# Facilitators and barriers to the diffusion of person-centered care interventions in a nursing home for persons with dementia

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## Abstract

## Background

Because of the rapidly growing number of persons with dementia in the Netherlands, challenges arise in the current healthcare system and dementia care. At the same time, changes take place in dementia care. The quality of life of the individual person with dementia (PwD) becomes important, and new approaches for dementia care are developed. One of these approaches is person-centered care (PCC), where the PwD is the center of care, instead of the disease. The aim of PCC is to improve the wellbeing of PwD and job satisfaction of healthcare professionals. However, the implementation of PCC is hindered by the digital communication system MyCaRe that is incompatible with the care process. Furthermore, it is unknown what the experiences, facilitators, barriers, and needs are of healthcare professionals at the nursing home regarding PCC and the aim of this study is to explore these. The resulting research question is: 'To explore the diffusion of PCC interventions for PwD living in nursing homes from the perspective of healthcare professionals.'

## Methods

In this study, qualitative research with field research is conducted. Three focus groups were used to collect data from eight paramedic disciplines and nine caregivers working at a local nursing home. Questions about the experiences, facilitators, barriers, and needs of healthcare professionals about PCC were asked. Furthermore, the facilitators and barriers of the supporting digital communication system were addressed. The data is analyzed using Atlas.ti version 9, and open coding, thematic inductive coding, axial coding, and deductive coding based on the Diffusion of Innovation Theory have been applied.

## Results

Eight paramedic disciplines and nine caregivers participated in the focus groups. Positive experiences of the paramedic disciplines and caregivers regarding PCC in the nursing home are the improved wellbeing of residents and the work perception of healthcare professionals. Misunderstanding of family and residents and missing skills to apply PCC are negatively experienced. Facilitators are healthcare professionals with knowledge and experience, an active manager, and an organization who stimulates their staff in the application of PCC. Barriers are the complexity and incompatibility of the digital communication system and the task-oriented care process. Needs for future innovations are changes in the current care process to make it more person-centered, and a digital communication system that aligns with a PCC process and facilitates the healthcare professionals in the application of PCC.

## Conclusion

This study reveals several facilitators and barriers to the implementation of PCC in nursing homes, according to healthcare professionals. To facilitate the implementation of PCC, it is essential that the care process changes from task-oriented to person-centered, with support from the organization, and the digital communication system needs to be redesigned with help of users. Further research is necessary to address requirements for a new digital communication system.

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## 1. Background

## 1.1 Dementia in the Netherlands

Dementia is the most rapidly growing cause of death in the Netherlands (1) and is worldwide the seventh most prevalent cause of mortality (2). The prevalence of persons with dementia (PwD) in the Netherlands is almost 300,000 (3) and in 2050, more than 620,000 people will suffer from this disease (3). Dementia is more common in women than in men (4), and when people get older, the chance to develop dementia increases (3). More than 80,000 PwD live in a nursing home (3) and in the age group of persons from 85 years and older, 26.5 per 1,000 people suffer from dementia (3). However, these numbers are probably underestimated since only half of all PwD are registered at the general practitioner.

In the Netherlands, the healthcare system knows several challenges (5) which make healthcare and dementia care complex, such as an aging population (6), an increase of dementia cases (1), and fewer caregivers (7). The population is aging (6), and people often have comorbidities (5) such as cardiovascular diseases, cancer or chronic diseases. At this moment, 19.5% of the Dutch population is older than 65 years (6) and at the same time fewer babies are born (7). The aging population and fewer childbirths cause problems for dementia care (7) because the population will have a higher share of elderly people, people with comorbidities and an increase of dementia cases. In addition, dementia cannot be cured, and has a progressive course with declining cognitive and mental functions during the progression of the disease (8). These problems are also experienced in nursing homes, where fewer caregivers will be available to provide care to more PwD (7), and a lot of caregivers are resigning due to the high work pressure (7). Furthermore, healthcare costs for dementia are the highest in the Netherlands (9), compared to other public diseases. In 2019, the costs for dementia amounted to 11,8 billion euros (9), and will only increase. Due to these challenges, which increase the demand for, complexity of, and pressure on dementia care in the Netherlands (5), dementia is also called 'the epidemic of the future' (8). Therefore, changes are needed to prevent that dementia care in nursing homes becomes unaffordable and impossible.

Over the last few years several changes already took place in dementia care and in nursing homes (10). The quality of care for the individual patient has become more important (10) and the role of caregivers in nursing homes switched from a task-oriented approach to a person-centered care (PCC) approach (11)(10). A task-oriented approach (12) is an approach where the provision of care is structured and based on mandatory tasks. In a nursing home this means that the caregiver needs to complete concrete tasks to provide good care. Examples of such tasks (12) are that all PwD need to sit at the table at nine o'clock to have breakfast, laundry must be clean and folded, and all PwD must join the same activity. In this approach, caregivers often experience a high work pressure and a lack of time to spend with the residents (12), and together with the challenges around the aging population (6) and the decreasing amount of caregivers available (7), the PCC approach was introduced (10). This approach aims to maintain or improve the quality of life of the individual PwD, prevent disruption of their daily life (8), and decrease the burden of caregivers (13). The PCC approach also fits in the future perspective of the World Health Organization (WHO) (14), who states that their goals in dementia care, among others, are to optimize the cognition and well-being of PwD and understand and manage changes in behavior.

In the PCC approach, the PwD is the center of care instead of the disease (15). The five keywords of PCC (15) are comfort, attachment, inclusion, occupation, and identity. The provision of care in nursing homes, according to PCC, is not structured or based on tasks like the task-oriented approach, but focused on the needs and wishes of the PwD (16). Choices are given to the PwD about their care (15), such as what time they want to get up and which activity they want to join. To apply PCC, caregivers can use a variety of interventions (17), with or without the use of eHealth technology (11), which can support the caregivers and the PwD. However, the implementation of the PCC approach is difficult, since adoption is often lower than expected (18) and many determinants (18), such as time and skills, influence the implementation process. To understand the implementation of PCC in a nursing home, the Diffusion of Innovation's Theory of Everett Rogers (19) is applied in this study. The focus is on the implementation of the PCC approach for PwD in the latest stages of dementia in the nursing home setting.

## 1.2 Dementia

Dementia is an umbrella term for specific symptoms of major neurocognitive disorders (2) in which functioning of a person decreases from normal, and where psychological, neurological, affective, and behavioral symptoms can occur (20). This decrease in functioning impacts daily life (20) since PwD often cannot perform daily routines properly. The cognitive disorder occurs at least in 2 of the 5 following domains (21); memory, language, visuospatial or executive functions, and personality. The most common form is Alzheimer's disease, accounting for 60-70% of all dementia cases (22). When people suffer from Alzheimer's disease, the first symptoms (22) are often mild and it appears the person is just aging since forgetfulness of little details occur. When the disease progresses memory loss becomes more apparent, as the person forgets well-known names and gets confused when unexpected events happen. In the late stage of Alzheimer's disease, the person's verbal abilities, sleep, and motor skills can decline, and aggressiveness, agitation, and unresponsiveness can occur. Different stages (8) are seen during the progression of dementia. The initial stage is called pre-dementia, where the PwD has mild complaints, such as tiredness and anxiety. The next stage is mild dementia, where cognitive disorders increase, and supervision in most cases is required. PwD often are aware of their decline, which results in feelings of anxiety and uncertainty. The third stage is moderately severe dementia, characterized by an increased need for care and a higher degree of problematic behavior, which makes providing care more difficult. The PwD can feel misunderstood by people around them and experience a high level of unmet needs (23) which results in agitation and misunderstanding. The last stage (8) is very severe dementia, where performing basic tasks, such as getting dressed and eating becomes more and more difficult. The PwD is completely dependent on caregivers and admission to a nursing home often is needed. Due to these complaints, the burden of dementia is high for PwD (24).

## 1.3 Dementia and the PCC approach

Treatment for PwD is complex (25), because of the different types of dementia and the variety of symptoms PwD experience. Dementia cannot be cured (5), so all treatment (26) is aimed at managing the disease. For years, medication was the main treatment for PwD (11) and used in the task-oriented approach (12). Medicated treatment can be prescribed by the general practitioner in every stage of dementia (20)(27), with the aim to suppress symptoms by giving the PwD psychotropic drugs, such as antidepressants, antipsychotics, or mood stabilizers. A major disadvantage of medication (28) is the adverse effects, such as higher risk of falls or strokes. During the last years, the use of medication has

been debated and other, non-medicated treatments are sought (11) because the quality of life for the individual PwD became more important (10). The PCC approach (17) was introduced, which includes a broad range of non-medicated treatments such as music therapy and sensory based interventions (25), and became the new standard of treatment for PwD (17). The non-medicated treatment reportedly leaded to less adverse events than medicated treatment (29). Non-medicated treatment (29) is used to give the PwD more comfort and is aimed to control behavioral and psychological symptoms, such as agitation or aggression, and often is offered at nursing homes. in the following paragraphs, first the PCC approach is explained and after that the non-medicated treatments.

For a successful application of PCC, it is important that caregivers have knowledge about the PwD (15) to make the PwD feel understood and seen, show respect and empathy, and communicate with the PwD. Furhtermore, seeing the PwD as persons with individual needs, view the world from their perspective, and create an environment adjusted to the perception of the PwD is part of the PCC approach (15). Commitment to the organization from every person, and teamwork (30) to complete care tasks and give staff more freedom to apply PCC are essential. Evaluation of the provided care (15) to learn from situations and from each other, and leadership (15) to support and value the staff are also vital to provide PCC. The PCC approach can be applied in several ways to improve the quality of life of the PwD (15). Behavior, such as agitation and feelings of misunderstanding, that occurs in the latest stages of dementia can become more problematic when a PwD is admitted to a nursing home, because of the changed environment (8). The PCC approach (17) can help to control this behavior and make the PwD feel more comfortable and understood. An important aspect of the PCC approach (15) is that caregivers know the PwD, their needs, preferences, history and notice and accept the reality of the PwD. Knowing the PwD will make it easier for the caregiver to understand why certain behavior is shown, and how to approach each individual PwD (15). By using a personalized approach, the PwD will feel understood and seen (15), and the extent to which unmet needs are experienced will decrease. An example on how to make a PwD feel more at home in the nursing home (8), according to the PCC approach is by adapting the environment to the wishes of the PwD with furniture from home. Furthermore, PCC could improve job satisfaction of caregivers (15)(16). If a PwD in a nursing home is agitated or restless, the other PwD, who are sitting together in the living room, often become restless as well (31). A negative atmosphere appears, and for caregivers it is hard to make all PwD feel comfortable and satisfied again. However, when PCC is applied (16) and caregivers know the PwD and their approach, they can more easily prevent PwD from becoming agitated or restless. Although this process of learning takes time (31), it becomes easier and more fun to provide care, because the PwD will feel more calm and more time will be available to spend with PwD. Using the PCC approach makes dementia care more appealing for caregivers (15), since the work pressure will decrease and satisfaction will improve (31). Therefore, the PCC approach can contribute to the solutions for the current challenges in dementia care and ensure adequate health care for the PwD in the future.

