

Preventing the admission of frail elderly people into the acute healthcare chain: a qualitative study with healthcare professionals

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In collaboration with Wageningen University & Heelmeesterz

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Preface

In front of you lies the thesis “Preventing the admission of frail elderly people into the acute healthcare chain: a qualitative study with healthcare professionals”. This research is part of the master’s program Communication, Health and Life Sciences (specialization Health & Society) at Wageningen University & Research and was conducted in collaboration with the consultancy firm Heelmeesterz.

This thesis is written in a very strange year. At the beginning of 2020, the COVID-19 pandemic put a stop to all face-to-face contact. As a result, all the meetings I had with my supervisors, apart from the first two, were held digitally. The fifteen interviews with healthcare professionals were also all conducted online, to my disappointment: the enthusiasm and love for their profession was clearly visible, which is something I would have liked to have encountered in real life.

This thesis might not have been possible without my supervisors’ encouragement, time and patience. Firstly, I would like to thank Annemarie Wagemakers and Johan van Ophem, my university supervisors. Annemarie and Johan, thank you for your ideas, advice, professionalism and constructive feedback. At times, you prevented me from losing the overview, and without you, my thesis would not have had the same academic worth as it has now. I really appreciate this.

Secondly, I would like to thank my supervisor from Heelmeesterz, Mark-Erik Nota. Thank you, Mark-Erik, for your creative ideas, innovative thoughts, excitement, positive input and for helping me find participants for this study. I enjoyed the hours I spent at your office in Driebergen, and I admire your professionalism and striving for perfection, which are aspects I want to take with me during my future career.

Thirdly, I would like to express my gratitude to all the other Heelmeesterz network partners for their feedback, suggestions and expertise during the Heelmeesterz meetings and expert check. You allowed me to connect and evaluate my research outcomes directly with practice.

Finally, I would like to thank all the interviewed healthcare professionals for their participation in this study. Thank you for your open attitude during the interviews, and thank you for your help in recruiting other possible participants. I admire the dedication and love you have for your profession.

I hope you enjoy reading this thesis.

Cas van den Hoek

Amsterdam, February 2021

Abstract

Background: The proportion of older people dealing with acute events in the Netherlands is rising rapidly, creating increased pressure on the acute healthcare chain. A more efficient and effective provision of care subsequent to acute events experienced by frail elderly people could lead to reduced pressure on the acute healthcare chain. The aim of this study is to gain insight into the bottlenecks and possible solutions regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands.

Method: Semi-structured interviews were conducted with fifteen elderly care experts. The screening model of Nota and Bolland (1987) was used to structure the topic list for the interviews, and the acute healthcare chain model of Van Galen (2017) was used to interpret the results. The analysis includes a thematic content analysis, and the interviews were coded using Atlas.ti.

Results: Four core themes emerged from the interviews. 1) Staff shortages in home care services and nursing homes and 2) a fragmented healthcare system are seen as the greatest bottlenecks in the current provision of care subsequent to acute events. Possible solutions to better organize the provision of care subsequent to acute events should focus on 3) early identification and advance care planning and 4) new residential concepts that combine living and care.

Conclusion: The increase in the number of acute events experienced by frail elderly people is an urgent problem and change is necessary. The key goal of the proposed solutions is to organize the provision of care subsequent to acute events more proactively so that acute events can be detected in time. Doing so ensures appropriate follow-up care activities are arranged in time, which is beneficial for all care providers in the acute healthcare chain. For this, Dutch government must actively seek a solution to the perverse financial incentive and ensure that preventive collaborations between healthcare disciplines are reimbursed.

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Glossary

ED	Emergency department <i>(In Dutch: Spoedeisende hulp)</i>
GP	General practitioner <i>(In Dutch: Huisarts)</i>
POH	General practice-based nurse specialist <i>(In Dutch: Praktijk Ondersteuner Huisarts)</i>
VVT sector	Nursing homes, care homes and home care organizations <i>(In Dutch: Verpleeghuizen, Verzorgingshuizen en Thuiszorgorganisaties)</i>
WLZ	Long-Term Care Act <i>(In Dutch: Wet langdurige zorg)</i>
WMO	Social Support Act <i>(In Dutch: Wet maatschappelijke ondersteuning)</i>
ZVW	Healthcare Insurance Act <i>(In Dutch: Zorgverzekeringswet)</i>

1. Introduction

The growing number of acute events experienced by frail elderly people living at home is placing increasing pressure on the acute healthcare chain in the Netherlands. Providers of acute care are struggling to cope with the growing number of acute events experienced by frail elderly people, making it difficult to optimally organize the provision of care subsequent to acute events. Therefore, the aim of this study is to identify bottlenecks and possible solutions to better organize the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands. Section 1.1 describes various developments causing the increasing pressure on the acute healthcare chain in the Netherlands. The problem definition and research question are outlined in Section 1.2. Finally, Section 1.3 contains the reading guide for this research.

1.1 Background

Double ageing

Because the proportion of older people (65 years or older¹) within Dutch society is increasing and the average age of the Dutch population continues to rise, Dutch society is confronted with double ageing (NIDI & CBS, 2020; RIVM, 2019). In 2019 in the Netherlands, around 3.2 million inhabitants were aged 65 years or older. By 2040, this number is expected to grow to more than 4.8 million, an increase of approximately 55% (RIVM, 2019). In addition, it is expected that the average age of the Dutch population will continue to grow (NIDI & CBS, 2020). In 2019, there were 1.4 million inhabitants aged 75 years or older and 127,000 people aged 90 years or older. By 2040, these numbers are expected to rise to 2.6 million and 318,000, respectively, increases of roughly 85% and 150% (RIVM, 2019). The expected increases in the numbers of people aged 65 years or older, 75 years or older and 90 years or older between 2019 and 2040 are illustrated in Figure 1.

¹In the literature about the elderly, no explicit definition of elderly exists. The boundary for when someone is considered old is rather arbitrary. This study follows the approach of the Dutch National Institute for Public Health and the Environment (RIVM) and the Dutch National Healthcare Institute (Zorginstituut Nederland), which both define older people as those 65 years or older (RIVM, 2011; Zorginstituut Nederland, 2018).

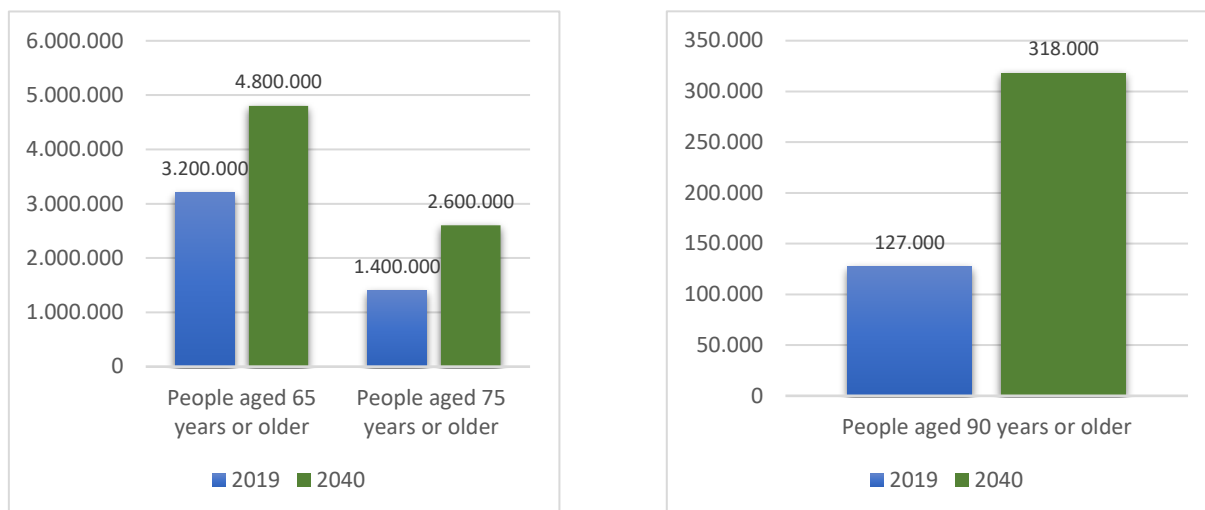


Figure 1: Expected increases in the numbers of people aged 65 years or older, 75 years or older and 90 years or older between 2019 and 2040 in the Netherlands. Based on data retrieved from RIVM (2019).

