelijke groet, namens dr. van den Helder,

Irma Beettjer, Dianne Veehof, Thea Huurneman Er is voor u een datum en tijd gepland waarop het huisbezoek bij u thuis plaats kan vinden:

Datum: Tijd: Medewerkster:

Als u het prettig vindt, kunt u een familielid of vriend(in) vragen om bij het gesprek aanwezig te zijn. Het gesprek zal ongeveer een uur duren.

Mocht de afspraak niet gelegen komen of heeft u nog vragen over het huisbezoek, kunt u contact opnemen met de assistente van dr. van den Helder.

# Appendix 6 - Questionnaire home visits of GP practice Van den Helder

Zorgverlener:	Datum vis:
Etiket	Vervolg vis:
AL	GEMENE GEGEVENS 1
1. Maakt u gebruik van mantelzorg?	
ja, waarvoor?	
Door wie wordt mantelzorg gege	wen?
□ nee	
2. Wie moet er in geval van nood worden gewaa	rschuwd?
Contactpersoon:	
Tel	
10	
Andere hulpverlener:	
Tel	

#### ALGEMENE GEGEVENS 2

3 Geslacht	□ man □ vrouw	
4 Geboortejaar		
5 Gezinssituatie	alleenwonend met partner met kind(eren) met ander familie familieleden met andere pers personen Laatste gegevens	
Lengte		
Gewicht		
ВМІ		
Bloeddruk /pols (bij voorkeur 140/80 of lager)		
Laatste lab. BLS (bij voorkeur tussen 4 – 9)		

<ol><li>Heeft u thuiszorg?</li></ol>	☐ ja, van welke organisatie?
	huishoudelijke hulp
	persoonlijke verzorging
	anders

#### ALGEMENE GEZONDHEIDSVRAGEN (GFI)

Zelfredzaamheid/mobiliteit		
1 Kunt u geheel zelfstandig boodschappen doen?	🗆 Ja	Nee
2 Kunt u geheel zelfstandig buitenshuis rondlopen? Rondom het huis of naar de buren?	🗌 Ja	Nee
3 Kunt u zich geheel zelfstandig aan- en uitkleden?	🗆 Ja	Nee
4 Kunt u geheel zelfstandig van en naar het toilet gaan?	🗆 Ja	Nee

#### Lichamelijke fitheid

5 Kunt u een rapportcijfer geven voor uw lichamelijke fitheid, waarbij een 1 staat voor heel slecht en een 10 voor uitstekend, wat zou dat cijfer dan zijn?

	Heel slecht									Uits	tekend
	1	2	3	4	5	6	7	8	9		10
Ogen	1										
6 On	dervindt u pr	oblemen i	n het dag	elijks leve	n, doorda	t u slecht	ziet?		Ja		Nee
Geho	or										
7 On	dervindt u pr	oblemen i	n het dag	elijks leve	n, doorda	t u slecht	hoort?		Ja		Nee
Gewi	cht										
	nt u de afgelo t wilde?	open 6 ma	aanden ve	el afgeval	llen zonde	er dat u			Ja		Nee
Medi	cijnen										
	bruikt u op di ugen	it moment	4 of mee	r soorten i	medicijne	n?			Ja		Nee
10 He	eft u klachte	n over uw	geheuge	n?					Ja		Nee
Psyc	hische gezo	ndheid									
11 Er	vaart u wel e	ens een le	eegte om	u heen?				Soms of	ja		Nee
12 Mi	st u wel eens	s mensen	om u hee	n?				Soms of	ja		Nee
13 Vo	elt u zich we	l eens in (	de steek g	elaten?				Soms of	ja		Nee
14 He	eft u zich de	laatste tij	d somber	of neersla	achtig gev	oeld?		Soms of	ja		Nee
15 He	eft u zich de	laatste tij	d nerveus	of angstig	g gevoeld	?		Soms of	ja		Nee
Totaa	alscore:										
Een t	otaal score >	_4: kwets	sbaar								

3

				LEE	FSTIJL					
1	Rookt u (wel eens)?		□ ja □ nee, n □ nee, ił							
2	Drinkt u (wel eens) al		□ ja □ nee, n □ nee, ił		ger wel it alcohol g	edronken				
3	Hoeveel dagen in de	week ontb	ijt u?							
	_	nooit	1	2	3	4	5	6	7	
4	Hoeveel dagen in de	week eet i								
			1	2	3	4	5	6	7	
5	Hoeveel dagen per w						-		-	
		nooit	1	2	3	4	5	6	7	
			<u>ц</u>	<u> </u>						
	Hoeveel groente en f geen fruit 1 stuk fruit 2 stuks fruit meer dan 2 stuks Gebruikt u extra vitar druppels?	s fruit	-	per dag?	☐ 1 po ☐ 2 pc ☐ mee	r dan 2 po		,		
8	Hoe vaak gebruikt u	vitamine D'	?		□ dage □ afei					
9	Hoeveel vocht (wate sap, melk, yoghurt, gemiddeld per dag? 1 glas = 250ml 1 kopje = 125 ml	etc) gebruil		en-	<ul> <li>½ lite</li> <li>1 lite</li> <li>1½ li</li> <li>1½ li</li> <li>meet</li> </ul>	r	ter			
10	Hoeveel dagen in de					r dag. Tel a	alleen de ac	tiviteiten	mee,	
	die vergelijkbaar zijn	met stevig	doorwande	elen of fie	tsen.					
		minder	1	2	3	4	5	6	7	
		dan 1		2	5	-	Ŭ	Ŭ	·	

### Appendix 7 - GFI and Trazag

The GFI and Trazag are the measurement instruments to determine frailty at elderly, a short description will be given.

#### <u>GFI</u>

The GFI is an instrument especially developed to determine the frailty of the elderly. It is a questionnaire of fifteen questions divided into four domains namely, 1) physical domain, 2) cognitive domain, 3) social domain and 4) psychological domain. The questionnaire is dichotomous; each answer on a question awards a score of zero or one. A dependency or problem is indicated by the score one. In case, the total score of the answers is four or higher, it indicates moderate to severe frailty. The maximum score of the GFI is fifteen. The maximum score of the GFI is fifteen. The GFI is available in a professional version and in a self-report version. The professional version is patient-orientated and in the self-report version the questions of the professional version are individual-oriented formulated (1).

#### <u>Trazag</u>

The Trazag is, like the GFI, an instrument to assess frailty at elderly. The Trazag is a twostage assessment which can be used to identify and found the problem- and healthcare situation of a patient in a structured way. As the GFI, Trazag is available in a professional version and in a self-report version. The questionnaire consists of a start questionnaire and nine supplement questionnaires for further diagnosis. The start questionnaire is an instrument to identify the functional situation of the patient, a case-finding instrument, see figure II. The questionnaire is derived from the Identification Seniors ate Risk (ISAR). The start questionnaire exists of ten questions with 'yes' and 'no' as answer categories. When the patient scores 'yes' on one of the questions then, through the reference to the supplement form, this area of concern can be identified in more detail. Each supplement form is focused on an area of concern. These areas are: 1) household daily activities, 2) general daily activities, 3) nutrition and condition of nutrition, 4) mobility and risk of falling, 5) use of medication, 6) incontinence, 7) vision and hearing problems, 8) memory problems and 9) mood and depression. Examples of supplement forms questionnaires are the mini nutritional assessment (MNA), the Elderly Mobility Scale (EMS), and the Geriatric Depression Scale (GDS) (9).