PCC can be applied through non-medicated treatments (17). Non-medicated treatments (17) are interventions ranging from small activities, such as looking at old pictures, to complete new processes and the use of technology. Non-medicated treatments (28) used to provide PCC consist of 3 types of interventions, which all contain different therapies.

The first type of non-medicated treatment is sensory-based interventions (17), which uses sensory stimulation to improve symptoms on behavior and psychological level. Massage therapy is proven

effective (28) to reduce anxiety, agitation, and depression, by massaging the PwD's hands, head, and shoulders. Music therapy (17)(28) is also proven effective in reducing agitation and other behavioral symptoms. Since emotionally or physically reacting to a beat is possible when all other abilities are gone, this form of therapy can be offered to PwD in all stages of dementia (28). A sensory garden (28) is a garden where PwD are stimulated by different kinds of sounds, smells, lights, and touch. There is moderate evidence that this results in an increased wellbeing of the PwD by diminishing depressive feelings (16) and verbal agitation (28). Comparable to the sensory garden, 'snoezelen' (16) is a concept where a room is filled with multisensory stimuli specifically created for therapeutic use (29). Evidence is found that 'snoezelen' can improve the mood and behavior of PwD (29) and reduce the extent to which the PwD is bored (28). However, no long-term effects were found, and the evidence was moderate. Aromatherapy (28) can be used for treatment of sleep problems and agitation by applying or inhaling essential, aromatic oils. Evidence that aromatherapy is effective for reducing symptoms is found in some studies (28)(32), but not all reviews state the same effect.

The second type of non-medicated interventions is emotion-oriented or cognitive interventions (28). These interventions include reminiscence therapy and cognitive stimulation. Reminiscence therapy (17)(28) can provide a decrease in depressed feelings and anxiety and an increase in quality of life. This form of therapy employs past events and stimulates conversations about them, with the help of well-known items such as old photo albums and newspapers. After reminiscence therapy, the social involvement of the PwD increases (28). Nevertheless, moderate evidence was found (33) about the effectiveness of reminiscence therapy on improvement of quality of life and mood of the PwD. Cognitive stimulation (17) is given by doing activities, as cooking, making puzzles, and working in the garden. These activities are done to improve memory, visuospatial abilities, language. Limited evidence (28) is found for cognitive stimulation, although in some cases a reduction in behavior problems was observed.

The last type of non-medicated interventions includes a variety of therapies, namely exercise therapy and pet therapy. Exercise therapy (28) has a moderate effect (34) on reducing depressed feelings. Pet therapy, where robot animals are used for PwD to care for them or pet them, only has effect if the PwD has positive previous experiences with animals (17). Pet therapy can provide a reduction in agitated behavior and an improvement of joy (28).

## 1.4 eHealth technology and implementation of the PCC approach

In a nursing home, several eHealth technologies (35)(36) are available to support caregivers and PwD in the application of PCC. A definition of eHealth according to Van Gemert-Pijnen et al. (18) is "the use of technology to support health, wellbeing, and healthcare". eHealth technology aims (36) to support and improve the caregivers and the residents in the nursing home in communication and performing activities, and it can monitor behavior or health of residents. eHealth technologies cover a broad range of technologies, and can be categorized in different ways (18). The first way of categorizing (18) is done by the position of eHealth technologies in healthcare. This group differentiates technologies that support the provision of care, such as treatment, technologies that manage care, such as personal health records, and technologies that support self-management programmes through promoting prevention. The second way of categorizing (18) is by distinguishing technologies based on the extent to which a technology can support the interaction between human and computer, the extent to which a technology can coach or monitor persons and the extent to which it can create individualized health

interventions. The third way of categorizing (18) is done by how the eHealth technology has an innovative influence on healthcare. This influence can be positive or negative and includes technologies such as wearables. Examples of eHealth technologies used in dementia care and nursing homes are technologies for reminiscence therapy, where instead of real photo albums digitalized photo's or photo albums can be used, as well as applications with music and videos (28)(35). Furthermore, sensors (37) can be applied in e.g. the sensory garden, to provide a personalized experience for PwD or to monitor PwD during the night. For caregivers, a form of eHealth technology (36) can be an online training about PCC, with the aim to spread knowledge, and nursing homes can use a supporting digital communication system (38). Caregivers can write reports and documentations about work shifts and residents in this system (38). This digital communication system aims (38) to improve communication between caregivers and provides information about resident, so the residents receive the best possible care. In this research, the focus is on a supporting digital communication system in a nursing home as form of eHealth

If a nursing home wants to shift from the task-oriented approach to the PCC approach, several challenges may arise (11) and hinder the implementation of PCC. A requirement for the implementation of an innovation, in this case PCC, is eHealth technology (18) to contribute to solutions for the current challenges in healthcare. However, the implementation of an eHealth intervention (18) is complex because it contains a lot of determinants, namely time, budget, skills, resources, and governance. Additionally, the adoption of an eHealth technology is often lower than expected. To be able to use an eHealth intervention, development, implementation, and evaluation of the intervention are needed (18). The CeHRes Roadmap (18) can be used as a guide when developing, implementing, and evaluating a digital communication system. The Roadmap consists of five phases (18): Contextual Injury, Value Specification, Design, Operationalization, and Summative Evaluation. In this study, the Operationalization and Summative Evaluation phase of the Roadmap (18) can be applied, which includes the implementation, adoption and use of a certain eHealth Technology. One of the approaches underlying the CeHRes Roadmap is the Diffusion of Innovation Theory (19)(39), by Everett Rogers, introduced in healthcare by Cain and Mittman (18). In this study is chosen to apply the Diffusion of Innovation Theory (39) since this theory discusses the implementation and adoption of a technology. Diffusion means "the process by which an innovation is communicated through certain channels over time among members of a social system (19)". It is difficult to ensure adoption of an innovation. Therefore, the theory (19) describes the diffusion of innovations based on four main elements, innovation, communication channels, time, and the social system. All four elements influence the adoption of innovations. Ten critical dynamics, divided over the four elements, can help understanding the adoption of innovation. The first element, innovation, with five dynamics is applied in this study, and in the following paragraph, the relative advantage, trialability, observability, compatibility and infrastructure, and complexity of a technology (19) are explained.

Innovation, a new idea or (technological) intervention for the people who must adopt the intervention, is one of the elements of the Diffusion of Innovation Theory (19). In this study, this is the digital communication system which needs to be adopted by the caregivers during and after implementation. Five dynamics of innovations are 1) Relative Advantage, the extent to which the digital communication system is perceived as better than the idea it replaces, 2) Compatibility and Infrastructure, the extent to which the digital communication system aligns with existing values, past experiences, and needs of caregivers, 3) Complexity, the extent to which the digital communication to which the digital communication system is seen as difficult to

understand and use, 4) Trialability, the extent to which the digital communication system may be tried out, and 5) Observability, the extent to which the results of the digital communication system are seen by others.

## 1.5 Carint Reggeland Home De Schutse

This research is conducted for Carint Reggeland Home De Schutse (40), a nursing home consisting of six units and located near the city center of Rijssen, the Netherlands. Each unit has room for ten residents and has a private garden. Also, different facilities are available, such as a meeting room, a library, a little store, a hairdresser, and a parking space. In addition, a lot of activities in the social or creative fields are organized by volunteers. People can move to De Schutse when independent living is not possible anymore, due to a psychological or physical disability or dementia. A team, consisting of a physician, a psychologist, a physiotherapist, an occupational therapist, a speech therapist, a dietician, and spiritual caregivers, works together with the caregivers to ensure the health and wellbeing of the people living at De Schutse.

At the different locations of Carint Reggeland, an increasing number of PwD is noticed (41) as well as the increasing rate of complexity this entails. Therefore, a vision of dementia is developed to provide the best possible care to PwD living in the nursing homes. The PwD's demand for care is leading and the PCC approach is essential at the nursing home (42) to fulfill the vision. To train caregivers in the application of PCC, a two-year training for specialized nurses is developed, the Gespecialiseerd Verpleegkundige Psychogeriatrie course (Specialized Nurse Psychogeriatrics) (GVP). The tasks of a GVP are to explore how PCC can be used to provide a valuable life, and to advise and support colleagues in providing PCC. Furthermore, nurses level 1, 2, and 3, working at De Schutse can take a 4-day course about PCC, which was set up in 2021. The course is organized by 'Instituut voor Maieutische Ontwikkeling in Zorgopleidingen' (Institute for Maieutical Development in Healthcare Training) (IMOZ) (43) and is called 'Belevingsgsgericht Verzorgende Psychogeriatrie' (Person-centered nurse pshychogeriatrics) (BVP). Every year, 2 people per unit of De Schutse follow the BVP course. During this course, people learn how to apply PCC through communication and advice on how to deal with behavior of the PwD. Also, several innovations are implemented at De Schutse in the last few years (44). A wanderer's circuit has been created for PwD at the psychogeriatric department with interventions contributing to PCC, such as a train compartment and a robot cat. Furthermore, a sensory garden is created and all other gardens around the building can be accessed by the PwD living at De Schutse. 'Het Zorgloket' provides materials and eHealth technology applications to provide PCC, which can be borrowed and tried out by the staff.

eHealth technology is used at Carint Reggeland to support the provision of care (42). Examples of technological applications are medication dispensers, incontinence sensors, and medication apps. Furthermore, a digital communication system as form of eHealth technology is used at De Schutse. The digital communication system can be categorized based on the position in healthcare (18) and be classified under technologies that manage care. This communication system is part of the care process and is called MyCaRe (45), which incorporates the classification system Omaha (46). The Omaha system (46) is used for completing the individual care plan and includes four domains, namely the environmental, psychosocial, physiological, and health-related behavior domain, with 42 sections. Features of MyCaRe (45) are the individual care plan of residents, reports, and files needed for the reporting of care for the clients. The individual care plan is completed by the primary responsible

caregiver and reports are written daily by the nurses working a shift. Transmission of information about the residents and completed tasks takes place orally and in writing. Before colleagues start their shift, the written reports in MyCaRe should be read and details will be discussed with the present nurse. In the individual care plan, 4 types of actions can be described. The first one is 'advise, instruct, and guide' (AIB in Dutch), where the caregiver only guides the PwD to take an action. The PwD completes the action independently, without the help from a caregiver. The second one is 'case management' (CM), where the caregiver refers the person to a physician, physical therapist, or another discipline when he/she notices this is necessary. The third action is 'treat and apply procedures' (BP in Dutch), which can be carried out to a geriatric specialist when the person has a wound for example. The last one is 'monitoring and surveillance' (MB in Dutch), where eHealth technology such as wearables and monitoring systems can be used. Every six months, a multidisciplinary consultation takes place with the family, where the agreed actions are evaluated, and new actions are determined.

## 1.6 Problem and aim

De Schutse implemented various PCC interventions to support the provision of PCC. But after creation and implementation, no evaluation is performed. There is little to no information available about the diffusion of PCC interventions, experiences, perceived barriers, perceived facilitators, and needs of professional caregivers regarding PCC. Furthermore, Carint Reggeland experiences that the Omaha system and MyCaRe are not aligning well with PCC (42). Where PCC is focused on opportunities and resilience, the focus from the Omaha system and MyCaRe is on diseases and risks. Healthcare professionals at Carint Reggeland experience the systems as complex because the current classification system does not align with the current care process. Therefore, this research aims to explore factors that inhibit or enable the successful diffusion of PCC interventions for PwD living in nursing homes from the perspective of professional caregivers. Several dynamics of the Diffusion of Innovation Theory (19), namely the relative advantage, trialability, observability, compatibility and infrastructure, and complexity, are used for evaluation of the digital communication system MyCaRe. MyCaRe is part of the work routine and should support the application of the PCC approach. Therefore, it is classified as part of question 2 and 3 about facilitators and barriers of PCC interventions and needs of PCC innovations.