Extramuralisation

A growing proportion of older people in the Netherlands are living independently at home for a longer period of time. For several decades now, the Dutch government have been pursuing a policy aimed at extramuralisation, with the aim of providing care and support as much as possible in people’s homes rather than in care institutions such as traditional care homes and nursing homes (TNO, 2020). Moreover, most older people are no longer satisfied with the prospect of having to spend their last years in care institutions (TNO, 2020). Most elderly want to live at home independently for as long as possible with a focus on self-management and self-reliance (TNO, 2020; RVS, 2020a). As a result, the inflow of older people to care institutions has fallen sharply since the 1980s (Stoeldraijer, Van Duin & Huisman, 2017). In 1980, more than 25% of all people aged 65 years or older lived in a care institution. By 2017, this percentage had decreased to 6% (Nederlandse Zorgautoriteit, 2018b; Stoeldraijer et al., 2017).

Chronic conditions

One of the consequences of older people living longer at home is that more and more of them have to deal with chronic conditions within the home. Common chronic conditions that cause a high burden of disease in the Netherlands are osteoarthritis, strokes and dementia (RIVM, 2018). In 2019, around 1.5 million people in the Netherlands had osteoarthritis, around 500,600 had experienced a stroke and approximately 280,000 had dementia (Alzheimer Nederland, 2020; RIVM, 2020c, 2020b). These chronic conditions are most common among older people. A little more than 80% of all people with osteoarthritis are 65 years or older, more than 90% of those who have had a stroke are 65 years or older and over 95% of people with dementia are at least 65 years old (Alzheimer Nederland, 2020; RIVM, 2020b, 2020c). Because it is primarily older people who experience chronic conditions, huge increases in the numbers of those with these conditions are expected in the future. By 2040, the total number

of people with osteoarthritis is expected to be 2.8 million, the number who have had a stroke is expected to be 672,600 and the number with dementia is expected to be 520,000, increases of roughly 85% (osteoarthritis), 35% (strokes) and 85% (dementia) (Alzheimer Nederland, 2020; RIVM, 2020c, 2020b). These expected increases are illustrated in Figure 2.

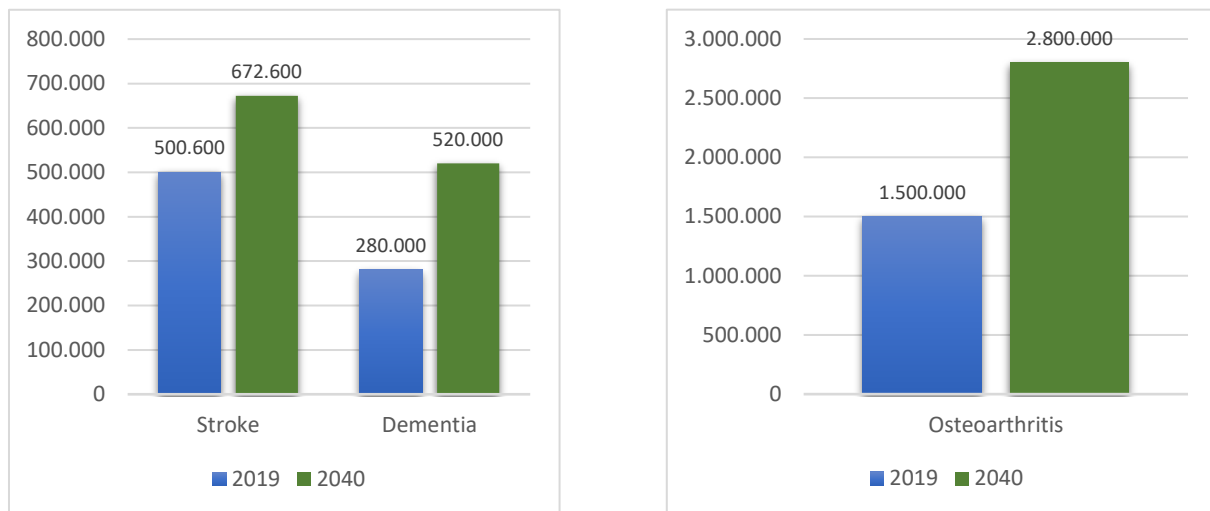


Figure 2: Expected increases in the total number of people dealing with a stroke, dementia and osteoarthritis between 2019 and 2040 in the Netherlands. Based on data from Alzheimer Nederland (2020) and RIVM (2020c, 2020b).

Multimorbidity, comorbidity and frailty

As people get older, the risk that they will have multiple chronic conditions at the same time – known as multimorbidity – also increases (Pel-Littel, Vlek, Mahler & Driessen, 2011; Uijen & Van de Lisdonk, 2008). In 2018, approximately 5.5 million people had more than one chronic condition. More than 60% of these were 65 years or older. It is expected that by 2040 around 6.5 million people will be dealing with multiple chronic conditions, an increase of approximately 20% (Pel-Littel et al., 2011; RIVM, 2018). The risk of comorbidity also increases as people get older. Comorbidity is the presence of one or more conditions co-occurring with a chronic disease (Boyd & Fortin, 2010; Pel-Littel et al., 2011). Geriatric syndromes are a possible consequence for older people suffering multimorbidity and comorbidity. Geriatric syndromes feature symptoms that result from multiple (chronic) conditions, also known as “geriatric giants”. Common symptoms that affect older people as a result of multimorbidity and comorbidity are falls, incontinence, depression, loneliness and delirium (Freedman & Nicolle, 2020; Musso & Núñez, 2006; RIVM, 2018).

An accumulation of multimorbidity, comorbidity and geriatric syndromes increases an older person’s risk of becoming frail (Morley, 2017). Frail elderly are those who have difficulty carrying out activities of daily living and thus have difficulty maintaining their independence (RIVM, 2015; Van Campen, 2011). This frailty can manifest itself in different ways: for example, in difficulties when grocery shopping or in problems with memory. The Dutch RIVM distinguishes four domains in which elderly can be considered frail: physical (barriers in

physical functioning such as weight loss and balance problems), cognitive (barriers in cognition such as deterioration of memory), psychic (barriers due to mental disorders such as depression) and social (barriers due to loss of social support such as loneliness) (RIVM, 2015). In 2010, it was estimated that 700,000 older people could be considered frail. This number is expected to increase to more than 1 million by 2030 (Van Campen, 2011).

Acute events

A consequence of the increasing number of frail elderly living at home is the increased risk of acute events in this group. An acute event, also referred to in the literature as an acute demand for care, is an event or occurrence that disrupts the insecure balance of frail older people living at home, forcing them to make use of acute care (Zorginstituut Nederland, 2018). Acute care is provided in situations in which patients have an unforeseen or immediate need for diagnosis and treatment of an acute complaint. The Dutch healthcare authority has defined an acute event as one in which “a patient, victim or bystander asks for immediate assistance with reference to an experienced or observed potentially serious or short-term life-threatening situation due to a health problem or injury that suddenly arises or worsens” (Nederlandse Zorgautoriteit, 2018a, p.8).