For some areas of concern, there are more detailed questionnaires available besides the supplement forms, for example the 'Clock drawing' exercise for people with possible cognitive disorder (9).

Start	document TraZAG		
1	Heeft de patiënt hulp nodig bij het doen	Ja	verdere diagnostiek via formulier 2
	van het huishouden (koken, poetsen,	Nee	
	boodschappen etc.)		
2	Heeft de patiënt hulp nodig bij het uitvoe-	Ja	verdere diagnostiek via formulier 3
	ren van de ADL (zich wassen, kleden	Nee	
	toiletgang etc.)		
3 A	Is de patiënt de laatste 3 maanden	Ja	verdere diagnostiek mogelijk via
	afgevallen?		formulier 4
		Nee	
3B	Heeft de patiënt problemen met eten en/of	Ja	verdere diagnostiek via formulier 4
	drinken?	Nee	
4 A	Is de patiënt de laatste 6 maanden meer	Ja	verdere diagnostiek via formulier 5
	dan 2 x gevallen?	Nee	
4 B	Heeft de patiënt moeite met gaan, staan,	Ja	verdere diagnostiek via formulier 5
	bewegen?	Nee	
5	Heeft de patiënt het afgelopen jaar vaker	Ja	
	de huisarts bezocht, of is hij / zij opgeno-	Nee	
	men geweest in het ziekenhuis?		
6	Heeft de patiënt de afgelopen 3 maanden	Ja	Verdere diagnostiek via formulier 6
	urineverlies gehad (al is het een kleine	Nee	
	hoeveelheid	Nee	
7	Gebruikt de patiënt meer dan 4 verschil-	Ja	verdere diagnostiek via formulier 7
	lende medicijnen, inclusief zelfzorg	Nee	
	middelen?		
8 A	Heeft de patiënt problemen mbt zijn / haar	Ja	verdere diagnostiek via formulier 8
	visus ?	Nee	
8 B	Heeft de patiënt problemen met zijn / haar	Ja	verdere diagnostiek via formulier 8
	gehoor?	Nee	
9	Heeft de patiënt problemen met het	Ja	verdere diagnostiek via formulier 9
	geheugen?	Nee	
10	Heeft de patiënt last van een sombere	Ja	verdere diagnostiek via formulier 10
	stemming, last van een deprssie ?	Nee	

Figure II: TRAZAG start form(9)

# Appendix 8 - Topic interview

Remarks in advance	<ol> <li>Explain the intention and subject of this meeting.</li> <li>The meeting will be recorded, and answers will be used to outline the original developed innovative integrated care concept and the ongoing developments which resulted to the current use of the care concept.</li> <li>By estimation, the meeting will take 1.5 hour for the POH, SWO and District nurse and a half hour for the meeting with the general practitioner.</li> <li>Explain as extensively as possible the answer given to the question.</li> </ol>
Question for the meeting	How is the innovative integrated care concept executed?
Topics which needs to be discussed:	1)In which way(s)2)In which way(s) and for which reason(s) the way these elements are executed in practice deviates from the elements of the original developed new innovative integrated care concept.
1) Selection patients	
<ol> <li>2) First home visit, including first screening</li> <li>3) Subsequent steps, based</li> </ol>	
<ul> <li>on the first home visit</li> <li>4) Second home visit, includes second screening,</li> </ul>	
<ol> <li>Supplementary tests, if necessary.</li> </ol>	
<ul> <li>6) Feedback to patient</li> <li>7) Decide if welfare- and/or care plan to patient is necessary</li> </ul>	
<ol> <li>Actions referral to health care providers, if necessary</li> </ol>	
<ol> <li>Feedback to general practitioner practice</li> </ol>	
10) Multidisciplinary consultation about patient with involved parties, if necessary with geriatrician	
<ul> <li>11) Evaluation of the process</li> <li>12) Add information to the general practitioner's information system.</li> </ul>	

# Appendix 9 - MIDI questionnaire 2.1 Determinanten met betrekking tot de innovatie

2.1 Determinanten	met betrekking tot de innovatie
Determinant 1	Procedurele helderheid
Omschrijving	Mate waarin de innovatie in heldere stappen / procedures is
	beschreven.
Operationalisatie	Het nieuwe zorgconcept geeft helder aan welke activiteiten ik in welke
	volgorde moet uitvoeren.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 2	Juistheid
Omschrijving	Mate waarin de innovatie is gebaseerd op feitelijk juiste kennis.
Operationalisatie	Het nieuwe zorgconcept is gebaseerd op feitelijk juiste kennis.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 3	Compleetheid
Omschrijving	Mate waarin de beschreven activiteiten in de innovatie volledig zijn.
Operationalisatie	Het nieuwe zorgconcept biedt alle informatie en materialen die nodig
	<u>zijn om er goed mee te kunnen werken.</u>
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 4	Complexiteit
Omschrijving	Mate waarin de innovatie complex is om uit te voeren.
Operationalisatie	Het nieuwe zorgconcept is te ingewikkeld voor mij om te kunnen
	gebruiken.

Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 5	Congruentie huidige werkwijze
Omschrijving	Mate waarin de innovatie aansluit bij de bestaande werkwijze.
Operationalisatie	<u>Het nieuwe zorgconcept sluit goed aan bij hoe ik gewend ben om te</u>
	werken.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 6	Zichtbaarheid uitkomsten
Omschrijving	Zichtbaarheid van de uitkomsten voor de gebruiken, bijvoorbeeld of het
	effect van een behandeling zichtbaar is.
Operationalisatie	Ik vind de effecten van het gebruik van het nieuwe zorgconcept
	duidelijk zichtbaar.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 7	Relevantie cliënt
Omschrijving	Mate waarin de gebruiker de innovatie relevant vindt voor zijn/haar
	cliënt.
Operationalisatie	Ik vind het nieuwe zorgconcept geschikt voor mijn patiënten die tachtig
	jaar of ouder zijn.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens

# 2.2 Determinanten m.b.t. de gebruiker

Determinant 8	Persoonlijk voordeel/nadeel
Omschrijving	Mate waarin het gebruik van de innovatie voordeel/nadeel oplevert voor
	de gebruiker zelf.
Operationalisatie	In hoeverre biedt het gebruik van het nieuwe zorgconcept voor u
	persoonlijk voor- of nadelen? [per voordeel /nadeel]
	In hoeverre biedt het gebruik van het nieuwe zorgconcept voor de
	organisatie voor- of nadelen? [per voordeel /nadeel]
Antwoordcategorie	(1) helemaal mee oneens
voordeel:	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Antwoordcategorie	(1) helemaal mee oneens
nadeel:	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
<b>-</b>	
Toelichting	De voor- en nadelen zijn nu toegespitst op de intermediaire gebruiker.
	Echter, afhankelijk van het doel van de innovatie kunnen voor- en
	nadelen ook worden toegespitst op de organisatie.
Determinant 9	Uitkomstverwachting
Omschrijving	Gepercipieerde belang en waarschijnlijkheid dat het beoogde doel met
	de innovatie bij de cliënt wordt bereikt.
Operationalisatie	Belangrijkheid:
	Ik vind het belangrijk om met het nieuwe zorgconcept de volgende
	doelstelling bij mijn patiënten die tachtig jaar of ouder zijn te bereiken:
	[per doelstelling]
	Waarschijnlijkheid:
	Ik verwacht dat met het nieuwe zorgconcept de [per doelstelling]
	<u>daadwerkelijk bij mijn patiënten die tachtig jaar of ouder zijn worden</u>
	bereikt.
	Doelstellingen:

	1. Het voorkomen van verdere achteruitgang van kwetsbare				
	ouderen.				
	2. Het mogelijk maken voor de kwetsbare ouderen om zo lang				
	mogelijk op zichzelf te wonen (niet in een instelling).				
	3. Het verlagen van de zorgkosten.				
Antwoordcategorie	(1) helemaal mee oneens				
Dolongriikhoidi	(2) mee oneens				
Belangrijkheid:	(3) noch mee oneens, noch mee eens				
	(4) mee eens				
	(5) helemaal mee eens				
Antwoordcategorie	(1) zeer zeker niet				
M/a ara ah iin liikh ai d	(2) zeker niet				
Waarschijnlijkheid	(3) misschien niet, misschien wel				
	(4) zeker wel				
	(5) zeer zeker wel				
Determinant 10	Taakopvatting				
Omschrijving	Mate waarin de innovatie past bij de taken waarvoor de gebruiker zich				
	in zijn/haar functie verantwoordelijk voelt.				
Operationalisatie	Ik vind het tot mijn functie horen om volgens het nieuwe zorgconcept te				
	werken[per activiteit uit de innovatie].				
	Algemeen				
	<ul> <li>Multidisciplinair overleg over type zorg (SWO/Carintreggeland)</li> </ul>				
	- SWO/Carintreggeland rapporteren naar praktijk, de HA en POI				
	overleggen over de voortgang.				
	<ul> <li>overleggen over de voortgang.</li> <li>Feedback vanuit de SWO, Carintreggeland, diëtist, case</li> </ul>				
	<ul> <li>Feedback vanuit de SWO, Carintreggeland, diëtist, case manager, geriatrische fysiotherapeut, apotheek</li> </ul>				
	<ul> <li>Feedback vanuit de SWO, Carintreggeland, diëtist, case manager, geriatrische fysiotherapeut, apotheek</li> <li>Overleg Carintreggeland, HA praktijk en SWO eventueel met</li> </ul>				
	<ul> <li>Feedback vanuit de SWO, Carintreggeland, diëtist, case manager, geriatrische fysiotherapeut, apotheek</li> </ul>				

Speciaal voor de POH

- Huisbezoek voor GFI
- Huisbezoek voor Trazag
- Eventuele voorbereiding:
  - Klaarleggen laboratorium formulier
  - o Check laatste bloeddruk
  - o Andere bijzonderheden omtrent patiënt
- Rapportages verwerken in HIS
- vervolgvragenlijsten Trazag invullen
- Biometrie
- Extra laboratorium onderzoek
- Röntgen
- Snaq test
- MMSE
- Resultaat terugkoppelen naar patiënt

#### Speciaal voor de SWO:

- Inzetten vrijwilliger
- Begeleiding naar dagbesteding
- Verzorging maaltijden
- Terugkoppeling naar praktijk

#### Speciaal voor de Wijkzorg (Carintreggeland)

- Extra zorgmomenten ADL/HDL
- Medicatie beheer
- Controle momenten
- Terugkoppeling naar praktijk

#### Antwoordcategorie:

- (1) helemaal mee oneens
- (2) mee oneens
- (3) noch mee oneens, noch mee eens
- (4) mee eens
- (5) helemaal mee eens

Determinant 11	Tevredenheid cliënt
Omschrijving	Mate waarin de gebruiker verwacht dat de cliënt tevreden is over de
	innovatie.
Operationalisatie	Ouderen zullen over het algemeen tevreden zijn als ik volgens het
	nieuwe zorgconcept werk.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 12	Medewerking cliënt
Omschrijving	Mate waarin de gebruiker verwacht dat de cliënt meewerkt aan de
	innovatie
Operationalisatie	Patiënten van tachtig jaar of ouder zullen over het algemeen
	meewerken als ik volgens het nieuwe zorgconcept werk.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 13	Sociale steun
Omschrijving	Steun die de gebruiker ervaart of verwacht met betrekking tot het
	gebruik van de innovatie, bijvoorbeeld van collega's, andere
	professionals waarmee men samenwerkt, leidinggevende of
	management.
Operationalisatie	<u>lk kan op voldoende hulp van [xxx] rekenen mocht ik die nodig hebben</u>
	bij het werken volgens het nieuwe zorgconcept.
	[xxx]=
	- De mantelzorgers
	- De patiënten die tachtig jaar of ouder zijn
	- Mijn collega's
	- Mijn directe leiding gevende
	- Het management
	- De betrokken professionals in de zorgketen
Antwoordcategorie:	(1) helemaal mee oneens

(2)	mee	oneens
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- (3) noch mee oneens, noch mee eens
- (4) mee eens
- (5) helemaal mee eens

Determinant 14	Descriptieve norm
Omschrijving	Waargenomen gedrag van collega's; mate waarin collega's de
	innovatie gebruiken.
Operationalisatie	Hoe groot is volgens u het deel collega's in uw organisatie die volgens
	het nieuwe zorgconcept horen te werken, die ook daadwerkelijk werken
	volgens het nieuwe zorgconcept.
Antwoordcategorie:	(1) Geen enkele collega
	(2) Bijna geen enkele collega
	(3) Een minderheid
	(4) De helft
	(5) Een meerderheid
	(6) Bijna alle collega's
	(7) Alle collega's
Determinant 15	Subjectieve norm
Omschrijving	De invloed van belangrijke anderen over het gebruik van de innovatie
Operationalisatie	Samengestelde maat: het product van Normative beliefs en motivation
	to comply. [ per betrokken (groep) personen binnen en buiten de
	organisatie gevraagd]
	Normative beliefs:
	In hoeverre verwachten de volgende personen: HA, POH, SWO,
	Carintreggeland, diëtist, case manager, geriatrische fysiotherapeut,
	apotheek en geriater dat u het nieuwe zorgconcept gebruikt?
	Motivation to comply:
	Als het gaat om het werken volgens het nieuwe zorgconcept, hoeveel
	trekt u zich dan aan van de mening van de volgende personen:
	HA,POH, SWO, Carintreggeland, diëtist, case manager, geriatrische
	HA,POH, SWO, Carintreggeland, diëtist, case manager, geriatrische fysiotherapeut, apotheek en geriater?
Antwoordcategorie	