## 1.7 Research questions

The resulting research question is: 'To explore the diffusion of PCC interventions for PwD living in nursing homes from the perspective of healthcare professionals.' Sub questions:

- 1. What is the experience of healthcare professionals at nursing home De Schutse towards the current PCC interventions?
- 2. What are the facilitators and barriers regarding the implementation of existing PCC interventions in the work routine of healthcare professionals?
- 3. What are the needs of healthcare professionals towards the implementation of future PCC innovations?

## 2 Methods

## 2.1 Study design

To determine the experiences, facilitators, barriers, and needs regarding PCC at nursing home De Schutse, qualitative research is conducted, using field research. Field research was performed by organizing three focus groups at nursing home 'De Schutse', to gain insight into the experiences, facilitators, barriers, and needs regarding PCC. Focus groups (47) were chosen instead of interviews, because the interaction between participants that takes place during the focus group provides more information when compared to interviews.

## 2.2 Participants

For this study, three focus groups were set up. To be included in the first group, the participants had to be working at the psychogeriatric departments at De Schutse in a paramedic discipline, such as a physiotherapist, an occupational therapist, a dietician, or a psychologist. Excluded from the first focus group are all other employees working at one of the departments of nursing home De Schutse, who are not a paramedic discipline. Also, people with other functions at the nursing home are excluded, such as the manager. For the second and third group, the participants had to be working at nursing home De Schutse at the psychogeriatric department as a caregiver, such as nurses. Excluded from these focus groups are all other people working at one of the psychogeriatric departments, caregivers working at other departments, the paramedic disciplines, and people with other functions than caregiver.

The participants were recruited by the manager of De Schutse. For the first focus group, an e-mail was sent to all paramedic disciplines working at De Schutse with an invite for the focus group. For the second and third focus group, the manager invited two people of each psychogeriatric unit by sending an e-mail to all psychogeriatric units with the question to select two people per unit. At first, the plan was to organize two focus groups, one for the paramedic disciplines and one for the caregivers, but due to circumstances, less people than expected participated in the second focus group. Therefore, a third focus group was organized. The focus groups took place at the 7<sup>th</sup>, 8<sup>th</sup> and 22<sup>nd</sup> of April 2022.

## 2.3 Materials

During the focus group, open questions were asked to the participants and the meetings took approximately an hour and a half per focus group. Six topics were addressed which were based on the research questions. The first topic was PCC in general, where the way of providing PCC and the motivation of the participants was discussed. The second topic addressed experiences with providing PCC and the extent to which training was perceived. Thirdly, the perceived barriers and facilitators when providing PCC were debated. The fifth topic was about the role of MyCaRe in providing PCC, how it hindered and facilitated the provision of PCC, and during the coding process the five dynamics from the Diffusion of Innovation Theory (19) were applied. The last one addressed the needs and expectations for the future. A more detailed version of the focus group questions can be found in Appendix A: Script focus group.

#### 2.4 Procedures

Ethical approval for this study was granted by the Faculty of Behavioural, Management and Social sciences (BMS) Ethics Committee (Requestnr.: 220269). The participants were contacted per e-mail about the details of the focus group. All three focus groups were being held at nursing home De Schutse and conducted in Dutch. During the focus group the researcher, the participants, and a note taker were present. Before the data collection started, participants had to sign an informed consent form provided by the researcher MR, to permit data collection. After introduction of the researcher, the study was explained, including its goal and the handling of the data of the participants. When there were no further questions, permission was asked to start the voice recording. The six topics were discussed by the participants, and for the first topic all participants wrote a few keywords on a post-it. Everyone got a chance to tell what they wrote down, to make sure everyone has the same understanding of PCC. After that, the focus group proceeded with the next topic. This process is followed three times, with different participants each focus group. When deemed necessary by the researcher, the researcher asked more questions than were originally written in the script.

#### 2.5 Analysis

The collected data from the focus groups was analyzed by first transcribing all recorded audio files verbatim. The researcher (MR) used the notes taken by the note taker to distinguish the voices of the participants and the voice-recording and keywords written on the post-its for transcription. The software used for the analysis is Atlas.ti version 9. First, the data were explored to capture relevant data within a code by using open coding (48), where codes were collected and grouped. Next, thematic inductive coding was applied (49) and quotes were labelled. The codes were linked to important themes or categories through axial coding (48). Inductive analysis has been applied until no new themes were found. Deductive coding was conducted and several aspects of the Diffusion of Innovation's Theory by Everett Rogers (19) were applied; technology, people, and context. The codes describing technology are about the digital communication system MyCaRe with classification system Omaha, codes about context are about the building and the organization. The versions of different themes and codes about context are about the supervisor (AB). The final version of the coding schemes can be found in Table 1, **Error! Reference source not found.**, and **Error! Reference source not found.**.

Code group	Code	Sub code				
Positive	Characteristics of clients	Mental wellbeing; physical wellbeing; social				
experiences		wellbeing;				
	Characteristics of healthcare professionals Context	Improved work perception; improved team spirit; personal development; Available staff;				
Negative experiences	Characteristics of clients	Misunderstanding with family; misunderstanding with resident;				
	Characteristics of healthcare professionals	Missing skills;				
	Context	Task-oriented care process; implementation PCC;				

Table 1: Code groups, codes, and sub codes regarding experiences of healthcare professionals

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Table 2: Code groups, codes, sub codes, and descriptions regarding facilitators and barriers of healthcare professionals

Code group	Code	Sub code	Description
Facilitators	Technology	Relative advantage	MyCaRe provides supporting information of
			resident's background;
		Observability	Reports written by colleagues;
	People	Informal caregivers	Cooperating family;
		Healthcare professionals	Knowledge about resident's approach;
			experience;
	Context	Building	Offices of disciplines in the nursing home;
			creation of wanderer's circuit;
		Organization – leadership	Active manager;
		Organization – readiness to	Stimulate staff; special staff for PCC; support
		implement	staff by providing training;
		Organization – funding	Money investment in PCC;
Barriers	Technology	Compatibility and	MyCaRe is not integrated in the care
		infrastructure	process;
		Complexity	Problem-oriented instead of person-
			centered; writing of reports; access to
			information; slow start-up;
	People	Informal caregivers	Cooperation of family;
		Residents	Attention seeking residents;
		Healthcare professionals	Readiness to change; work attitude; feeling
			unsafe; difference in generation;
			communication between care teams and
			disciplines; communication within teams;
	Context	Building	Insufficient space in rooms; wanderer's
			circuit gives agitation;
		Organization – situation	Medical treatment;
		where PCC is limited	
		Organization – leadership	Organization of care process; support staff ir application PCC;
		Organization – readiness to implement	Time for PCC; priority of PCC;

Table 3: Code groups, codes, sub codes, and descriptions regarding needs of healthcare professionals

Code group	Code	Sub code	Description
Needs	Technology	Compatibility and	Overview about residents;
		infrastructure	
		Complexity	New domain;
		Trialability	MyCaRe training;
	People	Healthcare professionals	Attitude – mutual support;
	Context	Organization – changes needed in work routine	Change care process; PCC as priority; time and staff;

Organization – work needed	Training; integration of MyCaRe in care
to implement change	process; knowledge about residents;

## 3 Results

## 3.1 Characteristics of respondents

A total of seventeen people participated in the focus groups, whereof eight paramedic disciplines and nine caregivers. The functions of the included paramedic disciplines are behavioral consultant, geriatric specialist, two psychologists, diabetes and wound care nurse, nurse specialist, physical therapist, and dietician. From the caregivers, seven were nurse level 3, whereof one had additional hours to use for the wellbeing of the residents, one of them was wellbeing coach and one was nurse level 4. From the paramedic disciplines, two of eight respondents have followed the IMOZ-BVP course, and one of them also completed the GVP-training. From the caregivers, all of them have followed the IMOZ-BVP course. An overview of the characteristics of the respondents can be found in Table 4 and Table 5.

Characteristic	D1	D2	D3	D4	D5	D6	D7	D8
Function	Behavioral	Geriatric	Psychologist	Psychologist	Diabetes	Nurse	Physiotherapist	Dietician
	consultant	specialist			nurse	specialist		
Department	1	Expertise	Expertise	Expertise	Diabetes	Expertise	Expertise center	Expertise
		center	center	center	Nurses	center	Physiotherapy	center
		Physician	Psychology	Psychology	Expertise	Nurse		Dietetics
					center	specialists		
Years of	>30 years	26-30	21-25 years	0-5 years	21-25	21-25	>30 years	6-10 years
experience		years			years	years		
Years working	>30 years	0-5 years	0-5 years	0-5 years	16-20	16-20	21-25 years	6-10 years
at De Schutse					years	years		
Followed	IMOZ BVP-	None	None	None	IMOZ	None	None	None
courses	course +				BVP-			
	GVP-				course			
	training							

Table 4: Characteristics of respondents (n=8) first focus group (paramedic disciplines)

IMOZ: Instituut voor Maieutische Ontwikkeling in Zorgopleidingen; BVP: Belevingsgericht Verpleegkundige Psychogeriatrie; GVP: Gespecialiseerd Verpleegkundige Psychogeriatrie

Characteristic	1.1	1.2	1.3	2.1	2.2	2.3	2.4	2.5	2.6
Function	Nurse	Nurse	Nurse level 3	Nurse	Nurse	Nurse	Wellbeing	Nurse	Nurse
	level 3	level 3	+ hours for wellbeing	level 3	level 4	level 3	coach	level 3	level 3
Department	1	2	2	3	4	4	3	3	4
Years of	26-30	26-30	>30 years	16-20	>30 years	0-5 years	21-25	>30	0-5
experience	years	years		years			years	years	years
Years working	26-30	26-30	26-30 years	16-20	>30 years	0-5 years	21-25	26-30	0-5
at 'De Schutse'	years	years		years			years	years	years
Followed	IMOZ	IMOZ	IMOZ BVP-	IMOZ	IMOZ	IMOZ	IMOZ	IMOZ	IMOZ
courses	BVP-	BVP-	course	BVP-	BVP-	BVP-	BVP-	BVP-	BVP-
	course	course		course	course	course	course	course	course

Table 5: Characteristics of respondents (n=9) second and third focus group (care teams)

IMOZ: Instituut voor Maieutische Ontwikkeling in Zorgopleidingen; BVP: Belevingsgericht Verpleegkundige Psychogeriatrie;

## 3.2 Experiences of healthcare professionals regarding PCC

#### 3.2.1 Positive experiences

The healthcare professionals who participated in the focus groups mentioned different experiences when asked about the application of PCC in practice. Table 6 shows the positive experiences of caregivers and paramedic disciplines regarding existing PCC interventions.