Thus, in an acute event a patient suffers from an acute complaint that must be diagnosed and treated by a care provider in the acute healthcare chain. In 2016, 15% of all frail elderly living at home in the Netherlands experienced an acute event. With increasing age, the risk of multiple acute events taking place in a single year increases. In 2016, among people aged 65 years or older, 28% experienced a second acute event within the same year, and 11% faced three or more acute events in one year. Among people aged 75 years or older, 35% experienced a second acute event, and 15% faced three or more acute events in one year. Multiple-event percentages were highest for those 85 years or older. Within this group, 42% experienced a second acute event within the same year, and 19% faced three or more acute events in one year (Zorginstituut Nederland, 2018).

The provision of care subsequent to acute events

The provision of care subsequent to acute events is provided in the acute healthcare chain, where most acute care is provided by general practitioners (GPs) (in GP practices or GP posts), ambulance services or emergency departments (EDs) of hospitals (Nederlandse Zorgautoriteit, 2018a). Acute events among frail elderly people living at home are associated with an increased use of acute care. Every year, 20% of all people aged 65 years or older visit a GP post with an acute care demand, and the frequency of these visits increases with age (Jansen, Smits & Verheij, 2017). The same applies to EDs and ambulance services; approximately 25% of all patients using these services are at least 65 years old (AZN, 2018; Berben et al., 2019). These percentages are based on the entire group of older people. Elderly who are considered frail make even more use of acute care than non-frail elderly. Older people who are frail are more likely to be brought into EDs than those who are not frail, and frail

elderly visit their GP up to three times as often as non-frail elderly (Berben et al., 2019; Vektis, 2020).

The increased use of acute care leads to crowding and delays at acute care facilities. Increasing crowds at GP practices, GP stations and ambulance services and excessive pressure on EDs are now the rule rather than the exception and place increasing pressure on the acute healthcare chain (Goslings, Gorzeman, Offeringa-Klooster & Berdowski, 2016; Van Galen, 2017). Research also shows that older people who are hospitalized for acute care face an increased risk of poor health outcomes after hospitalization (Bradshaw et al., 2013; Buurman et al., 2011). Moreover, hospital admissions are considerably more expensive than extramural care, with care expenditures for frail elderly patients almost five times as high as those for non-frail elderly (Vektis, 2020).

1.2 Aim and research question

The increasing number of frail elderly living at home, the increasing number of acute events in this group and the increasing pressure on providers of acute care have a major impact on the quality, accessibility and affordability of the acute healthcare chain in the Netherlands and therefore on Dutch elderly care as a whole (Berben et al., 2019; Commissie Toekomst zorg voor thuiswonende ouderen, 2020; Nederlandse Zorgautoriteit, 2018b). To avoid further increasing pressure on the acute healthcare chain in the future, the provision of care subsequent to acute events experienced by frail elderly people must be organized more effectively and efficiently.

The literature reports research on ageing and older people, the concept of extramuralisation and frailty and the increasing pressure on providers of acute care. However, specific research into the opinions of healthcare professionals regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands has not been carried out. At present, it is not sufficiently clear how healthcare professionals address this problem and how they want to organize the provision of care subsequent to these events. This is striking, given that acute events are known to take place sooner or later in the lives of most older people and thus play an important role in the acute healthcare chain (Zorginstituut Nederland, 2018). Therefore, the aim of this research is to identify the greatest bottlenecks and possible solutions related to the provision of care subsequent to acute events experienced by frail elderly patients. Identifying the most important bottlenecks and solutions can ensure that the provision of care subsequent to acute events is organized more efficiently and effectively, possibly reducing the pressure on the acute healthcare chain. The study addresses the following research question:

What are the opinions of healthcare professionals regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands?

1.3 Reading guide

This research proceeds as follows. Chapter 2 discusses the screening model of Nota and Bolland (1987), which serves as the theoretical framework of this research. The chapter also describes the acute healthcare chain model of Van Galen (2017). This framework is later used to interpret the results of the interviews. The methodological choices underlying this study are justified in Chapter 3, and the data collection method is described. The research results are described in Chapter 4. In Chapter 5 the research question is answered, the study's strengths and limitations are discussed and recommendations are made for further research. The research conclusion is presented in Chapter 6.

2. Theoretical framework

This chapter discusses two models. A screening model is used to investigate the current provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands (Nota & Bolland, 1987). This model serves as the theoretical framework of this research and is used to structure the topic list for the interviews (Section 2.1). Subsequently, the acute healthcare chain model is described in Section 2.2 (Van Galen, 2017). This model describes the acute healthcare chain and shows the journey patients undergo when they are faced with an acute event and therefore need acute care. This second model is used to interpret the results of the interviews.

2.1 Screening model (Nota & Bolland, 1987)

The screening model of Nota and Bolland (1987) has been used extensively in recent years to investigate or screen healthcare processes by examining healthcare processes' current and desired situations (Nota & Van Duren, 2004). By examining both the current and desired situations, a healthcare process can be critically viewed and assessed, after which possible solutions can be formulated with respect to the desired outcomes (Nota & Van Duren, 2004).

The investigation of a particular healthcare process consists of two phases. The first phase provides a current description of the specific healthcare process. This phase is known as the current situation. During this phase, the current situation or operation of a healthcare process is determined and important bottlenecks regarding the efficiency and effectiveness of the process are outlined. The second phase of the screening model is known as the desired situation. In this phase, possible solutions are formulated to better cope with the outlined bottlenecks. These solutions are seen as new norms. Ideally, after implementation of the new norms, the investigated healthcare process should operate more efficiently and effectively. The screening model is illustrated in Figure 3.

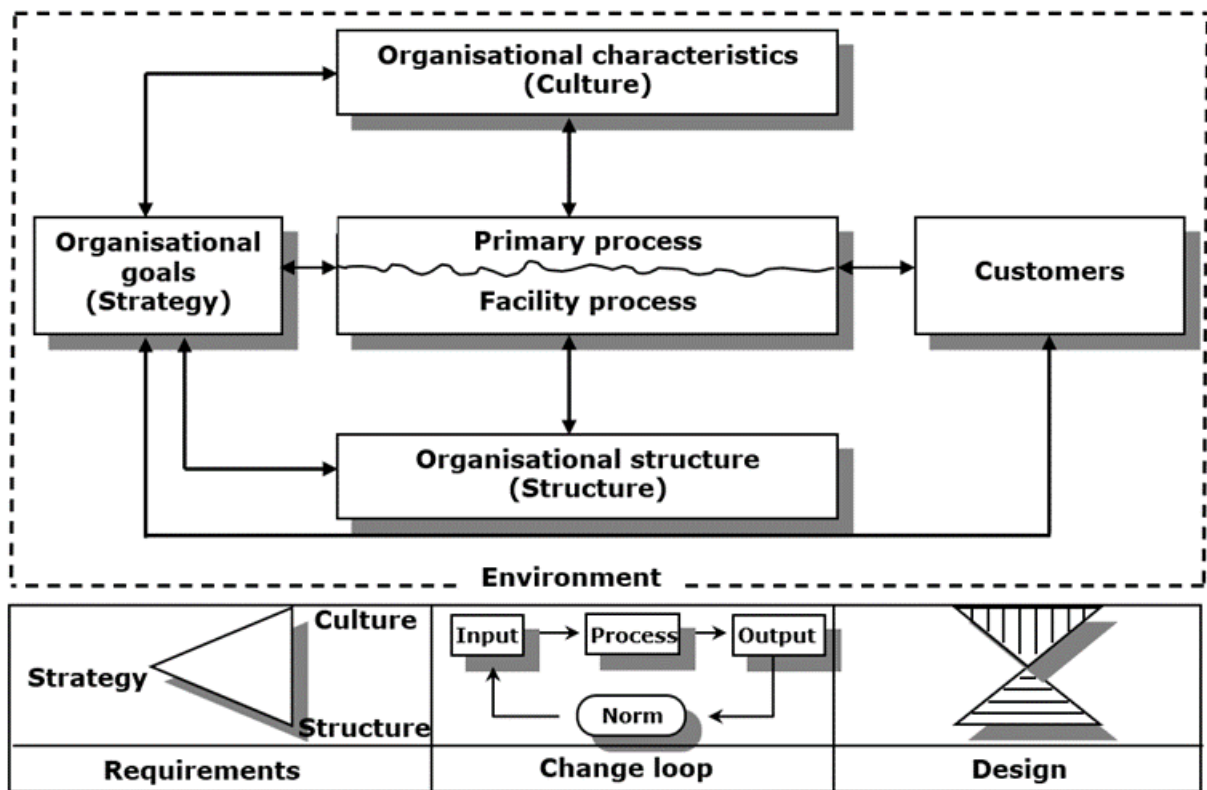


Figure 3: Screening model (Nota & Bolland, 1987).