Normative beliefs:	(3) misschien niet, misschien wel
	(4) zeker wel
	(5) zeer zeker wel
Antwoordcategorie	(1) zeer weinig
Mativation to	(2) weinig
Motivation to comply:	(3) niet weinig, niet veel
comply.	(4) veel
	(5) zeer veel
Determinant 16	Eigen-effectiviteitsverwachting
Omschrijving	Mate waarin de gebruiker zich in staat acht de verschillende activiteiten
	uit de innovatie uit te voeren.
Operationalisatie	<u>Indien u dat zou willen, denkt u dat het u dan lukt om [ per activiteit uit</u>
	het nieuwe zorgconcept] uit te voeren?
	Activiteit uit het nieuwe zorgconcept
	- Multidisciplinair overleg over type zorg (SWO/Carintreggeland)
	- SWO/Carintreggeland rapporteren naar praktijk, de HA en POH
	overleggen over de voortgang.
	- Feedback vanuit de SWO, Carintreggeland, diëtist, case
	manager, geriatrische fysiotherapeut, apotheek
	- Overleg Carintreggeland, HA praktijk en SWO eventueel met
	input geriater.
	- Evaluatie
	Speciaal voor de POH
	- Huisbezoek voor GFI
	- Huisbezoek voor Trazag
	- Eventuele voorbereiding:
	<ul> <li>Klaarleggen laboratorium formulier</li> </ul>
	<ul> <li>Check laatste bloeddruk</li> </ul>
	<ul> <li>Andere bijzonderheden omtrent patiënt</li> </ul>
	- Rapportages verwerken in HIS
	<ul> <li>vervolgvragenlijsten Trazag invullen</li> </ul>
	- Biometrie
	- Extra laboratorium onderzoek
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- Röntgen
- Snaq test
- MMSE
- Resultaat terugkoppelen naar patiënt

#### Speciaal voor de SWO:

- Inzetten vrijwilliger
- Begeleiding naar dagbesteding
- Verzorging maaltijden
- Terugkoppeling naar praktijk

Speciaal voor de Wijkzorg (Carintreggeland)

- Extra zorgmomenten ADL/HDL
- Medicatie beheer
- Controle momenten
- Terugkoppeling naar praktijk

Antwoordcategorie:

- (1) helemaal mee oneens
- (2) mee oneens
- (3) noch mee oneens, noch mee eens
- (4) mee eens
- (5) helemaal mee eens

Determinant 17	Kennis
Omschrijving	Mate waarin de gebruiker kennis heeft die nodig is om de innovatie te
	kunnen gebruiken
Operationalisatie	Subjectieve meting via één vraag:
	Ik beschik over voldoende kennis om te werken volgens het nieuwe
	zorgconcept.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinent 19	Informatiovanyarking
Determinant 18	Informatieverwerking
Omschrijving	Mate waarin de gebruiker kennis heeft genomen van de inhoud van de
	innovatie

Operationalisatie	In hoeverre bent u op de hoogte van de inhoud van het nieuwe	
	zorgconcept?	
Antwoordcategorie:	(1) Ik ken het nieuwe zorgconcept niet	
	(2) Ik ken het nieuwe zorgconcept wel, maar heb hem (nog) niet	
	doorgelezen	
	(3) Ik ken het nieuwe zorgconcept en heb hem oppervlakkig	
	doorgelezen	
	(4) Ik kan het nieuwe zorgconcept en heb hem volledig en grondig	
	gelezen	

# 2.3 Determinanten m.b.t. de omgeving

Determinant 19	Formele bekrachting management
Omschrijving	Formele bekrachting van de innovatie door het management,
	bijvoorbeeld door de innovatie in het beleid op te nemen.
Operationalisatie	Zijn in u organisatie formeel afspraken vastgelegd door het
	<u>management over het gebruik van het nieuwe zorgconcept (in</u>
	<u>beleidsplannen, werkplannen en dergelijke)?</u>
Antwoordcategorie:	(1) Nee
	(2) Ja
Determinant 20	Vervanging bij personeelsverloop
Omschrijving	Vervanging van vertrekkende medewerkers
Operationalisatie	In mijn organisatie zijn maatregelen getroffen zodat medewerkers die
	werken volgens het nieuwe zorgconcept en de organisatie verlaten,
	tijdig worden vervangen door (nieuwe) medewerkers die voldoende
	zijn/worden ingewerkt in het nieuwe zorgconcept.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 21	Capaciteit / bezettingsgraad
Omschrijving	Voldoende personeelsbezetting op de afdeling of in de organisatie
	waar de innovatie gebruikt wordt.
Operationalisatie	Er is voldoende personeel in onze organisatie om het nieuwe
	zorgconcept zoals bedoeld te kunnen gebruiken

Antwoordcategorie:	(1) helemaal mee oneens
C C	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinent 00	
Determinant 22	Financiële middelen
Omschrijving	Beschikbaarheid van financiële middelen die nodig zijn voor het
	gebruik van de innovatie.
Operationalisatie	Er zijn voldoende financiële middelen beschikbaar om het nieuwe
• • • • •	zorgconcept zoals bedoeld te kunnen gebruiken.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 23	Tijd
Omschrijving	Hoeveel tijd die beschikbaar is voor het gebruik van de innovatie.
Operationalisatie	Onze organisatie stelt mij voldoende tijd beschikbaar om het nieuwe
	zorgconcept zoals bedoeld te integreren in mijn dagelijks werk.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 24	Beschikbaarheid materialen en voorzieningen
Omschrijving	Aanwezigheid van materiële voorzieningen voor het gebruik van de
	innovatie, bijvoorbeeld apparatuur, materialen of ruimte.
Operationalisatie	<u>Onze organisatie stelt mij voldoende materialen en voorzieningen</u>
	beschikbaar om te werken volgens het nieuwe zorgconcept zoals
	bedoeld.
Antwoordcategorie:	(1) helemaal mee oneens
<b>5</b>	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens

#### (5) helemaal mee eens

Determinant 25	Coördinator
Omschrijving	Eén of meerder personen die belast zijn met het coördineren van de
	invoering van de innovatie binnen de organisatie
Operationalisatie	In mijn organisatie is/zijn één of meerdere personen aangewezen voor
	<u>het coördineren van de invoering van het nieuwe zorgconcept.</u>
Antwoordcategorie:	(1) nee
	(2) ja
Determinant 26	Turbulentie in de organisatie
Omschrijving	Mate waarin er andere (organisatie) veranderingen gaande zijn die de
	invoering van de innovatie in de weg staan, bijvoorbeeld
	reorganisaties, fusies, bezuinigingen, personeelsverloop of gelijktijdige
	invoering van verschillende innovaties.
Operationalisatie	Zijn er, behalve de invoering van het nieuwe zorgconcept, andere
	veranderingen waarmee u momenteel of binnen afzienbare tijd mee te
	maken heeft (reorganisatie, fusie, bezuinigen, personeelsverloop,
	andere innovaties)?
Antwoordcategorie:	(1) nee
	(2) ja
Determinant 27	Beschikbaarheid van informatie over gebruik innovatie
Omschrijving	Beschikbaarheid van informatie over het gebruik van de innovatie.
Operationalisatie	Ik heb in mijn organisatie gemakkelijk toegang tot informatie over het
	gebruik van het nieuwe zorgconcept.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens
	(5) helemaal mee eens
Determinant 28	Feedback aan gebruiker
Omschrijving	Feedback over voortgang van het invoeringsproces aan de gebruiker.
Operationalisatie	In mijn organisatie vindt regelmatig terugkoppeling plaats over de
	voortgang van de invoering van het nieuwe zorgconcept.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
- (3) noch mee oneens, noch mee eens
- (4) mee eens
- (5) helemaal mee eens