Table 6: Positive experiences of healthcare professionals regarding existing PCC interventions

Code	Subcode	Mentioned by:	Quotes (PD = paramedic discipline, CG = caregiver)
Characteristics of clients	Mental wellbeing	CG	CG: She (a resident, red.) had taken the robot cat and put it before her on the bed and was lying in bed, with a shining face. CG: An example: there is a man in one unit now, and if you see how he came in and how well he is doing now, that is really special. This man came from another nursing home where he was basically flatlined so they could provide care. He had a trauma. Now if he says no to something, we accept it, leave him alone, try again half an hour later, or someone else does it. And now he is doing so much better, and I think that is so beautiful to see. CG: I did do that a few times (going on home visits, red.), for the better. For example, a man who seemed to be very aggressive toward his wife. We were quite afraid about him coming to live with us. We went on a home visit, and by then we were already in the picture in terms of face. And when he came here, it was already very different for him, and that really did benefit him.
	Physical wellbeing	PD	PD: If someone needs to improve fitness, for example, on a bicycle, we put them in front of a screen. Currently, I have a lady from Rotterdam cycling in front of a screen with videos of Rotterdam from the past. That puts her at ease, whereas normally it is quite difficult to keep her going.
	Social wellbeing	CG	CG: Yes, and the big garden is really nice. Sometimes you see two residents walking with each other and there is also space for that. Sitting on a bench together.
Characteristics of healthcare professionals	Improved work perception	CG	CG: I have wellbeing hours next to working hours, which is super nice because you can give 1-on-1 attention. I got that time, which is very special and beautiful. Then you see people really enjoying themselves and I find that very personcentered.
	Improved team spirit	PD/CG	PD: Personally, I can be very happy if there are people in the team who () are very enthusiastic and want to try everything. That enthusiasm and seeing what can contribute makes it easier for me too. I then often continue with that person, so that others also enjoy it, and it becomes a kind of oil slick. CG: Because of the team and the disciplines. It is very nice that you can consult well as a team, and we feel really supported by the disciplines. If there is something wrong, the psychologist or someone else comes immediately, very nice!
	Personal development	PD/CG	PD: The focus on the patient's experience is all part of it, you keep developing yourself and as a group of professionals you keep trying to update each other on the courses you have taken. CG: Sometimes you have a resident who needs a lot of attention, then I find it nice to learn from the team and give each other tips.
Context	Available staff	CG	CG: If there is an intern you do have more time, that is nice. We sometimes use that and do fun things. CG: Or if there is a volunteer, that makes a difference. You can give more attention to the care and to the residents because there is someone in the living room.

Positive experiences with application of PCC according to healthcare professionals are an improvement in the mental, physical, and social wellbeing of residents, improved work perception, team spirit, and personal development of healthcare professionals, and the availability of staff.

According to caregivers, the mental wellbeing of residents improves when PCC is applied. This improvement is seen when residents pet a robot cat, and when caregivers go on home visit before admission. Furthermore, one resident came in traumatized and is now feeling much better, because of the PCC approach. Respondent CG – "*He had a trauma. Now if he says no to something, we accept it, leave him alone, try again half an hour later, or someone else does it. And now he is doing so much better.*" The application of the PCC approach can also improve the physical wellbeing of residents. A paramedic discipline stated the use of a screen with an interesting film for the resident in front of a bicycle helps them to keep going. Respondent PD – "*If someone needs to improve fitness, for example, on a bicycle, we put them in front of a screen. Currently, I have a lady from Rotterdam cycling in front of a screen with videos of Rotterdam from the past. That puts her at ease, whereas normally it is quite difficult to keep her going."* Furthermore, the social wellbeing can be improved. A caregiver mentioned the sensory garden as person-centered intervention, which provides room for the residents to socialize by going for a walk or sit together at a bench.

A caregiver mentioned that the work perception is improved, because she can give personal attention to residents which gives satisfaction. Respondent CG - "I have wellbeing hours next to working hours, which is super nice because you can give 1-on-1 attention. (...) Then you see people really enjoying themselves and I find that very person-centered." Besides, both the paramedic disciplines and caregivers experience an improvement in the team spirit since the enthusiasm of colleagues helps to provide PCC, as well as the support from the teams and disciplines. Development at personal level is mentioned by both groups of healthcare professionals. Due to the application of PCC this development takes places through discussion with colleagues and learning from each other.

Regarding the context, the caregivers stated that the presence of an intern or volunteer makes it possible to apply PCC and do activities or give more personal attention to a resident. Respondent CG – "If there is a volunteer, that makes a difference. You can give more attention to the care and to the residents because there is someone in the living room."

## 3.2.2 Negative experiences

The healthcare professionals also experience negative aspects regarding existing PCC interventions. Table 7 shows all the applied codes about negative experiences.

Code	Subcode	Mentioned	Quotes (PD = paramedic discipline, CG = caregiver)
		by:	
Characteristics	Misunderstanding	CG	CG: But that is also because sometimes family members speak to you,
of clients	with family		if a man is dirty, or if he is wearing the same clothes again. You can experience that as difficult, but you do it with the best intentions.
	Misunderstanding with resident	CG	CG: I find misunderstanding by a resident quite difficult. That they suddenly become angry or aggressive. You mean it all well and you are in a nice moment, and then suddenly there is misunderstanding.

*Table 7: Negative experiences of healthcare professionals regarding existing PCC interventions* 

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Characteristics of healthcare professionals	Missing skills	PD	PD: What I find difficult is when there are residents with very difficult problem behaviors, who are very aggressive or negative, they pull everyone with them and when teams run out of patience, then you indeed get 'we have already tried everything', then it is very difficult to get input, to make staff enthusiastic to look further, what can we do. Then there is no longer room for improvement and resistance is felt.
Context	Task-oriented care process	PD	PD: If it is very busy and there is little room for residents because this and that still needs to be finished, it is more difficult to get cooperation (with the person-centered approach, red.). PD: I also think that the pressure of work is very high on the unit and that, as a result, they think 'this has to be finished' for certain things.
	Implementation PCC	PD	PD: How it functions exactly on the unit is kind of hard to assess. You know it is variable.

Negative experiences of healthcare professionals regarding providing PCC are that family or residents misunderstand the application of PCC, healthcare professionals miss skills for provision of PCC, a task-oriented care process and the way of implementation.

Caregivers stated that misunderstanding when applying the approach is experienced difficult. Family members of the resident sometimes do not understand why their father is wearing dirty clothes. Respondent CG – "But that is also because sometimes family members speak to you, if a man is dirty, or if he is wearing the same clothes again. You can experience that as difficult, but you do it with the best intentions." This happens also with residents, when a caregiver has a nice moment with him/her, and the resident becomes abruptly angry or aggressive.

A paramedic disciplines stated that some healthcare professionals are missing skills for the application of PCC, especially when residents show difficult problem behavior. In such situations, healthcare professionals miss patience. Respondent PD – "What I find difficult is when there are residents with very difficult problem behaviors, who are very aggressive or negative, they pull everyone with them and when teams run out of patience, then you indeed get 'we have already tried everything', then it is very difficult to get input, to make staff enthusiastic to look further, what can we do. Then there is no longer room for improvement and resistance is felt."

Another paramedic discipline mentioned that the current care process is task-oriented, and colleagues feel that they have less time for residents due to other tasks that must be completed. Respondent PD – "If it is very busy and there is little room for residents because this and that still needs to be finished, it is more difficult to get cooperation (with the person-centered approach, red.)." They also experience that it is hard to see to what extent PCC is provided on the units, so it is unclear how well it is implemented.

## 3.3 Facilitators and barriers of healthcare professionals regarding existing PCC

## 3.3.1 Facilitators

During the focus groups, healthcare professionals mentioned several facilitators regarding PCC. The three main codes are technology, people, and context. The results are illustrated in Table 8.

## Table 8: Facilitators of healthcare professionals regarding PCC

Code	Sub code	Description	Mentioned by:	Quotes (PD = paramedic discipline, CG = caregiver)
Technology	Relative advantage	MyCaRe provides supporting information of resident's background	CG	CG: The heading 'mijn leven' in MyCaRe has changed, more input about how they used to be. Demented people often go back to their childhood, and it is really nice that you then have leads from their history to easily start a conversation.
	Observability	Reports written by colleagues	CG	CG: Yes, if you have written that (person-centered approach, red.), then I see that and can come back to it with a resident, whether she had a nice afternoon. CG: Yes, and if someone else reports it, the other person can also use it and you can learn from each other.
People	Informal caregivers	Cooperating family	CG	CG: Sometimes you are very dependent on family if you want to make a life book. That can have a lot of added value.
	Healthcare professionals	Knowledge about resident's approach	PD	PD: If the nurses on the unit are well aware of the approach of care based on the patient's perception, and work according to it. Then it is easier to get involved in the perception and if there are problems with behavior, that you can pick it up properly and get cooperation the quickest. PD: The more you can ask questions on the unit, the more it benefits the treatment and the more person-centered it is.
		Experience	CG	CG: It is handled more easily now than before (PCC, red.). This is mainly due to experience, which you see especially when colleagues have been working there for a long time and have also worked with each other for a long time.
Context	Building	Offices of disciplines in the nursing home	PD	PD: A big advantage of the Schutse is that there are quite a few disciplines who have their office at the nursing home, so you have much shorter lines. It is easier to quickly ask what someone thinks about something. Much more accessible.
		Creation of wanderer's circuit	CG	CG: The wanderer's circuit is very nice, if there are too many stimuli for a resident on the unit, he can go there and do his thing, grab things. It is a nice drop-out corner.
	Organization - Leadership	Active manager	PD	PD: The manager facilitates a lot, by making resources available and renovations that benefit the living environment. Being able to deploy extra staff at the right time if necessary, so that PCC can also be provided. PD: The manager is very active, wants to do everything and is very enthusiastic. It is an active location; at other locations it is way less.
	Organization - Readiness to implement	Stimulate staff	PD	PD: There is now an increasing incentive to go and make a home visit when someone is newly admitted, to see how they have lived and what their wishes are.
		Special staff for PCC	PD	PD: The wellbeing coaches play a big role here too; this is not the same at other locations. They also pick up a lot of things, try them out, what works and what does not. They really have time for it and that is not the case everywhere.



	Support staff by providing training	CG	CG: You are offered a lot of courses, from the organization. CG: The IMOZ course starts with the basics of dementia, that you learn to delve into that and learn to recognize what stage a resident is in, and what approach is appropriate. Then a lot of empathy, and handling advice, which I found very nice at the time.
Organization -	Money	CG	CG: We as Schutse have the money to go out with the residents and organize outings.
Funding	investment in PCC		CG: Yes, and the wanderer's circuit is an investment that Carint Reggeland is willing to make. Other choices can be made, but this is done anyway.

Facilitators for the application of PCC, according to healthcare professionals, are the relative advantage and observability of the technology MyCaRe, a cooperating family, healthcare professionals with knowledge about the resident's approach, offices of paramedic disciplines located in the nursing home, the creation of the wanderer's circuit, and an active manager. Furthermore, the organization who stimulates staff, hires special staff for PCC, offers training, and invests money in application of PCC is seen as a facilitator.