In this research, the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands is viewed as a healthcare process. This study investigates how healthcare professionals view the current provision of care related to such events and what they see as the ideal for the provision of such care.

Given the scope of this research, not all aspects of the screening model are addressed in detail. The opinions of healthcare professionals regarding the provision of care subsequent to acute events are investigated using the change loop of the screening model. This mechanism is outlined in Figure 4 and corresponds to the current and desired situation.

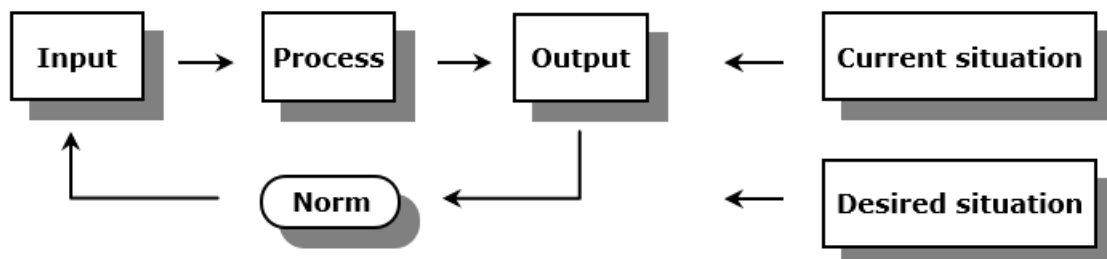


Figure 4: Change loop of the screening model (Nota & Bolland, 1987).

The current situation of the provision of care subsequent to acute events is investigated by means of the input, the process and the output. The preconditions strategy, structure and culture (Figure 3) influence the change loop. Strategy refers to the process's aim: the aim of the provision of care subsequent to acute events. Structure refers to the way in which the process is organized, and culture describes the way in which healthcare professionals interact with each other to achieve the process's aim.

The input is formed by the aim of the process. The process is influenced by the coherence between the preconditions strategy, structure and culture, and the output is the result of the process: healthcare professionals' experiences regarding the provision of care subsequent to acute events.

Based on the input, the process and the output, the current provision of care subsequent to acute events is described and the most important bottlenecks are identified. Subsequently, this research explores possible solutions that can function as new norms for better resolving the bottlenecks.

2.2 Acute healthcare chain model (Van Galen, 2017)

The acute healthcare chain model of Van Galen (2017) describes the journey of a patient in need of acute care. There are several routes a patient can follow in receiving acute care. The main providers of acute care are GPs, ambulance services and EDs (Nederlandse Zorgautoriteit, 2018a). Usually, the acute healthcare chain starts with the GP, who is seen as the gatekeeper of the Dutch healthcare system. In 2019, just under 13,000 GPs were registered in around 5,000 GP practices and a little more than 100 GP posts (RIVM, 2020d; Zorgkaart Nederland, 2020a, 2020b). Patients can visit a GP practice during the day and a GP post in the evening and on weekends (Van Galen, 2017). When a patient becomes ill, he or she usually visits the GP first. The GP assesses the seriousness of the situation; if it is acute, the GP will refer the patient to an ED. If the problem is not acute, the patient can be sent home with doctor-initiated therapy. In addition, patients requiring non-acute specialized care can be referred to specialized outpatient clinics based at hospitals (Van Galen, 2017).

A patient who needs acute care but does not have the time or is physically unable to visit the GP can call an ambulance. Based on the entire population, ambulances were used just over 1.3 million times in 2018 (RIVM, 2020a). More than 75% of these uses were considered urgent. Those cases that do not require further diagnosis and treatment at an ED are treated at home. However, a more specific diagnosis and possible treatment at an ED are often required (RIVM, 2020a). In addition to the GP and the ambulance, intramural personnel at care institutions can also provide acute care to patients living in these institutions. Patients needing further diagnosis and treatment that cannot be provided in the care institution are also taken to a hospital's ED (Van Galen, 2017).

When patients are admitted to an ED, they are typically seen by emergency doctors or medical specialists (Van Galen, 2017). At the emergency room, patients can be treated and sent home when no further admission is necessary. Alternatively, providers may determine that specific desired care can be better provided in another hospital or that treatment in a care institution other than a hospital is needed (Van Galen, 2017). Patients who require diagnosis and treatment in the hospital are admitted. This admission can be to an acute medical unit or to a specialized clinical ward. Patients who are seriously ill are immediately admitted to an intensive care unit. Admitted patients are treated and may recover. When patients have recovered sufficiently, they are discharged from the hospital (Van Galen, 2017).

Upon discharge from the hospital, patients are scheduled for a follow-up appointment and their GP receives a discharge letter from the hospital allowing the GP to stay informed of the patient's situation (Abir et al., 2019). Not all patients are able to return to their previous home setting. Sometimes a temporary transfer to another hospital, nursing home or rehabilitation centre is necessary. When patients are no longer able to live independently at home, a permanent move to a nursing home is needed (Abir et al., 2019; Van Galen, 2017). The complete acute healthcare chain is shown in Figure 5.