## 2.4 Determinanten m.b.t. de sociaal politieke omgeving

Determinant 29	Wet- en regelgeving
Omschrijving	Mate waarin de innovatie past binnen bestaande wet- en regelgeving
	die door de bevoegde instanties zijn opgesteld (denk aan financiële
	structuren, inhoudelijke wetgeving en toezicht vanuit de Inspectie voor
	de Gezondheidszorg of de Nederlandse Zorgautoriteit).
Operationalisatie	De activiteiten die in het nieuwe zorgconcept staan, sluiten goed aan
	bij bestaande wetten en regels.
Antwoordcategorie:	(1) helemaal mee oneens
	(2) mee oneens
	(3) noch mee oneens, noch mee eens
	(4) mee eens

(5) helemaal mee eens

# Appendix 10 - Results question 3

Developed care concept	Implemented care concept
Selection criteria (GP and POH)	A. Additional selection criteria are used (GP and POH)
	Extent of frailty based on 'gut feeling'
80 years and older	Difference between the patients marked as frail by GP and POH. On a list of 49 the GP marked four, the POH marked 19.
	Does not need chronical care (every 3 months for chronic disease)
	Does not come back once per 3 or 6 months
	no use of fixed GP prescriptions
	• Signals from environment that something can be wrong.
	B. Additional opportunistic criteria are used:
	Spouse of a selected patient will be screened
	<ul> <li>Frailty expected, but &lt; 80 years</li> </ul>
	• Home visit (patient ≥80 years) for other reasons (e.g.
	SNAQ or MMSE test).
GP and POH plan who	Criteria to plan home visits
visits which patient	1) Order of the list (alphabetical)
	First on list, first visited
	2) priority according to GP and POH
	frailty expected
	invisible patient
	3) Expected problem area (POH):
	<ul> <li>Welfare(social) → elderly counsellor</li> </ul>
	<ul> <li>Care (home care or medical) → POH/ district nurse counsellor</li> </ul>
	<ul> <li>Unknown → POH/ district nurse counsellor/ elderly counsellor</li> </ul>
	4) Earlier contact with Carintreggeland and the SWO
	4) Earlier contact with Carintreggeland and the SWO

	<ul> <li>SWO→ elderly counsellor</li> <li>Carintreggeland → district nurse counsellor</li> <li>5) Need to take MMSE (Always combined with blood test)</li> <li>MMSE → POH</li> <li>6) Availability of time</li> <li>3-4 patients per person per month</li> </ul>
<ul> <li>Preparation home visit (POH)</li> <li>Lab forms</li> <li>Check latest blood pressure</li> <li>Other peculiarities about the patient</li> </ul>	<ul> <li>Hand out to interviewer(POH)</li> <li>Lab forms, if necessary</li> <li>Medication overview</li> <li>Information medical dossier</li> <li>The questionnaire <ul> <li>Complemented with points of attention (GP)</li> </ul> </li> </ul>
Not mentioned in concept	<ul> <li>Make appointment for home visits (interviewer)</li> <li>According to GP: <ul> <li>Sent invitation letter with appointment</li> <li>Patient can call the POH to change appointment.</li> </ul> </li> <li>According to the POH, elderly counsellor and district nurse counsellor: <ul> <li>Make appointment by phone</li> <li>Sent the invitation letter with appointment <ul> <li>Or sometimes the other way around (District nurse counsellor)</li> </ul> </li> <li>Invitation letter sent without stamp GP practice on envelope. Envelopes of different organisations are used.</li> </ul></li></ul>
Take of questionnaire from GP practice Van den Helder at patients' home.	Take off renewed questionnaire Additional tasks: 1) Observation home situation of patient 2) Take minutes

	3) Involve family/friend (sometimes)
Process data in information	A. Make summary of home visit and give to POH (district
system of GP practice	nurse counsellor and elderly counsellor). Subsequently,
(POH)	<u>District nurse counsellor</u> : Bring screening
	forms/summary to GP practice the next day or at least
	the same week (dependents of symptoms).Sent
	summary by mail (since November 2014).
	• Elderly counsellor make summation of attention points,
	bring screening forms and summary to monthly
	consultation. When direct action needed, inform POH
	verbally.
	B. Extra data processing
	1) Excel file 1(POH), contains:
	• Patient name, date invitation, date home visit, follow-up
	(date), referral discipline, who (visited the patient),
	MMSE (Yes/No), GFI score(0-15), Frail (Yes/No)
	<ul> <li>Excel file 2 (POH), format made by the 'Federatie</li> </ul>
	Eerstelijns Zorg' (FEA), contains: Frail elderly in
	potential target group (GFI>4), Realised screenings/
	home visits in group frail elderly, individual care plans in
	group of frail elderly, number of patients (from the group
	frail elderly) who need and multidisciplinary
	consultation, Number of patients (from the group frail
	elderly) discussed in multidisciplinary consultation,
	Individual care plans (from the group frail elderly) with
	consent of the patient, number of multidisciplinary
	consultations taken place
	2) ring binders at POH's home (POH)
If GFI <4	A. Feedback to GP $\rightarrow$ write name of patient in GP's agenda
Feedback to GP	(POH).
practice (elicitor)	Assess processed data and ask for extra tests when
<ul> <li>No 2<sup>nd</sup> home visit</li> </ul>	needed (GP).
	B. If GFI <4, more scenario's possible
	1) No action needed
	according to the interviewer

	2) No approval of CD is passed
	2) No approval of GP is needed.
	<ul> <li>Actions already executed or in execution by the</li> </ul>
	interviewer, the GP is informed via system.
	3) Approval of GP is needed; standard action e.g.
	physiotherapist.
	<ul> <li>Follow-up in consultation with interviewer. GP gives</li> </ul>
	approval via system. No action without 'Yes' of the
	GP(POH).
	4) Approval of GP is needed, no standard action
	<ul> <li>Outcomes discussed with GP, determine further</li> </ul>
	steps.
lf GFI ≥4	<ol> <li>No 2<sup>nd</sup> screening necessary → Process evaluation of patient</li> </ol>
Take of TRAZAG	2) $2^{nd}$ screening necessary according to GP $\rightarrow$ elicit
	supplementary questionnaire(s) at home/GP practice.
questionnaire (elicitor)	<ol> <li>Process data → POH</li> </ol>
When necessary a	4) Access outcomes/ determine follow-up $\rightarrow$ GP and POH
biometry, extra	
laboratorial check-ups,	
X-ray, Snaq test and/or	
MMSE	
Process data in	
information system of	
the GP practice (POH)	
Feedback to patient (POH)	No plan
Consultation GP and POH	1) No wolforo er coro plan es such
	1) No welfare or care plan as such.
about direct actions	• See 'With regard to the subsequent steps, on the
If GFI <4	basis of the 1 <sup>st</sup> home visit/ add information to the
	GP's information system.
Welfare plan	
lf GFI ≥4	
Welfare plan or care	
plan	
If GFI <4	Possible steps:
	1) See 'With regard to the subsequent steps, on the basis of