A caregiver mentioned that MyCaRe has a relative advantage, because a heading is added which offers supporting background information of the resident. This makes it easier to talk with the resident since a lot of information is available for the caregiver. Respondent CG – *"The heading 'mijn leven' in MyCaRe has changed, more input about how they used to be. Demented people often go back to their childhood, and it is really nice that you then have leads from their history to easily start a conversation."* Furthermore, MyCaRe provides observability, states another caregiver. When a colleague writes a report and includes what kind of PCC she has used, other colleagues who read it can learn from it and use it during their shifts.

Informal caregivers can facilitate PCC by cooperating. Sharing a lot of information about the resident helps when making a life book about the life of a resident, according to a caregiver. Paramedic disciplines stated that when healthcare professionals have knowledge about the resident's approach, helps them to do their work. Respondent PD – "PD: If the nurses on the unit are well aware of the approach of care based on the patient's perception, and work according to it. Then it is easier to get involved in the perception and if there are problems with behavior, that you can pick it up properly and get cooperation the quickest." Having experience is another facilitator, mentioned a caregiver. PCC is picked up easier when colleagues have a lot of experience and work for a long time together.

The building facilitates the application of PCC, according to a caregiver. The fact that most of the paramedic disciplines' offices are in the nursing home, makes them accessible. Furthermore, the creation of the wanderer's circuit in the nursing home is a facilitator, stated a caregiver since residents can go there when the unit gives too many incentives. A paramedic discipline mentioned that the manager of the nursing home is very active and provides a lot to make PCC possible. Respondent PD – *"The manager facilitates a lot, by making resources available and renovations that benefit the living environment. Being able to deploy extra staff at the right time if necessary, so that PCC can also be provided."* Another paramedic discipline stated that the organization is ready to implement PCC. The staff is stimulated to go on home visits, special staff for PCC is hired, such as wellbeing coaches who

can experiment with PCC and have time for it, and according to a caregiver, the staff is supported by providing training which facilitates the staff in applying PCC. Respondent CG – *"The IMOZ course starts with the basics of dementia, that you learn to delve into that and learn to recognize what stage a resident is in, and what approach is appropriate. Then a lot of empathy, and handling advice, which I found very nice at the time."* Besides, the organization invests money to make PCC possible, stated a caregiver, and this makes them feel supported.

## 3.3.2 Barriers

The caregivers and paramedic discipline also mentioned barriers regarding existing PCC. Table 9 shows these barriers and the applied codes.

Code	Sub code	Description	Mentioned	Quotes (PD = paramedic discipline, CG = caregiver)
Technology	Compatibility and infrastructure	MyCaRe is not integrated in the care process	by: PD/CG	CG: If you want to do it really well and you have to start at 7 o'clock and you still have to read all the reports and everything, then you can only start working at 7:30/quarter to 8 and that just doesn't work in practice. So, there are a lot of colleagues who read the reports at home. Actually, we are all too crazy, but it does happen.
	Complexity	Problem-oriented instead of person- centered	PD	PD: What I find very limiting about Omaha is that it is about problem behavior. Only if there is a problem, you could theoretically fill it in, while PCC is not always about problem behavior, but it goes much further.
		Writing of reports	CG	CG: Everyone still finds it sometimes difficult to create a report, to look it up, and to put the right information under each heading.
		Access to information	PD/CG	<ul><li>PD: It is very difficult to find out from the report to what extent PCC is applied.</li><li>CG: A lot of information is put away in 'mijn leven', but it can contain very important things that should also be mentioned in the individual care plan.</li></ul>
		Slow start-up	CG	CG: Starting up MyCaRe already takes a few minutes. Then you pick it up less quickly.
People	Informal caregivers	Cooperation of family	CG	CG: Sometimes you are very dependent on family, if you want to have a life book made. That can have a lot of added value, but you are dependent on the cooperation of the family. Also, for the discussions prior to admission and home visits, the family must be open and willing to cooperate, otherwise you won't make much progress.
	Residents	Attention seeking residents	CG	CG: I find it difficult that some residents demand a lot of attention, and that the other residents suffer as a result. CG: Sometimes there's just no other way, because the behavior is not quite on the right track yet, due to medication or whatever. () If one resident is very agitated and restless, the other residents will be too, and you get a negative atmosphere.

Table 9: Barriers of healthcare professionals regarding PCC

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	Healthcare professionals	Readiness to change	PD	PD: Some solutions are easier for the nurse but are not always the best solution. E.g., you give a pill quickly, but this does not make the patient better. You can also take a quietly walk with someone. For the teams it can be easier to give medication, but for us it is not, there are risks, it does not always work, you must try different medication if you cannot calm that person down with pills. PD: You can think of a lot of things in terms of PCC, such as dementiewinkel.nl. Sometimes the teams lack the enthusiasm to take that up themselves. () You often must suggest it and then sometimes they (the teams, red.) do something with it. They would rather take a pill to solve the problem quickly than go to great lengths to put a resident at ease.
		Work attitude	PD	PD: Also, how you view it as an employee. Do you come here to work for 8 hours and then it is not your problem anymore? () When tackling certain behavior, it can take weeks, where problematic behavior first increases, then you must want it (contribute to PCC red.) and if you do not feel like it, it does not work. PD: The barrier is really when someone says, 'I've had 3 days off, ask someone else'. Sometimes you have already seen three nurses before you go to the resident, and you must wait and see whether someone has a person-centered vision or not.
		Feeling unsafe	PD	PD: Sometimes it is just very difficult, and behavior remains very difficult, or if someone is aggressive you sometimes have caregivers who are reluctant to go to work, that they think 'What is this person going to do today? Am I safe?' Those are very basic things.
		Difference in generation	CG	CG: Young employees work in a much more task-oriented way. CG: Here too you see a difference between older and younger employees, the younger ones read everything during work, the older ones think I will do it at home, during work I prefer to pay more attention to the residents. And that is logical () but in our time it was very different.
		Communication between care teams and disciplines	PD	PD: There should be no threshold for approaching other disciplines. It comes from two sides, the communication between the disciplines and the teams sometimes acts as a barrier.
		Communication within teams	PD	PD: But also, the communication within the team. Some people think differently than others, but that is not always discussed. () For example, getting a resident out of bed, if one person does it this way and another that way and a third in yet another way, it is very difficult for the resident. While you may have agreed to do it a certain way, so the communication is not always good.
Context	Building	Insufficient space in rooms	CG	CG: Space in living room and bedrooms. We still have 2- person rooms, which I actually find obstructive. The living room is quite small and especially if you have a lot of wheelchairs, you do not have much room to move around freely, neither do the residents.

CG: And not enough toilets and showers. You just must go into a shower every day that everyone goes into, and the toilet that is always dirty, I do not call that PCC.

		Wanderer's circuit gives agitation	CG	CG: We try if a resident is restless, to offer him peace in the wanderer's circuit. () the other time a lot of people come by, and it just gives extra agitation.
– S wh	ganization iituation here PCC is hited	Medical treatment	PD	PD: If you are carrying out treatment for a respiratory infection, you are limited in being able to apply PCC.
•	ganization - adership	Organization of care process	CG	CG: I also find that we are often busy with Carint Reggeland 24/7. It takes a lot of your time, also outside of work. That is also because you are involved, but also because everything comes in through the mail and you must respond to it. CG: That is all organization time, which you do in your own time. Especially now that JEP has been added, you get a lot more information. I do find it difficult to keep track of everything. I sometimes find that valuable work and valuable life are still a burden.
		Support staff in application PCC	PD	PD: You can also apply for resources for care technology, but the teams are rather reluctant to do so. It is often not embraced enthusiastically.
Rea	ganization - adiness to plement	Time for PCC	PD	PD: You need quite a bit of time for PCC. It is an investment of time, because if you want to work this way you have to start working in a personalized way and to do that you have to give one-on-one attention from time to time and that space is increasingly limited by national policy.
		Priority of PCC	CG	CG: Yes, that (team consultation, ed.) is important, because it revolves around the residents, but we are only busy with information and the hassle around it.

Barriers of the application of PCC stated by healthcare professionals are the incompatibility and complexity of MyCaRe, non-cooperating family, attention-seeking residents, and healthcare professionals who are not ready to change, have a negative work attitude, feel unsafe, experience a difference in generation, and poor communication. Other barriers are insufficient space in rooms, agitation caused by the wanderer's circuit, situations where it is not possible to apply PCC, the organization of the care process, the organization that does not always support staff, and the lack of time and priority that is given to PCC.

According to a caregiver, MyCaRe does not support them in the current care process. Reading of the reports, which is needed before every shift, cannot be done during the shift because there is no time for that. Therefore, reading is often being done at home. A paramedic discipline stated that MyCaRe is complex because the technology is problem-oriented instead of person-centered, so it is not supporting the approach. Also, writing of the reports is difficult. Respondent CG – *"Everyone still finds it sometimes difficult to create a report, to look it up, and to put the right information under each heading."* Both the paramedic disciplines and caregivers find it difficult to access the right information

about PCC in MyCaRe since it can be found at different places. Another caregiver mentioned that the slow start-up of MyCaRe hinders the use of the technology.

Informal caregivers can also hinder the application of PCC, stated a caregiver. Information about the resident's life must be obtained by the family, and when they are not willing to cooperate, it is difficult for the healthcare professionals to apply the person-centered approach. Another caregiver mentioned that attention seeking residents can be barrier. Respondent CG – "Sometimes there's just no other way, because the behavior is not quite on the right track yet, due to medication or whatever. (...) If one resident is very agitated and restless, the other residents will be too, and you get a negative atmosphere."

Paramedic disciplines stated that some colleagues are not ready to change to the person-centered approach and are not enthusiastic about it. Respondent PD – "PD: Some solutions are easier for the nurse but are not always the best solution. E.g., you give a pill quickly, but this does not make the patient better. You can also take a walk with someone. For the teams it can be easier to give medication, but for us it is not, there are risks, it does not always work, you must try different medication if you cannot calm that person down with pills." Furthermore, the work attitude of some healthcare professionals hinders application of PCC by not contributing to the agreed approach. Respondent PD – "Also, how you view it as an employee. Do you come here to work for 8 hours and then it is not your problem anymore? (...) When tackling certain behavior, it can take weeks, where problematic behavior first increases, then you must want it (contribute to PCC red.) and if you do not feel like it, it does not work." Another paramedic discipline mentioned that the unsafe feelings healthcare professionals experience when residents are aggressive is a barrier for providing PCC because it is difficult to empathize with the resident. A caregiver stated that the difference in generation impedes the care process, because they work more task-oriented and read reports at work, while older colleagues use that time to give attention to residents. Communication between care teams and disciplines, and within care teams is not always good, according to paramedic disciplines, and hinder the application of PCC. Respondent PD – "But also, the communication within the team. Some people think differently than others, but that is not always discussed. (...) For example, getting a resident out of bed, if one person does it this way and another that way and a third in yet another way, it is very difficult for the resident. While you may have agreed to do it a certain way, so the communication is not always good."