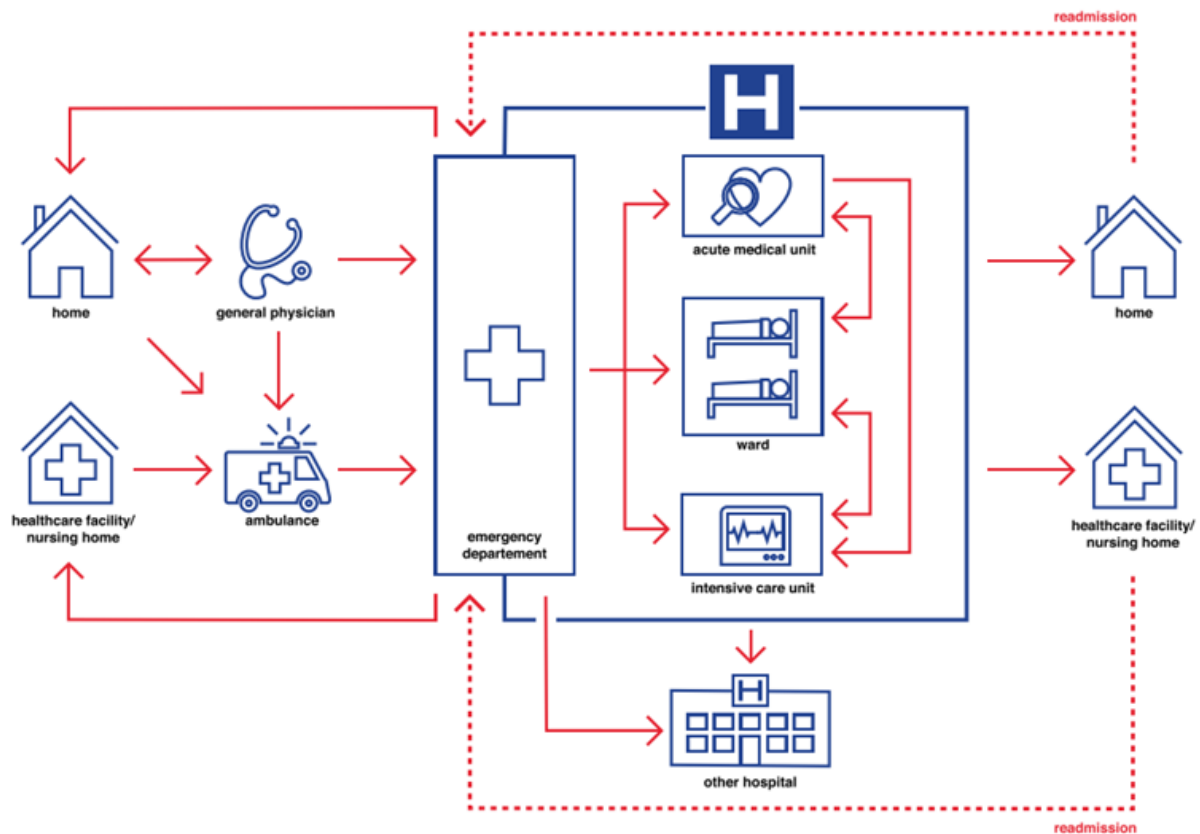


Figure 5: Acute healthcare chain model (Van Galen, 2017).

3. Methodology

This chapter provides the methodology of this research. The study design is described in Section 3.1. Section 3.2 defines the method of data collection: semi-structured interviews. The study population (Section 3.2.1), the interview design (Section 3.2.2) and the ethical considerations (Section 3.2.3) are discussed in more detail. Subsequently, the results of the semi-structured interviews are presented in an expert check, which enables the researcher to share obtained preliminary results with other experts (Section 3.2.4).

3.1 Study design

To gain insight into the opinions of healthcare professionals regarding the provision of care subsequent to acute events, an exploratory-descriptive qualitative study design is used (Hunter, McCallum & Howes, 2018). With such a design, research can be conducted on phenomena, theories and processes that are not extensively covered in literature. In addition, an exploratory-descriptive qualitative study design is useful when investigating the complex interplay of various determinants, behaviours and outcomes in a specific context (Hunter et al., 2018). This is achieved by exploring and explaining participants' experiences and opinions in relation to the subject under investigation (Hunter et al., 2018). Because this study investigates a little-researched topic by means of the opinions of healthcare professionals with expertise on the subject, an exploratory-descriptive qualitative study design is suitable for this study.

3.2 Method of data collection: semi-structured interviews

3.2.1 Study population

Semi-structured interviews were conducted as data collection method. Semi-structured interviews were chosen because of their flexibility; themes and topics do not necessarily need to be addressed in a fixed order (Green & Thorogood, 2004). The agenda and structure of semi-structured interviews are predetermined with an interview guide, but researchers have the option to deviate from this guide, so there is space for the interviewees' own undirected interpretations (Green & Thorogood, 2004). The screening model's change loop has been used to structure the topic list for the interviews. The features input, process, output and norm and the preconditions strategy, structure and culture were used to structure the topic list. Therefore, all elements included in the topic list relate to one of these sections. The complete list of interview topics can be found in Appendix 1. The topic list used during the interviews consisted of non-directional topics, so the interviewees were stimulated to speak openly.

Fifteen healthcare professionals working in different healthcare disciplines across the entire acute healthcare chain were interviewed for this study (a sixteenth approached expert could not participate due to lack of time). This was desirable as different healthcare disciplines across the entire acute healthcare chain are involved in the provision of care subsequent to acute events experienced by frail elderly people. All interviewed healthcare professionals, further indicated as experts, currently worked with – or frequently worked in the past with – frail elderly people and are listed in Figure 6. Five of the interviewed experts were approached through the consultancy organization Heelmeesterz. One of these five experts was directly associated with Heelmeesterz as a network partner. The other four were referred by network partners of Heelmeesterz but were not directly associated with Heelmeesterz. An additional five interviewed experts were found through the researcher's own network and the remaining five experts were suggested by the interviewed experts. The moment of data saturation was reached after twelve semi-structured interviews, as after the twelfth interview the interviews no longer provided new or relevant insights.

Interviewed experts

- Board advisor
- Clinical geriatrician
- Director transmural healthcare organization
- Geriatric specialist
- GPs (4x)
- Manager transmural care
- Medical social worker
- POH
- Project manager of patient transfers
- Professor Nursing Sciences
- Remedial therapist
- Specialised MS Nurse

Figure 6: list of the interviewed experts.

3.2.2 Interview design

The interviews took place in April, May and June 2020. Because of the COVID-19 pandemic, all interviews were held digitally. The first three interviews were conducted using Skype software. Due to recording problems, the remaining twelve interviews were held via Zoom software. The average length of an interview was 67 minutes, ranging between 52 and 85 minutes. All interviews were conducted in Dutch and were recorded by mutual agreement.

When an interview was finished, the audio was transcribed using the program Atlas.ti. All experts received the transcript of their interview by email for review and were free to adjust sentences or to delete parts if desired. Some experts provided alternative wording at this stage to clarify their transcript, but no interview transcript was changed dramatically, and all agreed with the tendency of their interview.

Subsequently, a thematic content analysis was performed to identify themes. This thematic content analysis was performed using the six steps of Braun and Clarke (2006). First, the researcher familiarized himself with the data by transcribing all the interviews and reading the transcripts a number of times. During the second step, a top-down approach was used first as a list of codes was made before the start of the coding process. These codes were based on both theoretical frameworks. Secondly, a bottom-up coding approach was also used, as new codes emerged during the coding process. In the third step, the researcher sorted the codes into overarching themes and narrower sub-themes. As a fourth step, the generated themes and sub-themes were revised and merged where necessary. In the fifth step, the themes and sub-themes from step four were further refined and were defined and named. The last step was the writing of the final report. In this step, the themes were analysed for the last time, and it was determined to what extent the themes were useful in answering the research question and how they corresponded with existing literature. Moreover, quotes were included in the results section as evidence that the findings were obtained from the retrieved data and not from the researcher's own interpretations (Shenton, 2004). The list of themes, subthemes and examples of codes can be found in Appendix 2.

3.2.3 Ethical considerations

The semi-structured interviews were arranged according to the guidelines of the Wageningen University Social Sciences Ethics Committee. The researcher initially contacted the experts before the interviews. In these initial meetings, the experts were informed of the research goal and the study design. The researcher emphasized that personal data would be stored anonymously, that participation in the study was voluntary and that all experts had the right to withdraw from the study at any time without providing an explanation. These statements were formulated in an informed consent document which was sent by email to all experts. The experts were asked to inform the researcher, either by email or right before the start of the interview, if they agreed to participate in the study and therefore agreed with the content of the informed consent. This informed consent can be found in Appendix 3.

3.2.4 Expert check

An expert check, also known as a member check, enables the researcher to share obtained preliminary results with experts, asking them whether they can recognize themselves in the interpretations made and the results presented. The check is a method for ensuring the reliability of obtained data (Birt, Scott, Cavers, Campbell & Walter, 2016; Plochg & Van Zwieten, 2007). The expert check was held on October 8th, 2020 and took place after all interviews had been completed. During the expert check, two students from Wageningen University were present, as were a researcher from Wageningen University and eight representatives from Heelmeesterz. Of these eight representatives, one representative participated in the present study. The researcher of this study presented his preliminary research results and a discussion was held about the results. This discussion lasted about half an hour and enabled the researcher to interpret his findings with independent healthcare experts from the Heelmeesterz consulting firm, who commented on the obtained results and shared their own ideas and views.