<ul> <li>Referral to SWO</li> <li>If GFI ≥4</li> <li>Referral to district care, case manager dementia, dietician, pharmacy and/or geriatric physiotherapist.</li> </ul>	<ul> <li>the 1<sup>st</sup> home visit/ add information to the GP's information system.</li> <li>2) And see 'With regard to the 2<sup>nd</sup> home visit, includes 2<sup>nd</sup> screening/ supplementary tests, if necessary.'</li> </ul>
Feedback to GP practice (SWO, district care, case manager dementia, dietician, pharmacy and/or geriatric physiotherapist)(GP and/or elicitors).	<ul> <li>Only feedback from</li> <li>1) The SWO <ul> <li>Recommended follow-up actions</li> </ul> </li> <li>2) District care <ul> <li>Feedback on actions</li> <li>Consultation with GP and the district care in which e.g. the patients screened are discussed.</li> </ul> </li> <li>3) Geriatric physiotherapist. <ul> <li>Feedback on findings via the practice post (type of electronic patient dossier).</li> </ul> </li> </ul>
<ul> <li>Possible steps:</li> <li>Consultation GP practice/ community care/SWO with input of geriatrician when necessary.</li> <li>Decide if multidisciplinarity consultation is necessary with other disciplines</li> </ul>	<ul> <li>A. 1x per month → consultation about visited patients and progress of implementation.</li> <li>Present: POH, elderly counsellor and district nurse counsellor</li> <li>B. No consultation with the GP practice/ community care/SWO with input of geriatrician when necessary (if complicated matters with medication).</li> </ul>
Evaluation of the effects for patient	No evaluation of effects of process executed, although there is a new concept plan(not implemented yet). New concept plan(still changing):

1)	Evaluation by phone or during 2nd home visit
•	Use (revised) questionnaire of Borne $ ightarrow$ focus: get insight in
	changes since the 1 <sup>st</sup> home visits.
•	$2^{nd}$ home screening after 3/6 months $\rightarrow$ when outcomes $1^{st}$
	home visit are doubtful and when opinion of interviewer is
	needed.
2)	Screening $\rightarrow$ finish of process.

# Appendix 11 - Reasons for deviations

	Serious things were asked, but there	Interpretation of
-	-	the outcomes of
	were doubts if these things were really important and the interviewers	the home visits
	were wondering how to anticipate on	was unclear
	the outcomes, e.g. if they had to give	
	advice (and which advice) when a	
	patient scored negative on an item.	
	Never made clear agreement about	
	that (DIT.25).	
	that (D11.23).	
-	It was handy to be prepared (medical	Desire of the user
	background and known by which	to fit the need of
	mediate users) when visiting a	the client /Need to
	patient(C.14 and DIT.3).	obtain more
-	GP needed more information about	information on the
	the patient than could be gathered	patient
	with the questionnaire (C.30)	
-	Additional selection criteria. Frail	
	patients and "invisible" patients had a	
	higher priority for the home visits	
	(C.5-6 and DIT.3-6).	
	No agreement on additional follow-up	No agreement
	actions to be taken (e.g. blood tests)	between users on
	(DIT.32 DIT 47-50, DIT.57 and	how to execute the
	DIT.63)	plan
-	No agreement about the period	1
	length between the first and second	
	screening and how depended this	
	period was of the areas of GFI on	
	which the patient scored 'frail'	
	(DIT.41)	
-	No agreement about the feedback of	
	the follow-up to the GP practice, only	
	the physiotherapist gave feedback on	
	the patient via practice post (DIT.45).	
-	The GP received feedback from the	

	district care via a consultation about		
	all his patients who receive care at		
	Carintreggeland once per month		
	(C.37 and C.39). The way other		
	disciplines gave feedback is not		
	discussed during the interview.		
-	The POH, elderly counsellor and		
	district nurse counsellor did consulate		
	one time per month during the		
	meetings, called 'werkoverleg', about		
	the continuation of the care concept.		
	However, according to them there		
	was no multidisciplinary consultation		
	about the patients. The respondents		
	had different opinions about what a		
	multidisciplinary consultation		
	is(DIT.39)		
	Missing computer skills to process	Missing skills of	Preconditions not
_	data (DIT.36 and DIT 38).	users	sufficient
_	Missing interview skills to take off and		
	interpreted the questionnaires		
	(DIT.25).		
_	Missing skills to work with the medical		
	information system of the GP		
	practice, to print information, scan		
	and process data (DIT.24 and		
	DIT.26-27).		
-	How to make and how to keep an		
	overview of the visited patients and		
	the follow-up actions was unknown.		
	Current system will not work if the		
	patient group in the system grows up		
	to 500 patients (DIT.43).		
-	No room (space) available to meet	Lack of resources	
	with the geriatrician every 4 -6 weeks(		

	C.46).		
	C.46). No room(space) available to archive		
-	the outcomes of the home visits. The		
	POH kept everything at her own		
	home (DIT.27).		
-	No medical information system which		
	was accessible for all mediate users.		
	The elderly counsellor could not		
	process the data in the system		
	herself. (DIT.30)		
-	Processing the data of the home	Lack of time	
	visits takes a lot of time. POH does	_	
	this beside her fixed ours(DIT.33)		
-	The interviewers followed their own	Take direct action	No agreement with the
	feeling when they needed to	instead of consult	content of several parts
	determine the follow-up (DIT.19).	the GP first	of the care concept
-	Second screening at GP practice		
	when patient was mobile (DIT.37).		
-	During the first screening many		
	information was already gathered, so		
	second home visits was not always		
	needed (DIT.56).		
	The supplication for the state		
-	•	-	
	<b>o</b> 1		
	•		
	•		
	•		
	(UTT.42).		
-	Second home visit was not needed	Second home	
	(DIT.46).	screening if GFI ≥4	
-	Calling patient instead of visiting		
-	Calling patient instead of visiting (DIT.46).		
-	<ul> <li>when patient was mobile (DIT.37).</li> <li>During the first screening many</li> <li>information was already gathered, so</li> <li>second home visits was not always</li> <li>needed (DIT.56).</li> <li>The questionnaire for the second</li> <li>home screening of the GP practice in</li> <li>Borne was used because this</li> <li>questionnaire was more useable and</li> <li>logical than the developed</li> <li>questionnaire of GP van den Helder</li> <li>(DIT.42).</li> </ul> Second home visit was not needed (DIT.46).		