The space in the living room and bedroom, and the number of toilets and showers does not facilitate PCC, stated caregivers. The rooms are too small, especially when wheelchairs are used, and the residents must share bedrooms and bathrooms. Another barrier regarding the building is that the wanderer's circuit can make the residents agitated when a lot of people are walking there, according to a caregiver. A paramedic discipline mentioned that PCC cannot be applied during a medical treatment person-centered. Caregivers stated that the organization of the care process takes a lot of private time and due to the many channels which distributes information, such as mail and the online platform Jouw Eigen Portaal (Your Own Portal) (JEP), it is hard to stay updated. Jep is a platform where information about the whole organization can be found, and it gives access to applications needed to work. Respondent CG – *"That is all organization time, which you do in your own time. Especially now that JEP has been added, you get a lot more information. I do find it difficult to keep track of everything. I sometimes find that valuable work and valuable life are still a burden."* Furthermore, a paramedic

discipline mentioned that the care teams are not intrinsically enthusiastic about using PCC innovations, so the organization can support their staff more in this. A paramedic discipline stated that the organization is not ready to implement PCC, because not enough time is available for a PCC approach during the current care process. In addition, a caregiver mentioned that other organizational issues are often more important to discuss during team meetings than discussing residents. Respondent CG – "Yes, that (team consultation, ed.) is important, because it revolves around the residents, but we are only busy with information and the hassle around it."

## 3.4 Needs of healthcare professionals regarding future implementation of PCC

The healthcare professionals mentioned several needs for future implementation of PCC innovations during the focus groups. In Table 10, the results regarding needs are described.

Code	Sub code	Description	Mentioned	Quotes (PD = paramedic discipline, CG = caregiver)
Technology	Compatibility and infrastructure	Overview about residents	by: PD	PD: One discipline has created a very nice report about a resident, where you can see very briefly in one look what someone wants and would like. These are often additional lists, but something like that would be necessary (in MyCaRe, red.).
	Complexity	New domain	CG	CG: Actually, MyCaRe should have an additional domain 'wellbeing', because that is a value/norm that does not quite fit with all the other domains.
	Trialability	MyCaRe Training	CG	CG: I would like to have a course about MyCaRe, that you get clear what to put where in MyCaRe and what you can do with it all.
People	Healthcare professionals	Attitude – mutual support	PD	<ul><li>PD: If you have a culture together that you want to strengthen each other, that will work very well.</li><li>PD: To be able to offer that PCC, you must be able to connect early in the process as a discipline, and not when it is already escalated. What you need is the time and space to build and maintain a bond with the team to lower the threshold.</li></ul>
Context	Organization - Changes needed in work routine	Change care process	PD/CG	PD: I also think that the workload is very high in the departments and that, as a result, they think 'this has to get done' with certain things. CG: Sometimes I think it is a pity that everything is done by volunteers and wellbeing staff, and we do not really do anything anymore in terms of fun activities. But I would like it if we could sometimes do something more person-centered. Sometimes we can do it in between, playing shuffleboard for example, but it is not much.
		PCC as priority	PD	PD: In the past there was PCC, we had training and everything, which is very good for the residents, but along the way it fades. It is very hard to keep up with it.
		Time and staff	PD/CG	CG: At the unit, I notice very much that you lack hours. If you are alone, and there is a restless resident, then you cannot pay as much attention and time to it. While that is very important at that moment. PD: Good staffing of the teams is also important. CG: I think supervision in the living room is very important. There was a time when supervision in the psychogeriatric unit living rooms was mandatory, but that is no longer the case. Now sometimes you go to put people to bed, and then there are still some in the living room. You do have to deal with demented people, and then sometimes crazy things happen that could have been prevented if there had been supervision.

 Table 10: Needs of healthcare professionals regarding future implementation of PCC

Organization - Work needed to implement change	Training	PD/CG	<ul><li>PD: Sometimes there is also a bit of a lack of training, that not everyone is trained in it.</li><li>CG: More people should take the PCC course. Also, the older colleagues, they are sometimes still quite stuck.</li><li>CG: Not everyone has followed this course, but some have. I do think it is important, especially for the young staff who just got their degree and have little experience to take the course. They can really learn a lot of that.</li></ul>
	Integration of MyCaRe in care process	CG	CG: Yes, if you want to do it very well and you must start at 7 o'clock and you still must read all the reports (in MyCaRe, red.) and everything, then you can only start working at 7:30/quarter to 8 o'clock and that just doesn't work in practice. So, there are a lot of colleagues who go home to read the reports. We are all too crazy, but it does happen. CG: Honestly, there is not much time for that. You go before a shift to read the report and then you go to work. Everything that is in MyCaRe, what stands under the headings and what you should be doing, that just doesn't work.
	Knowledge about residents	PD	PD: Actually, you do want to have that information (about residents, red.) up front.

Needs for future implementation of PCC innovations, according to healthcare professionals, are for MyCaRe to be more compatible with the care process, become less complex by adding a new domain, and get the possibility to follow training about MyCaRe. The attitude of healthcare professionals needs to change to get more mutual support, and the care process must change with PCC as a priority and more time and staff available for provision of PCC. Furthermore, training about application of PCC is needed, integration of MyCaRe in the care process, and more knowledge about residents.

The healthcare professionals have several needs regarding the technology MyCaRe. The first need, according to a paramedic discipline, is that MyCaRe becomes more compatible with the care process by making a brief overview about the residents with their wants and needs, so that the most important information can be found with one look. The second need is MyCaRe being less complex, by adding a new domain, stated a caregiver. Respondent CG - "Actually, MyCaRe should have an additional domain 'wellbeing', because that is a value/norm that does not quite fit with all the other domains." The third need is an improvement of the trialability of MyCaRe. A caregiver mentioned that a training about MyCaRe is needed to get clear how to use the technology.

The paramedic disciplines find that changes in the attitude of healthcare professionals is needed. A culture where colleagues show mutual support and work as a team, will help in the application of PCC. Respondent PD - "To be able to offer that PCC, you must be able to connect early in the process as a discipline, and not when it is already escalated. What you need is the time and space to build and maintain a bond with the team to lower the threshold."

Both the paramedic disciplines and caregivers stated that the current care process needs to change because they feel a high work pressure and cannot spend much time on person-centered activities since volunteers often do this. Respondent CG - *"Sometimes I think it is a pity that everything is done by volunteers and wellbeing staff, and we do not really do anything anymore in terms of fun activities. But I would like it if we could sometimes do something more person-centered. Sometimes we can do it* 

*in between, playing shuffleboard for example, but it is not much."* Besides, PCC needs to become the priority in the care process, mentioned a paramedic discipline. The PCC approach was announced a long time ago, and caregivers followed training. But now, after all these years, it is still not integrated in the care process. More time and staff are also required to be able to apply PCC, according to the caregivers and paramedic disciplines. This will provide supervision in the living room and time to give residents personal attention. Respondent CG - *"At the unit, I notice very much that you lack hours. If you are alone, and there is a restless resident, then you cannot pay as much attention and time to it. While that is very important at that moment."* Work is needed to implement change, and both groups of healthcare professionals stated that more people need to follow training about PCC, both older and younger colleagues, to break through patterns and gain more experience. Furthermore, caregiver mentioned that MyCaRe must become better integrated in the care process, to support the healthcare professionals in their work routine and reduce the time that MyCaRe is used in personal hours. Besides, having information about the resident is essential to get to know the resident and be able to provide PCC, stated a paramedic discipline.

## 4 Discussion

Based on this qualitative research among healthcare professionals in the nursing home setting with PwD, it can be concluded that PCC appears to have a positive effect on the mental, physical, and social wellbeing of residents and on the work perception, team spirit and personal development of healthcare professionals. Negative experiences appear to be misunderstanding about PCC, missing skills from healthcare professionals, and the task-oriented care process. Facilitators seem the provision of background information of residents, healthcare professionals with knowledge and experience regarding PCC, creation of PCC interventions, and the active manager and supportive organization. Barriers for application of PCC appear to be the incompatible supporting technology, moderate readiness to change of healthcare professionals, poor communication, lack of space in the rooms, and the organization of PCC, mutual support and teamwork between healthcare professionals, and changes in the current care process, by prioritizing the PCC approach and having more time, staff, and training.

An interesting finding in this study is that healthcare professionals experience improved personal development by working together as a team according to the PCC approach. Teamwork is a facilitator for the implementation of PCC and mentioned in other studies. The study of Rutten et al. (30) suggested that teamwork provides more individual time with a resident and an increase in job satisfaction, but the development on personal level is not mentioned. An explanation for this can be that the personal development is part of the increasing job satisfaction in the study of Rutten et al. (30), however it is not concretely described. Furthermore, one of the aspects of the PCC approach is a higher job satisfaction for caregivers and a lower burden of care (31), which can help in reducing the resignations in healthcare (15) and keep caregivers working their jobs. To improve job satisfaction and have motivated caregivers, three basic psychological needs must be satisfied, the need for competence, autonomy, and relatedness, states The Self-Determination Theory (SDT) by Deci and Ryan (50). The theory distinguishes two kinds of motivation (50); autonomous and controlled motivation. Autonomous motivation (50) results from a person's feeling of willingness and they act when something is interesting or important to them. Controlled motivation (50) results from obligation, and action is guided by the prospect of reward or punishment. When people are autonomously motivated, they are more willing to learn or act than when their motivation is controlled, and the extent to which people are autonomously motivated is influenced by the social environment. A social environment with a high degree of need supporting will increase the autonomous motivation. The study of Deci and Ryan (50) showed that when managers are more need supportive, the employees have a higher job satisfaction and more positive work outcomes. So, to overcome staff shortage due to resignations (7), managers should focus more on autonomous motivation (50) for caregivers to improve the job satisfaction. Managers can do this according to SDT (50), by giving caregivers choices, recognize their feelings, support autonomy, and give (positive) feedback to satisfy the needs for competence, autonomy, and relatedness.

The Diffusion of Innovation Theory of Everett Rogers (19) is applied on the results of this study about the digital communication system. This study revealed that, according to healthcare professionals, the digital system is incompatible with the current care process and hinders the implementation of PCC. The digital system and the care process are both more task-oriented than person-centered. Therefore, changes are needed in the care process to make it more person-centered, and after that the digital system must change to let it align with the care process. The implementation model of Grol and

Wensing (51) distinguishes five phases to achieve implementation and adoption. The phases are orientation, understanding, acceptation, change, and conservation. To change a care process in a nursing home, first the stakeholders need to be informed by the management about the PCC approach, to awaken curiosity. During the understanding phase, it is vital the stakeholders see the urgence for the new approach. The management must provide information about the PCC approach and how it differs from the current, task-oriented approach, and train people. During the acceptation phase, it is essential that the stakeholders become motivated and willing to change. Managers can apply SDT (50) to achieve this. In the changing phase, stakeholders start working according to the PCC approach. It is essential that stakeholders believe and see that the approach works. To keep people motivated, the organization can use opinion leaders (51), people working in the organization and ready to change. The late majority is often convinced under pressure, especially when close colleagues are wanting to implement.