4. Results

This chapter describes the results of the semi-structured interviews and the expert check. The following core themes are presented: staff shortages in home care services and nursing homes, a fragmented healthcare system, early identification and advance care planning, and new residential concepts that combine living and care. The first two themes describe the current situation and bottlenecks regarding the provision of care subsequent to acute events experienced by frail elderly people. Possible solutions for addressing the bottlenecks are also provided. The last two themes describe the desired situation and elaborate on proposed solutions that can establish a new norm. The themes are illustrated with quotes.

4.1 Staff shortages in home care services and nursing homes

All experts emphasized that the existing shortages of staff in home care services and nursing homes is the greatest bottleneck in the provision of care subsequent to acute events. According to the experts, these staff shortages mean that frail older people I) cannot receive appropriate care at home and II) cannot move to nursing homes in time, which increases the risk of acute events.

I) No appropriate care in the home situation

Almost all experts emphasized that, due to staff shortages in home care services, frail elderly people who are living at home will eventually be unable to receive appropriate care at home, which increases the risk of acute events. The experts expressed that the dual ageing of the population, in combination with the prevailing government policy of encouraging people to live at home for as long as possible, is causing a demand for care that is becoming increasingly demanding and complex.

“... From that moment on [since the closure of many care homes], many more people were living at home, with an increasing demand for care ...”

GP 1

Many experts disagreed with the current government policy of encouraging older people to live independently at home for as long as possible. They indicated that it is undesirable to allow frail elderly people to live at home for too long and that it is wise to transfer them earlier to nursing homes and care homes, where they can receive appropriate care. The experts indicated that it is important to clarify the differences between nursing homes and care homes. Nursing homes intend to provide intensive care or heavy medical treatment, and care homes intend to provide care and support. Some experts cited the closure of many care homes as an important consequence of this government policy. A few experts went a step further and emphasized that the closure of care homes was a mistake that currently presents society with complex issues.

“... Nursing homes have been closed, 40,000 places. And no alternative has been invented at all, so society is squeaking and cracking. It is such a shame ...”

Board advisor

The experts emphasized that the growing complexity of care demands at home is putting increasing pressure on the informal caregivers involved, who can become overburdened. Some experts pointed out that, in the long run, this overload will increase the chance that informal caregivers cease providing care.

“... Informal caregivers often continue their work for too long, until the moment they break. They also deteriorate in health. For example, they sleep much less or suffer from physical pains ...”

Director transmural healthcare organization

Because the demand for care for frail elderly people living at home is growing and informal caregivers are often unable to provide this care, home care services are being used more frequently. Many experts indicated that the complexity of care needs means that home care services are more often required than in the past, as complex care cannot be provided by informal caregivers. A frequently cited shortcoming is that the care needs of frail older people living at home are often so complex that home care providers must visit several times during the night. Almost all experts indicated that, in many cases, there is simply not enough home care staff available to visit these patients multiple times each night. Experts argue that, with ingenuity and great effort, this demanding care can be provided the first few times it is needed. However, they argued that, in the long run, home care providers are unable to visit every time care is needed. As a result, frail older people do not always receive appropriate care. In addition, a few experts mentioned that some care demands are very complex and that home care staff are insufficiently trained to adequately treat these older patients. Therefore, many experts stated that there is not only a quantitative shortage of home care personnel but also a qualitative shortage. As frail older patients continue to not receive the care they need, the chances of acute events increases. Some experts have suggested ways for coping with the shortages of home care staff in the future. By enhancing the conditions of employment and the image of elderly care, extra staff may be recruited. Furthermore, the self-reliance of frail older people living at home would have to be improved by further implementing technology, making frail older people less reliant on home care personnel.

“... They quickly run into staff shortages, which makes it difficult for them to use home care at night. This is not good, as you want to check highly confused patients at least twice at night ...”

Clinical geriatrician

II) Unable to move to nursing homes in time

Many experts emphasized that, in addition to frail older people not receiving timely high-quality care in the home, staff shortages in nursing homes prevent older people from moving to nursing homes when they should, which also increases the risk of acute events. Because of the staff shortages in nursing homes, no extra beds can be operationalized, and thus, it is not possible for nursing homes to take in new patients.

“... Nursing homes need enough staff to operationalize all their beds, and there is a shortage of these nurses ...”

GP 1

As no extra beds can be operationalized in nursing homes, the current waiting lists for places in these homes are long. Some experts emphasized that, in some cases, a place in a nearby nursing home is not an option, and healthcare professionals must look for an available place elsewhere in the country.

“... The waiting lists for preferred nursing homes is long. Two or three years...”

Project manager of patient transfers

In addition, a number of experts mentioned that the application procedure for long-term care recommendations is problematic. When frail older people need a permanent place in a nursing home, an assessment is made regarding what type of care they require. The level of required care is recommended, and this recommendation makes it clear which forms of care are appropriate. These recommendation institutions are very strict, and frail elderly people need extensive care before they are eligible for a place in a nursing home.

“... Right now, informal caregivers and home care personnel are taking care of 19,000 older people who have a recommendation for long-term care. This is not possible for them [for informal caregivers and home care personnel]. This should not be allowed in a civilized country such as the Netherlands ...”

Board advisor

Nearly all experts explained that a grey area is emerging where frail elderly people cannot easily get an available bed in a nursing home. This grey area is the period between the moment a frail older person receives a long-term care recommendation and the moment they can actually move to a nursing home. The experts saw an increased risk of acute events in this grey area. Frail elderly people who have been recommended to receive nursing home care are not receiving it but are kept upright at home thanks to a great deal of effort from informal caregivers and home care staff. The experts emphasized that these often untenable situations continue until a place is found in a nursing home. During this time, the likelihood of acute events occurring is very high. Making working conditions more desirable in elderly care and further technological adoption have also been described as the most obvious solutions to nursing home shortages.

4.2 A fragmented healthcare system

The second theme frequently discussed in the interviews was the contention that the Dutch healthcare system is too fragmented. The experts stated that the organization and structure of elderly care is too fragmented, which makes collaboration between healthcare disciplines difficult. Six problems were noted: I) unclear demarcation of healthcare laws, II) insufficient knowledge of each other's expertise, III) difficulty in transferring patient data, IV) lack of patient ownership, V) lack of a central control institution and VI) no existing payment title for preventive collaboration.

I) Unclear demarcation of healthcare laws

Numerous experts indicated that elderly care is fragmented because it is provided by different parties that operate under different laws and use separate financial access criteria. The experts noted that older people receive care that focuses on welfare and support from municipalities, who have a Social Support Act (WMO) budget. Healthcare aimed at recovery, however, is financed by the Healthcare Insurance Act (ZVW), which is provided by healthcare insurers. In addition, long-term, irreparable care needs are financed through the Long-term Care Act (WLZ) and are met by care offices. The experts emphasized that it can be difficult to determine which parts of care fall under which law. According to the experts, this unclear demarcation of healthcare laws can be a barrier preventing frail older people from receiving care and preventing healthcare professionals from providing care because many healthcare professionals begin to think dogmatically and concentrate too much on the fragmented healthcare system's shortcomings.

"... Dutch healthcare is really complicated. For this specific care you need to go to the WMO, for that type of care you need to go to the WLZ and then there is also the ZVW for other forms of care. It also has to be digital. It is complex ..."

Medical social worker

II) Healthcare professionals are unaware of each other's expertise

A number of experts emphasized that the fragmentation of elderly care means that healthcare professionals are unaware of each other's expertise and therefore do not make use of each other's knowledge and skills. It was stated that the different healthcare professionals and social workers involved in care related to acute events experienced by frail elderly people do not know each other and use different vocabularies, resulting in a lack of mutual trust. In addition, in many cases it is unclear which healthcare professionals are already involved in providing care to frail elderly patients and which roles those professionals have. Two experts specifically emphasized the current collaboration between GP practices, GP posts and the 112 emergency number regarding triage – the moment when the urgency of acute care needs is assessed. They stated that the communication between 112 triagists and the triagists of GP posts and GP practices could be much better. According to these experts, the 112 triagists triage too safely and too broadly, as the 112 triage protocols do not account for age or frailty,

which means that too often ambulances are called unnecessarily to transfer patients from home to hospital. They also mentioned that, in these cases, GPs are too often completely ignored in the process of triage, although GPs are most often best positioned to assess whether frail elderly people should be admitted to the hospital or not.