r		r
	second time (and third time and	
	fourth time, etc.) and the number of	
	patients who needs to be visited	
	grows because the patients who just	
	turned 80 had to be visited too, it	
	could lead to more time shortage	
	(DIT.46).	
-	The second screening was not only	
	based on the GFI score. Outcomes	
	were very dependent of the moment	
	of the home visit, the situation of the	
	patient could differ every day	
	(DIT.46).	
-	No added value of second screening	
	because the physiotherapist will take	
	of a similar questionnaire (DIT.68).	
	· · · · · · · ·	
-	Intention to use the Trazag changed	Trazag is to
	after trying the GFI and Trazag	intensive, takes a
	screening forms, the GFI seemed to	lot of time
	be more effective, also because the	
	mediate users took action	
	immediately after the first	
	consultation, so the Trazag was	
	mostly dispensable (DIT.68).	
-	According to the SWO it was up to	No check if the
	the patient to take the given advice or	patient accepts the
	not and give feedback on the	follow-up actions
	progress, it was their own	
	responsibility. So, the SWO does not	
	need to check this (DIT.59)	
_	Feedback on the home visits and the	
	follow-up actions will be given to the	
	GP, but from there the responsibility	
	is with the patient. Only the feedback	
	of the home visit via the GP, not via	

<u> </u>
he
t

during the home visit (C.13).	
- The district nurse counsellor and	Fill in 'survey
elderly counsellor filled in the 'survey	Monkey' for GDD
monkey' of the GGD themselves and	research
made a summary for the POH	
(DIT.31).	
- During the chronical care check, the	Give ICPC code to
POH has made a distinction between	chronically ill
people who received chronical care	people
and were frail, and people who did	
not receive chronical care and are not	
frail. The ICPC code needed to be	
printed separately. The GFI was not	
taken into account(DIT.54)	
- Different excel forms were used to	Fill in M&I module
calculated the numbers for the report	for subsidy of
for the M&I module(DIT.36)	Menzis

Reasons for deviations from developed care concept (based on interviews and observations)

# Appendix 12 - Details of skipped questions during the home visit

Question	Which interviewer	Reason not asked			
Length	Only asked by the elderly counsellor	Reason unknown			
ВМІ	Never asked	Reason unknown			
Weight	Nobody asked for weight in kilograms, the POH asked if the weight is constant or "did your clothing size remains the same?"	Reason unknown			
	The district nurse counsellor had a weight scale with her but did not use it.				
Blood pressure	The elderly counsellor did not measure the blood pressure	Elderly counsellor had no tonometer			
How often do you use	Only asked when the	If patients did not use vitamin			
vitamin D?	patient answered 'yes' on the question: 'Do you use vitamin D tablets or drops?'	D, it was not possible to ask how often the patient used it.			
Do you ever experience	Never asked all three	The questions were quite			
emptiness around you? /Do	together	similar			
you ever miss people					
around you? /Do you ever feel left alone?					
How many days per week do you work-out for at least 30 minutes per day?	Not asked by the POH	Reason unknown			

Are you familiar with the	Only asked by the elderly	Reason unknown
medication passport?	counsellor	
Which medication did you	Never asked	The interviewer has a
use in the past 14 days?		medication overview from the
		GP practice.
Are there questions or	The elderly counsellor did	Probably because a lack of
problems with regard to	not ask the first three	knowledge on this area and
medicines? / Do you know	questions about	because the elderly
exactly which medication	medication.	counsellor already had the
belongs to which disease?		medication overview printed
		by the POH
Did you ever thought about	Not asked to every patient.	Question can be awkward to
reanimation and have you		ask.
made agreements according		
to your end of life?		

# Appendix 13 - Questionnaire geriatric physiotherapist

Geriatrie fysiotherapeutische screening en onderzoek

### Vaststellen begin situatie

Algemeen gegevens: Persoon gegevens Verwijsgegevens Medische gegevens: Contra indicatie Comorbiditeit Overdracht van andere disciplines Medicatie Hupmiddelen Verwijsdiagnose

### Anamnese:

Analyse hulpvraag:

Wat is het probleem en de aard en consequenties van de aandoening/ziekte, voor het functioneren.

- 1. hoe is de invloed op de kwaliteit van leven
- 2. invloed op de toekomst
- 3. invloed op de omgeving
- 4. wat is de verwachting van de patiënt/cliënt
- 5. hoe is de thuis situatie/woning
- 6. kosten/baten voor de patiënt/cliënt
- 7. hulpmiddelen gebruik
- 8. alarm systeem aanwezig
- 9. hulp en ondersteuning voorpersoonlijke verzorging

### Inspectie:

### **Eerste hypothese:**

Wat is er aan de hand en wat ga ik onderzoeken

### Motorische analyse:

Waarom beweegt de patiënt zo en op welk niveau is de lokalisatie.

- 1. functie niveau
- 2. activiteiten niveau
- 3. participatie niveau

### Motometrische analyse:

Objectief onderzoeken d.m.v. meetinstrumenten

- 1. stoornis niveau
- 2. activiteiten niveau
- 3. participatie niveau
- 4. transfers
- 5. vallen/ valneigingen
- 6. omgang met hulpmiddelen
- 7. mentale verandering

## Geriatrie fysiotherapeutische werkdiagnose (screening op kwetsbaarheid)

## Conclusie:

## Behandelplan:

- 1. hoofddoel
- 2. subdoel
- frequentie en duur van de behandeling
   frequentie waarmee rekening gehouden moet worden
- 5. huiswerkoefeningen
- 6. overleg met HA/ERGO/TZO

### Evaluatie momenten:

Ne	improving profe												x
CON-CETTERIUMLIJST VOOR BEHANDELING DOOR GERIATRIEFYSIOTHERAPEUT	Doel: praktisch / klinisch onderscheld maken op basis van een criteriumlijst (niet gedefinieerd op basis van leeftijd maar op bepaalde karakteristieken) tussen: - gezonde / onbedreigde cliënt met hoge kalenderleeftijd - kwetsbare ouderen (fragiltert) - patiënt met geriatrische ziektebeelden	Vooral wat betreft de eerst twee groepen is het lastig om te bepalen of een oudere cliënt nu wel of niet geïndiceerd is voor verbijzonderde fyslotherapie, in dit geval gerlatriefyslotherapie.	Methode: karakteristleken bepalen tijdens het vaststellen van de beginsituatie (verwijzing, anamnese) van het methodisch handelen. Middelen: o.a. observatie, uitvragen, cliëntgegevens.	Richtlijn: Bij twijfel altijd als `aanwezig` score uitgaande van de gedachte dat een cliënt beter teveel dan te weinig specifieke aandacht kan krijgen. Na het gerlatriefysiotherapeutisch onderzoek kan de aanmelding opnieuw in overweging worden genomen.		B) SPECIFIEK / fragiliteit	<ul> <li>2 of meer chronische aandoeningen<sup>1</sup></li> <li>2 of meer chronische aandoeningen<sup>1</sup></li> <li>anderen anderen</li> <li>meervoudige fysiotherapeutische loopt binnenshuis met een hulpmiddel verblijft in een instelling voor zorg<sup>3</sup></li> <li>beeft multidisciplinaire zorg</li> <li>Daneesmiddele 4 of meer per dag</li> <li>cognitieve stoorrissen</li> </ul>		Totaal:			<sup>1</sup> cerebrovasculaire aandoeningen, dementie syndroom, status na orthopedische operaties, diabetes meilitus, Morbus Parkinson, osteoporose, haritalen, Chronic Obstructive Pulmonary Disease COPD, depressie en angststoornissen, multiple sclerose, reumatoide artritis (RA), artrose, decubitus, deller	igen initiatief te verkrijgen zijn.
CONCEPT-CRITE	aktisch / klinisch onderscheid maken op basis van een in leeftijd maar op bepaide karakteristieken) tussen: gezonde / onbedreigde cliënt met hoge kalenderleeftijd kwetsbare ouderen (fragiliteit) patiënt met geriatrische ziektebeelden	etreft de eerst twee groepen is het l erd is voor verbijzonderde fysiother	Methode: karakteristieken bepalen tijdens het vastste anamnese) van het methodisch handelen. Middelen: o.a. observatie, uitvragen, cliëntgegevens.	twijfel altijd als `aanwezig` score u • weinig specifieke aandacht kan krij elding opnieuw in overweging word		A) GENERIEK / afname van capaciteit	Leeftigd 74 - 85 (factor 1) Leeftigd > 85 (factor 2) 1 chronische aandoening <sup>1</sup> kan niet traplopen ( > 4 treden ) heeft formeie huishoudelijke huip revaart moeilijkheden bij transfer (bed- stoel) en lopen stoel) en lopen niet te compenseren gezichts- en / of gehoerstoornissen	gevallen de afgelopen 6 maanden.		Indicatie voor geriatrie fysiotherapie:	of meer kolom A of meer kolom B kolom A en 2 of meer kolom B kolom B en 2 of meer kolom A	iare aandoeningen, dementie syndroom on, osteoporose, hartialen, Chronic Obs ngststoornissen, multiple scierose, reum	geneesmiddelen op recept, niet de middelen die op eigen initiatief te verkrijgen zijn. CIZ indicatie voor verbliff
> z	Doel: prakti basis van le asis van le asis van le basis van le asit	Vooral wat I niet geïndic	Methode: ka anamnese) Middelen: o	Richtlijn: Bij teveel dan t kan de aann	「日本の	A) GENERI		o geva	Totaal:	Indicatie v	3 of meer kolom A 2 of meer kolom B 1 kolom B en 2 of 1 kolom B en 2 of	<sup>1</sup> cerebrovasci Morbus Parkin depressie en a	<sup>2</sup> geneesmiddelen op recep <sup>3</sup> CIZ indicatie voor verbliff
Benty wood	Aser interdise	C.F.T.											