To create a digital communication system that is compatible with the care process, the NASSS framework by Greenhalgh (52) can be applied. This framework considers the influence on the adoption, non-adoption, abandonment, spread, scale-up, and sustainability (NASSS) of healthcare technologies. The elements of the framework are the condition, technology, value proposition, adopter system, healthcare organization, and the wider system. The element technology includes the material and technical features, knowledge generated by the technology, and knowledge to use it. This study showed that the digital system starts slow and reading takes a lot of time, access to information is difficult, and training to use the system is not received. According to the NASSS framework (52), having this knowledge and follow training will facilitate the implementation of PCC. The element healthcare organization is about the capacity to innovate, readiness to use the technology, its that the organization has capacity to innovate, since innovations are implemented at the nursing home and healthcare professionals feel supported by the organization. The readiness to use the technology is low because the current digital system is not aligning with the care process. Work is needed to change to a digital system which facilitates the application of PCC.

To ensure the digital system aligns with the care process, the User-Centered Design (UCD) approach (53) can be applied. In the UCD approach the users of the digital system are involved in the design process (53), to make sure the users can use the digital system as it is supposed to be used, and to create a more efficient, safe, and effective system. Furthermore, when users are involved in the design process, they know what to expect from the digital system. The users feel heard when the developers take their ideas into account, and satisfaction about the digital system becomes higher. To ensure the digital communication system is not hindering the implementation process of PCC, it is essential that users, healthcare professionals working at the nursing home, are involved (53) by brainstorm sessions, interviews, questionnaires, focus groups, observations, or walkthroughs. An analysis must be performed to understand the user's requirements. After that, the design of the digital communication system takes place, which can be tested by the users and evaluated.

This study knows some limitations. Participants of the focus groups could be afraid to be completely honest, so it is possible they did not share their thoughts completely. The participants might find it hard to share negative thoughts about the current care process, because they are afraid it will be used against them. However, the extent to which this happened should be limited since the group only

consisted of close colleagues and the manager was not present. Another limitation is that the study is only performed at one nursing home. Opinions among healthcare professionals at other nursing homes remain unknown, so saturation is not entirely reached. Furthermore, not all care teams of the nursing home have equally participated in the focus group. Some experiences can differ between units. However, at least one person per unit has attended the focus group so from all units, input is given. Due to time constraints, only researcher MR has done the coding and supervisor AB has not independently coded the transcripts. However, the coding scheme is discussed with supervisor AB. Having one person who coded the transcripts results in a low reliability of the interpretation of the results because different coders can interpretate the results differently.

This study contributes to science by revealing the experiences, facilitators, barriers, and needs of healthcare professionals regarding PCC in a nursing home in the Netherlands. For future research, it would be interesting to conduct design-based research, with the aim to design a digital communication system which facilitates the PCC approach in the care process. The steps of the UCD approach (53) can be followed to conduct the research. The most important users are the healthcare professionals because they apply the PCC approach during care. This study already addressed barriers of the current digital system. These can be discussed during a focus group to investigate if these barriers are still hindering the implementation of PCC and requirements must be addressed. When the requirements of users are clear, the system can be designed and implemented. A session can be organized for the users to test and evaluate the system, so designers can further develop the digital communication system. When the nursing home uses the system in practice, evaluation must take place continuously, to ensure that the digital communication system facilitates the application of PCC.

Concluded, this research reveals several positive and negative experiences, barriers, facilitators, and needs regarding PCC interventions from healthcare professionals working at a nursing home. It appeared that the PCC approach improved the wellbeing of residents and the work perception of healthcare professionals. The supporting digital communication technology is not facilitating the implementation and application of PCC, as well as the task-oriented care process and insufficient time and staff, and further research is needed to improve this.

## UNIVERSITY OF TWENTE.

## 5 Literature

- Cijfers: vergrijzing en toenemende zorg | Kennisplein Zorg voor Beter. [cited 2022 Jan 12]. https://www.zorgvoorbeter.nl/veranderingen-langdurige-zorg/cijfers-vergrijzing
- 2. Gauthier S, Rosa-Neto P, Morais J, Webster C. World Alzheimer Report 2021: Journey through the diagnosis of dementia. Alzheimer's Dis Int. 2021 Sep;
- 3. Huijsman R. Dementia: Counting noses remains a challenge. Ned Tijdschr Geneeskd. 2021 [cited 2022 Mar 21]; www.dementiezorgvoorelkaar.nl/register
- Huijsman R, Boomstra R, Veerbeek M, Döpp C. Zorgstandaard dementie. 2020 [cited 2022 Mar 23]. https://www.dementiezorgvoorelkaar.nl/wpcontent/uploads/2022/01/zorgstandaarddementie.pdf?\_ga=2.187973736.1504976942.1648034397-906903171.1641981323
- 5. Sacuiu SF. Dementias. Handb Clin Neurol. 2016 Jan 1;138:123–51.
- 6. Bevolking | Cijfers & Context | Vergrijzing | Volksgezondheidenzorg.info. [cited 2022 Jan 12]. https://www.volksgezondheidenzorg.info/onderwerp/bevolking/cijfers-context/vergrijzing
- Bevolking | Cijfers & Context | Bevolkingsomvang | Volksgezondheidenzorg.info. [cited 2022 Jan 12]. https://www.volksgezondheidenzorg.info/onderwerp/bevolking/cijferscontext/bevolkingsomvang#!node-huidige-situatie-bevolkingsopbouw
- 8. Dröes R-M, Scheltens P, Schols J. Meer kwaliteit van leven: integratieve persoonsgerichte dementiezorg. 2018.
- 9. Vektis. Stijgende kosten dementie door duurdere verpleeghuiszorg | Vektis.nl. 2020 [cited 2022 Mar 22]. https://www.vektis.nl/intelligence/publicaties/stijgende-kosten-dementie-door-duurdere-verpleeghuiszorg
- van Stenis AR, Wingerden J van, Tanke IK. The Changing Role of Health Care Professionals in Nursing Homes: A Systematic Literature Review of a Decade of Change. Front Psychol. 2017 Nov 14 [cited 2022 Feb 21];8(NOV). /pmc/articles/PMC5694658/
- 11. Miele F, Neresini F, Boniolo G, Paccagnella O. Supportive care for older people with dementia: socio-organisational implications. Ageing Soc. 2022 Feb 23 [cited 2022 Feb 21];42(2):376–408.
- Van Rompaey M, Verheyen H, Geuens N. Person-centered care for elderly persons with dementia in nursing homes in the dutch speaking part of belgium. Tijdschr Gerontol Geriatr. 2020;51(3):1–12.
- Sefcik JS, Madrigal C, Heid AR, Molony SL, Van Haitsma K, Best I, et al. Person-Centered Care Plans for Nursing Home Residents With Behavioral and Psychological Symptoms of Dementia. J Gerontol Nurs. 2020 Nov 11 [cited 2022 Aug 22];46(11):17.
- 14. Greenblat C. Dementia. World Health Organization. 2021 [cited 2022 Jul 12]. https://www.who.int/news-room/fact-sheets/detail/dementia
- 15. Fazio S, Pace D, Flinner J, Kallmyer B. The Fundamentals of Person-Centered Care for Individuals With Dementia. Gerontologist. 2018 Jan 18;58(suppl\_1):S10–9.

- 16. Malmstrom TK. Snoezelen Therapy as an Intervention to Reduce Agitation in Nursing Home Patients With Dementia: A Pilot Study. J Am Med Dir Assoc. 2017 Dec 1;18(12):1089–91.
- 17. Sagud M, Tudor L, Pivac N. Personalized treatment interventions: nonpharmacological and natural treatment strategies in Alzheimer's disease.
- van Gemert-Pijnen L, Kelders SM., Kip H, Sanderman R. eHealth Research, Theory and Development; A Multidisciplinary Approach. London and New York: Routledge; 2018. 376 p.
- 19. Cain M, Mittman R. Diffusion of Innovation in Health Care CALIFORNIA HEALTHCARE FOUNDATION. 2002;
- Volpe U, Amin H, Ayinde OO, Burns A, Chan WC, David R, et al. Pathways to care for people with dementia: An international multicentre study. Int J Geriatr Psychiatry. 2020 1Feb];35(2):163–73.
- Federatie Medisch Specialisten. Classificatie van dementie Richtlijn Richtlijnendatabase
   [Internet]. 2014 [cited 2022 Feb 8].
   https://richtlijnendatabase.nl/richtlijn/dementie/diagnostiek\_dementie/classificatie\_van\_de
   mentie.html
- 22. EBioMedicine. The Need for Early Detection and Treatment in Alzheimer's Disease | Elsevier Enhanced Reader. Elsevier. 2016;
- 23. Black BS, Johnston D, Leoutsakos J, Reuland M, Kelly J, Amjad H, et al. Unmet needs in community-living persons with dementia are common, often non-medical and related to patient and caregiver characteristics. Int Psychogeriatrics. 2019 Nov 1;31(11):1643–54.
- Wolters FJ, Tinga LM, Dhana K, Koudstaal PJ, Hofman A, Bos D, et al. Life Expectancy With and Without Dementia: A Population-Based Study of Dementia Burden and Preventive Potential. Am J Epidemiol [Internet]. 2019 Feb 1;188(2):372–81.
- 25. Reus S UWP, Wo N G JWM, Ko Ller G. Treatment of behavioral and psychological symptoms of dementia: a systematic review. Psychiatr Pol. 2016 [cited 2022 Mar 28];50(4):679–715.
- 26. NHG-Richtlijnen. Dementie | NHG-Richtlijnen [Internet]. 2020 [cited 2022 Feb 14]. Available from: https://richtlijnen.nhg.org/standaarden/dementie#volledige-tekst
- 27. Volpe U, Amin H, Ayinde OO, Burns A, Chan WC, David R, et al. Pathways to care for people with dementia: An international multicentre study. Int J Geriatr Psychiatry. 2020 Feb 1
- 28. Abraha I, Rimland JM, Trotta FM, Dell'aquila G, Cruz-Jentoft A, Petrovic M, et al. Systematic review of systematic reviews of non-pharmacological interventions to treat behavioural disturbances in older patients with dementia. The SENATOR-OnTop series. BMJ Open. 2017;7:12759.
- 29. Pinto JO, Dores AR, Geraldo A, Peixoto B, Barbosa F. Sensory stimulation programs in dementia: a systematic review of methods and effectiveness.
- 30. R Rutten Msc JE, Backhaus R, Tan F, Prins M, van der Roest H, Heijkants C, et al. Work environment and person-centred dementia care in nursing homes-A cross-sectional study.