“... Being able to stay at home presupposes that different care disciplines work well together. What we encounter, for example, is the unfamiliarity of each other's expertise. As a result, people do not think about each other, which is why the hospital or ambulance is called too quickly ...”

Director transmural healthcare organization

III) Difficult transfers of patient data

A third negative result of the fragmentation of healthcare is that patient data is difficult to transfer digitally. Many experts indicated that a uniform digital transfer of patient data is crucial for the care of frail elderly people, as various healthcare disciplines must work together delivering healthcare services when frail older patients are faced with acute events. The experts stated, however, that in practice it is difficult to organize efficient digital transfers of patient information, because the multiple involved healthcare organizations work with different systems and with different suppliers of these systems. It was indicated that these systems all speak different languages and are therefore not easy to connect to each other, which increases the risk of incorrect transfers of patient information. A number of experts also mentioned the numerous privacy rules that healthcare organizations must consider. These privacy rules are designed to protect personal data, but they also ensure that patient data cannot be shared quickly. Furthermore, a few experts emphasized the lack of mandate among healthcare professionals. They have no authority to make decisions on behalf of each other, and therefore frail elderly patients cannot be transferred quickly to different healthcare disciplines, as registration procedures of healthcare organizations have to provide authorization again and again.

“... The law on privacy has something to do with this, you cannot just exchange everything. In our case, it also has something to do with the hospital infrastructure. Some systems cannot link with each other, this requires huge investments ...”

Manager transmural care

IV) Lack of patient ownership

Another argument pointed out is the problem of patient ownership. It is often not clear whether a frail elderly patient falls under the regime of the GP, the ED or the hospital. This absence of patient ownership arises because healthcare professionals prefer not to deal with complicated patients. A number of experts indicated that this is because difficult patients are the most time-consuming and also because some GPs and doctors are not specifically trained to deal with the often complex complications of frail older patients. As no healthcare professional or healthcare organization wants to be responsible for the most complicated

older patients, these patients are transferred too quickly from primary care to secondary care and vice versa. It is cited that once a patient has passed the hospital door, this patient is a hospital patient and therefore treated as such. This reduces the urgency to use other types of care, care that is perhaps much better suited to the specific complications of frail elderly people.

“... What we notice is that not everyone wants the most difficult patient, so to speak. A woman with a single hip fracture is somewhat easier than a woman with cognitive dementia, overweight and a lot of other problems. Nobody likes to have such a patient ...”

Manager transmural care

V) Lack of a central control institution

A fifth factor that emerged during the interviews was that the fragmentation of healthcare means no central control institution is in control. The healthcare professionals and healthcare organizations involved in providing healthcare services to frail elderly patients facing acute events each have their role in the game, but there is no central body that has control. The experts argued that the consequence of this is that each healthcare discipline continues to work and think from their own perspective. Because there is no institute with a central directing role, safeguarding the continuity of care for frail elderly patients is becoming a major bottleneck, while some experts said this is vital in the organization of care for these patients. A few experts also pointed out that healthcare insurers are increasingly taking a leading role in the organization of care. This was seen as a negative development, and it was argued that the directing role should be in the hands of an independent institute that is not guided by competition principles.

“... The minister has very limited powers, the healthcare insurers have their own interests and powers. All parties in healthcare have their share in the game, but there is no final director ...”

Board advisor

VI) A payment title for preventive collaboration does not exist

The last interview topic that emerged related to the fragmented healthcare system was that preventive collaboration has no payment title. The experts noted that the Dutch healthcare system is built on production incentives and face-to-face contact, which makes the threshold very low for admitting and treating frail elderly people intramurally. The experts stated that the system is still overly based on a revenue model instead of a care model, as healthcare institutions are judged on production and not on patients they did not have to see as a result of preventive collaborations. Multidisciplinary consultations in primary care used to prevent acute situations are not funded. As a result, initiatives for organizing such consultations must always take place in addition to regular care, so these initiatives are almost never expanded. The experts emphasized that, because of these production incentives, the right choice is not always made with regard to the care of frail elderly people. The implementation of population funding to better address production incentives was discussed by some experts as a possible solution. The introduction of individual care budgets was also stated by one expert as a possible way to better address production incentives.

“... It is still too much a revenue model, rather than a care model. The patient is by no means central in primary care because we have to compete ...”

Remedial therapist

4.3 Early identification and advance care planning

Possible solutions to better organize the provision of care subsequent to acute events were also discussed during the interviews. Many experts proposed I) early identification and II) advance care planning as important pillars for better organizing the provision of care subsequent to acute events.

I) Early identification

Many experts emphasized that care for frail older people in primary care is often seen as reactive and curative, so older people receive the care they need too late. It was also mentioned that adequate risk-assessment is often lacking. In many cases it is not clear which older patients within a GP database have an increased risk of ending up in an ED. The experts argued that care for frail older people should be organized proactively, and they saw an important role in the future for early identification – the proactive detection of possible problems and risks frail elderly people could face. Based on these potential problems and risks, follow-up activities can be initiated in advance, such as drawing up individual care plans, referrals to other healthcare professionals or applications for long-term care. The experts stated that in cases of successful early identification, it is often possible to predict in time where older patients should go in the event of escalations or increasing risks.

“... With regard to early identification, the sooner you notice that someone is not doing well, the sooner you can think about the process that should come next, so that you know what care will be needed and can decide which things can already be started ...”

Director transmural healthcare organization

II) Advance care planning

Many experts also see an important role for advance care planning, the process in which involved healthcare professionals start the dialogue with older patients and their loved ones to formulate meaningful and achievable goals for current and future care and treatment. Such planning allows all wishes and questions of frail older persons to be discussed at an early stage, and therefore it is possible to fully identify what care these patients want to receive. The right care choices can then be made quickly in acute situations requiring rapid action, because these have been discussed and documented in advance.

“... Advanced care planning is about sitting with people in advance to discuss what they still want in their lives. And you must not dictate and sketch situations in advance. You have to find out what someone wants ...”

Geriatric specialist

Almost all experts indicated that it is advisable to make GPs responsible for early identification and advance care planning, as the healthcare process for frail elderly people almost always starts in primary care. Some experts emphasized that there is an important role for the general practice-based nurse specialist (POH), who supports GPs and visits older people at home to assess how frail someone is and whether additional care may be needed. Three experts indicated that home care services also play an important role in this signalling function. In many cases, home care staff visit older people every day and are therefore well able to estimate possible problems and risks. A number of experts who indicated that the responsibility for early identification and advance care planning should lie within the GP practice, made a critical comment. Due to a lack of time, GPs are not able to preventively visit all older people to look for possible problems and risks. In addition, some experts mentioned that in many cases GPs are not trained for the complex care demands frail elderly patients may present. The more frequent use of geriatric specialists and nursing specialists specifically trained in geriatrics was mentioned as an alternative.

Various experts also stated that the goal of successful early identification and advance care planning is to identify the moment when a frail older person is no longer able to live independently at home at an earlier stage, so that the right preparations can be made in time. The care for frail elderly patients consists of a number of phases and at no time should the situation deteriorate to such an extent that an older person ends up in an unexpected crisis situation. The experts emphasized that the various healthcare professionals involved in the different phases of providing care to frail elderly patients dealing with acute events should know what is going on in each phase. When one knows what care is needed in the following phases, one can prepare well for this and a successful transfer is possible, so that older patients can be properly guided.