# Appendix 14 - Recommendations for agendas and minutes of the consultations

### Notable observations agendas and minutes

### Agendas 'Werkoverleg'

There were five notable observations with regard to the agenda of the meetings: 1) missing agendas, 2) no overview of the agendas on computer and folders, 3) agendas were not always distributed to the participants or not on time, 4) agenda was not clear, not every agenda topic was clear (Like, the topic: GGD), 5) the lay-out changed over time.

### Minutes 'Werkoverleg'

There were six notable observations with regard to minutes of the meetings: 1) minutes were not made or incomplete, 2) no overview of the minutes on computer and folders, 3) some minutes were handwritten and some were digital, the handwritten minutes were not digitalised and /or readable, 4) not always an overview of action points, 4) no overview of the decisions made, 5) minutes were not distributed to the participant or not within a few days after the meeting, and 6) minutes were not sent around after improvements were made.

### Observations of the execution of the meetings

During the meetings multiple points for improvement came forward. Based on the observations of the meetings from October 2<sup>nd</sup> 2014 until January 15<sup>th</sup> 2015, the following ten points were insufficient: 1) location and time was not always clear, 2) the meetings did not start on time, because not everyone was on time, 3) duration of the meeting was unknown, 4) No minutes secretary, notes were not always made, 5) Points of action of the last meeting were not discussed, 6) the agenda was not followed during meetings, sometimes new topics were discussed at random, 7) Items were discussed double in several meetings, like when to send the invitation letter, 8)During every meeting the patients who were visited were discussed. But these lists of patients were incorrect; some patients were discussed earlier in a meeting or the elderly counsellor or the district nurse did not know they had to visit these patients, 9) the POH mentioned every meeting that she lost of track and processing the data was too much work, took a lot of time and 10) the meetings were not efficient, it was more a cosy conversation. Very different topics were discussed.

### Minutes of other meetings about the new care concept

Preferences about the overview observations home visits came forward during the meetings, namely an Excel file with: 1) all names/patients/clients, 2) all disciplines and 3) file tab to area(s) for special attentions or something like that.

Some patients have an International Classification of Primary Care code (ICPC code). The GP practice Van den Helder has contact with Borne, about the used questionnaires and their work screening methods.

### **Recommendations: agendas and minutes**

Not every decision made was put down in writing because the organisation about the consultations was not structured. Therefor it is recommended to improve the organisation of the consultations. For example always make an agenda and sent it to the participant a couple days at before the meeting, so everybody has the possibility to prepare the meeting and/or give feedback on the agenda. Another example is to point out someone who makes the minutes of the meeting and send the minutes including point of actions per person within two days after the meeting to every participant.

### Agenda/minute maker tool

There are useful tools available for making minutes. In these tools the agenda can be entered and during the meetings the minutes can be written directly in the program, the point of action can be assigned to the person who have to execute the action and at the end of the consultation the minutes are send directly to the participants by email.

## **Appendix 15 - Recommendations invitation letter home visits**

Before the home visits takes place, an invitation letter with necessary information about the home visits will be sent.

The letter itself can be improved on the four points, these points are: 1) grammar and spelling, 2) clarity of explanation, 3) removing double information, and 4) arrangement of the letter.

To clarify these points for improvement, one or more examples of what can be improved will be given for the first three points. For the fourth point a recommendation for an arrangement of the letter is given.

- 1. grammar and spelling
- patienten" instead op patiënten and;
- "Er wordt besproken of en welke zorg er eventueel nodig is"
- 2. <u>clarity of explanation</u>
- "een pilot-project ouderenzorg gestart", but it is not clear what this "pilot-project" is and;
- The appointment is made by Dianne, Thea or Irma, but if the patient has any questions about the home visits or if the appointment is not convenient, the patient needs to contact the assistant of the GP.

### 3. removing double information

In the third alinea is stated: "Dat betekent dat we willen proberen te voorkomen dat u ziek of afhankelijk wordt, *door tijdig te signaleren* dat er iets niet goed gaat", but in the fifth alinea is also stated: "Door tijdig problemen te signaleren kunnen we samen kijken naar een mogelijke oplossing."

### 4. arrangement of the letter

### Current arrangement

- a. Opening letter
- b. Reason for the start of the pilot
- c. Which professional visit the patient at home
- d. Goal of the home visit
- e. Content of the questionnaire of the home visit

- f. Opportunity for patient to ask questions about well-being
- g. What happens after the home visit
- h. Closing letter
- i. Appointment information (about date, time and interviewer)
- j. Possibility friends/family may be present during home visit
- k. Possibility to change appointment

### Recommended arrangement

- a. Opening letter
- b. Reason for start pilot and explanation of the pilot
- c. Goal of the home visit
- d. Which professional visit the patient at home
- e. Content of the questionnaire of the home visit
- f. Opportunity for patient to ask questions about well-being during this home visit
- g. What happens after the home visit (Follow-up)
- h. Appointment information (about date, time and interviewer)
- i. Possibility friends/family may be present during home visit
- j. Possibility to change appointment, including phone number of interviewer
- k. Closing letter