2021;

- 31. De Waalboog. Belevingsgericht werken leeft!
- 32. Dyer SM, Harrison SL, Laver K, Whitehead C, Crotty M. An overview of systematic reviews of pharmacological and non-pharmacological interventions for the treatment of behavioral and psychological symptoms of dementia. Int Psychogeriatrics. 2018 Mar 1;30(3):295–309.
- 33. Woods B, O'Philbin L, Farrell EM, Spector AE, Orrell M. Reminiscence therapy for dementia. Cochrane Database Syst Rev. 2018 Mar 1;2018(3).
- 34. Demurtas J, Schoene D, Torbahn G, Marengoni A, Grande G, Zou L, et al. Physical Activity and Exercise in Mild Cognitive Impairment and Dementia: An Umbrella Review of Intervention and Observational Studies. J Am Med Dir Assoc. 2020 Oct 1;21(10):1415-1422.e6.
- 35. Goodall G, Taraldsen K, Granbo R, Serrano JA. Towards personalized dementia care through meaningful activities supported by technology: A multisite qualitative study with care professionals. BMC Geriatr [Internet]. 2021 Dec 1;21(1).
- Bastoni S, Wrede C, da Silva MC, Sanderman R, Gaggioli A, Braakman-Jansen A, et al. Factors Influencing Implementation of eHealth Technologies to Support Informal Dementia Care: Umbrella Review. JMIR aging. 2021 Oct 1;4(4).
- 37. Moyle A, Research Online G. The promise of technology in the future of dementia care Journal Title Nature Reviews Neurology. 2019;
- Kolanowski A, Haitsma K Van, Penrod J, Hill N, Yevchak A, Eberly ER. "Wish we would have known that!" Communication Breakdown Impedes Person-Centered Care. Gerontologist. 2015;55(S1):50–60.
- 39. Van Gemert-Pijnen JE, Nijland N, Maarten Van Limburg ;, Ossebaard HC, Saskia M;, Kelders M, et al. A Holistic Framework to Improve the Uptake and Impact of eHealth Technologies.
- 40. Carintreggeland > Carintreggeland > Locaties > Details. [cited 2022 Jan 31]. https://www.carintreggeland.nl/Carintreggeland/Locaties/Details/id/18-De-Schutse
- 41. Visie op Dementie JEP. [cited 2022 Apr 19]. https://jep.carintreggeland.nl/Iprova/Document/7c5a2ca0-1250-49e2-b7a7-61ef71e1ae51
- 42. Kwaliteitsplan Carintreggeland 2022.
- 43. Belevingsgericht Verzorgende Psychogeriatrie IMOZ. [cited 2022 May 30]. https://imoz.nl/opleiding/bvp-vooropleiding-gvp/
- 44. Carintreggeland > Carintreggeland > Over Carintreggeland > Visie en Verantwoording. [cited
   2022 Jan 31]. https://www.carintreggeland.nl/Carintreggeland/Over-Carintreggeland/Visie en-Verantwoording
- 45. Carintreggeland > Carintreggeland > Mijn Carintreggeland > Voor cliënten. [cited 2022 Mar
   31]. https://www.carintreggeland.nl/Carintreggeland/Mijn-Carintreggeland/Voor-cliënten
- 46. Koster N, Harmsen J. Het Omaha System een introductie. 1st ed. Uitgeverij Perquery bv;

2017. 60 p. Available from: www.omahasystem.nl

- 47. Morgan DL (Sociologist). Focus groups as qualitative research. 1997;80.
- 48. Moser A, Korstjens I. Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. Eur J Gen Pract . 2018 Jan 1;24(1):9–18.
- 49. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.
- 50. Deci EL, Ryan RM. Self-Determination Theory.;21.
- 51. Wensing M, Grol R. Implementatie: effectieve verbetering van de patiëntenzorg. Bohn Stafleu van Loghum; 2017.
- 52. Greenhalgh T, Wherton J, Papoutsi C, Lynch J, Hughes G, A'Court C, et al. Beyond Adoption: A New Framework for Theorizing and Evaluating Nonadoption, Abandonment, and Challenges to the Scale-Up, Spread, and Sustainability of Health and Care Technologies. J Med Internet Res [Internet]. 2017 Nov 1;19(11).
- 53. Lillemaa M. User-centered design Related papers.

## Appendix A: Script focus group

#### Draaiboek focusgroep belevingsgerichte zorg

#### Datum: 7, 8 en 22 april 2022

Tijdstip: 7 april: 15:00 – 16:30, 8 april: 13:00-14:30, 22 april: 10:30-12:00 Locatie: Ontmoetingsruimte en de Viltmakerij, De Schutse (Carint Reggeland)

#### Materialen:

- Flip-overs
- Stift
- Naambordjes (iedereen zelf maken -> papier meenemen)
- Post-its
- Opname apparatuur
- Pennen
- Laptop
- Formulieren informed consent (uitprinten)

#### Voorbereiding:

- Voldoende flip-overs op de muren plakken
- Opstelling tafels en stoelen controleren
- Naambordjes neerzetten
- Opname apparatuur klaarleggen en testen
- Post-its + pennen klaarleggen
- Formulieren informed consent klaarleggen

Welkom en introductie (10 min)

Tijd	Wie	Wat	Uitleg
7 min	Voorzitter	Welkom	Welkom
		Achtergrond en doel Opname app	<ul> <li>Bedankt dat jullie de tijd hebben willen nemen om bij de discussie van vandaag aan te schuiven.</li> <li>Ik ben Moniek Rolleman en ik ben op dit moment aan het afstuderen van de Master Health Sciences aan de Universiteit Twente. Ik word begeleid door Annemarie Braakman.</li> <li>Achtergrond onderzoek</li> </ul>
			Mijn onderzoek is gericht op belevingsgerichte zorg bij De Schutse op de pg-afdelingen. Zoals jullie weten is er bij De Schutse al veel gedaan wat betreft belevingsgerichte zorg. Door middel van mijn onderzoek hoop ik hier wat dieper in te duiken en een evaluatie te schrijven over wat hier gedaan is aan belevingsgerichte zorg en waar tegenaan gelopen wordt, vanuit het oogpunt van de zorgprofessionals.
			<b>Doel focusgroep</b> Middels deze focusgroep wil ik meer inzicht krijgen in jullie ervaringen, facilitators, belemmeringen, verwachtingen en behoeftes betreffende belevingsgerichte zorg. De vragen die aan bod komen zullen dit behandelen.
	Voorzitter	Opzet focusgroep	<ul> <li>Er is 1,5 uur beschikbaar. Hierin zullen verschillende onderwerpen aan bod komen en ik wil vragen om actieve inbreng in de discussie.</li> <li>Ik wil graag ieders individuele ervaring horen, we hoeven hierbij niet tot een consensus te komen.</li> <li>Voor u liggen post-its, met een nummer. Bij een aantal vragen die worden gesteld, geef ik de instructie om in een paar minuten op de post-it in steekwoorden op te schrijven wat er in u op komt. Daarna vraag ik iemand om de post-it op de grote vellen papier op de muur te plakken en zal de discussie starten.</li> </ul>
	Voorzitter	Notuleren	De notulist zal gedurende de discussie aantekeningen maken, zodat we een goed overzicht van de diverse ervaringen krijgen. Verder wordt deze sessie opgenomen via mijn telefoon. Gaat iedereen ermee akkoord dat ik opnames maak?
2 min	Voorzitter	Informed consent ondertekenen en innemen	Ik wil u vragen om het informed consentformulier te ondertekenen die voor u ligt, waarin u akkoord geeft voor deelname aan de focusgroep en het gebruiken van de resultaten voor mijn onderzoek en publicatie. De resultaten worden anoniem verwerkt, deze zijn niet herleidbaar tot een individu. De publicatie zal de vorm hebben van een procesevaluatierapport over belevingsgerichte zorg op De Schutse. Uiteraard koppelen we de resultaten naar u terug tijdens de eindpresentatie. Ook wil ik u vragen om uw naam duidelijk op het witte papier te schrijven en het nummer wat op de post-it staat, en deze voor u te zetten op tafel.
1 min	Voorzitter	Voicerecorder starten	Deelnemers wijzen op het om de beurt spreken in de voicerecorder en voicerecorder starten.

Vragen (70 min)

Tijd	Wie	Wat	Uitleg
10 min	Voorzitter	Voorstelrondje	<ul> <li>Ik verwacht dat jullie elkaar wel kennen, maar ik ken jullie nog niet, dus laten we een kort voorstelrondje doen.</li> <li>Ik wil graag weten wie jullie zijn en wat jullie functie op De Schutse is.</li> </ul>
10 min	Voorzitter	Belevingsgerichte zorg algemeen bespreken	<ul> <li>We beginnen met de algemene term 'belevingsgerichte zorg'.</li> <li>Wat verstaat u onder belevingsgerichte zorg?</li> <li>Welke soorten belevingsgerichte zorg past u toe in uw dagelijks werk op De Schutse?</li> </ul> TRIGGER voor als het vastloopt:
			Heeft u enkele voorbeelden van belevingsgerichte zorg op De Schutse?         Schrijf op de post-it:         -       Wat zijn de redenen voor u om belevingsgerichte zorg toe te passen/te gebruiken?
10 min	Voorzitter	Ervaringen met belevingsgerichte zorg	<ul> <li><u>Dit hoeft niet opgeschreven te worden:</u></li> <li>Welke training heeft u gehad om belevingsgerichte zorg te kunnen toepassen?</li> </ul>
			TRIGGER voor als het vastloopt:         In hoeverre sluit deze training aan bij de praktijk?         Schrijf op de post-it:         We training aan bij de praktijk?
10 min		Belemmeringen	Wat zijn uw ervaringen met belevingsgerichte zorg?Schrijf op de post-it:Welke belemmeringen ervaart u bij het toepassen van belevingsgerichtezorg in de dagelijkse werk routine?
10 min		Facilitators	<u>Schrijf op de post-it:</u> Op welke wijze voelt u zich geholpen bij het toepassen van belevingsgerichte zorg in de dagelijkse werk routine?
10 min		Ervaring met MyCare, Omaha en belevingsgerichte zorg	<ul> <li>Hoe gebruikt u MyCare en Omaha?</li> <li><u>Schrijf op de post-it:</u> <ul> <li>Wat is uw ervaring met MyCare ten aanzien van belevingsgerichte zorg?</li> <li>In hoeverre ervaart u belemmeringen in de ICT-ondersteuning (bijv. MyCare) bij het toepassen van belevingsgerichte zorg?</li> <li>In hoeverre ervaart u hulp van de ICT-ondersteuning (bijv. MyCare) bij het toepassen van belevingsgerichte zorg?</li> </ul> </li> </ul>
			Evt. doorvragen naar verschillende onderdelen: - 1. Zorgplan opstellen 2. Uitvoeren van zorg 3. Evaluatie MDO
10 min		Behoeftes en verwachtingen voor de toekomst:	Schrijf op de post-it:Welke behoeftes of wensen heeft u wat betreft belevingsgerichte zorgvoor de toekomst?-Wat mist er in het huidige aanbod van belevingsgerichte zorg?-Wat is ervoor nodig om dit te veranderen?

Afsluiting (10 min)

Tijd	Wie	Wat	Uitleg	
2 min	Voorzitter	Afronden	-	Dan is het bijna tijd om af te ronden.
			-	Ik ga deze data analyseren en de resultaten worden beschreven
				in het evaluatierapport.
2 min	Voorzitter	Missende expertise	-	Zijn er volgens jullie nog expertisegebieden die we missen binnen
				deze groep?
5 min	Voorzitter	Vervolg	-	De resultaten van vandaag zullen gebruikt worden voor de
				procesevaluatie van belevingsgerichte zorg op De Schutse.
			-	De resultaten van deze focusgroep zullen worden
				teruggekoppeld via een presentatie van het eindverslag.
1 min	Voorzitter	Afsluiting	-	Dan wil ik graag iedereen hartelijk bedanken voor zijn of haar
				aanwezigheid en voor het delen van jullie ervaringen!
			-	Ik vond het een zeer inspirerende en informatieve bijeenkomst
				en ik hoop dat jullie het ook positief hebben ervaren.
			-	Graag tot ziens!