4.4 New residential concepts that combine living and care

The second solution brought up in the interviews was that efforts should be made to create new residential concepts for older people in which living and care can be combined. These residential concepts can be realized by the I) adjustment of senior homes or by the II) construction of new residential facilities.

Many experts indicated that such new residential concepts are badly needed in order to provide good care for the elderly in the future. They warned about the grey area between living independently at home and admission to a nursing home. This grey area exists because, on the one hand, frail elderly people live independently at home for longer periods of time with a growing demand for care. On the other hand, there is a growing shortage of nurses in nursing homes, and not all homes for the elderly are suitable for those living with increasing care demands. Experts argued that these developments make it urgent to concentrate on new residential concepts because such concepts will prevent frail older people from falling into the current gap between home and admission to a nursing home. In addition, new residential concepts where living and care are combined provide great added value for both older people and healthcare organizations. It was emphasized that these new housing facilities stimulate meeting and participation among the elderly, that they help the elderly to continue to live independently in a pleasant and safe environment and that in this way space is created for more self-reliance among the elderly.

I) Adjustment of senior homes

The adjustment of existing senior homes is proposed as first method for creating new residential concepts. Many experts stated that there are currently many elderly homes that are not suitable for growing old or for receiving care – for example, because of the presence of steep stairs and small bathrooms or the absence of nearby facilities such as shopping centres.

“... Yes, the elderly want to return to their old, familiar environment as soon as possible [after an admission] ...”

Professor Nursing Sciences

Experts mentioned two developments that should be considered when adjusting existing elder homes to be future-proof: ehealth and home automation. Many experts emphasized that the possibilities offered by ehealth and home automation increase the self-reliance of frail elderly living at home and thus make daily life safer and easier. Examples that were mentioned are smart solutions for ensuring medications are taken and cameras that allow the elderly to be monitored from a distance.

II) Construction of new residential facilities

The second strategy proposed for achieving new residential concepts is to construct new residential facilities. Another alternative mentioned is to adapt existing real estate, such as old school buildings or closed library buildings. Experts stated that intensive collaboration must take place between municipalities, healthcare organizations, healthcare insurers and housing corporations if such new residential concepts are to be realized successfully.

4.5 Expert check

During the expert check, a discussion was held about the presented preliminary research results. Two related topics were discussed.

First, several experts suggested that it is advisable to look for multidisciplinary solutions that apply more broadly than just to healthcare. An adequate provision of care subsequent to acute events requires a multidisciplinary approach that goes beyond the often monodisciplinary vision of healthcare. A multidisciplinary approach mentioned frequently was a focus on new residential concepts that combined living and care. In this approach, different disciplines are expected to work together in a multidisciplinary manner. The experts emphasized that healthcare professionals, healthcare insurers, healthcare offices, municipalities and housing corporations should begin a dialogue to achieve agreement that each discipline is partly responsible for solving the problems related to the provision of care subsequent to acute events experienced by frail elderly people. The experts stated that these problems are not the exclusive responsibility of healthcare organizations but are problems of the entire Dutch society.

The second topic discussed was the GPs changing role and the changed expectations for GPs. Experts mentioned that initiatives such as early identification and advance care planning, which take a proactive and preventive approach, should be directed and guided by GPs. It is not feasible for hospitals, nursing homes, care homes and home care organizations (the VVT sector) to actively support GPs with this. The experts argued that secondary care is not primarily intended for this role, as care of frail older people almost always begins in a primary care setting rather than a secondary care setting. However, some experts specified that proactive initiatives such as early identification and advance care planning are difficult to organize in GP care because the free market forces in GP care create a perverse financial incentive for GPs to treat more and more patients. Two recommendations were made by the experts: to investigate a procedure to counteract the perverse financial incentive and to create more regular consultations between primary and secondary care providers in order to better align the priorities of both disciplines.

5. Discussion

For each core theme, Section 5.1 provides a brief overview of the most important results and compares them with the literature. For the first two themes, which describe the most important bottlenecks in the current provision of care subsequent to acute events, possible solutions are also provided. For the other themes, which describe the desired situation regarding the provision of care subsequent to acute events, bottlenecks are also provided. Where desirable, further research is indicated. Finally, for each theme, the point where the theme occurs in Van Galen's acute healthcare chain model is defined. The strengths and limitations of this study are discussed in Section 5.2. Chapter 6 concludes the study.

5.1 Review of the study findings

The aim of this study was to gain insight into the opinions of healthcare professionals regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands. Figure 7 provides an overview of the most discussed themes during the interviews.

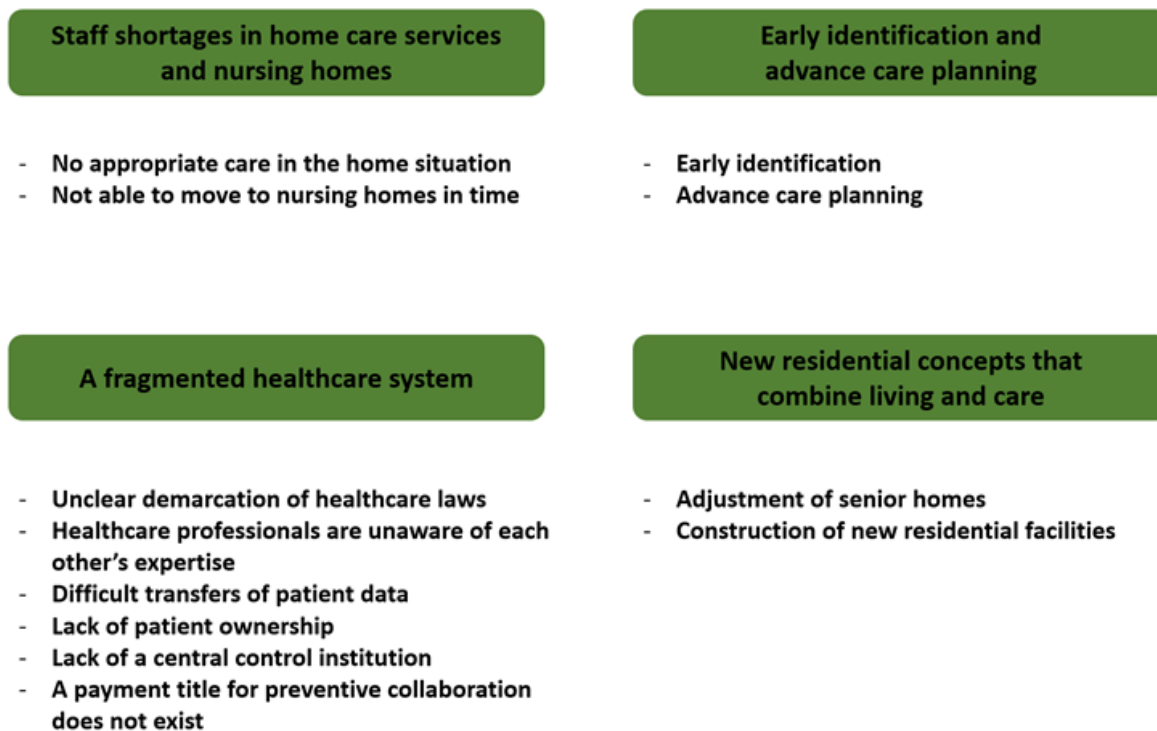


Figure 7: Themes discussed most frequently in the interviews.

Staff shortages in home care services and nursing homes

Experts identified staff shortages in home care services and nursing homes as the greatest bottleneck in the current provision of care subsequent to acute events. In the current situation, both qualitative and quantitative shortages of home care personnel ensure that frail elderly people eventually stop receiving appropriate care at home. In addition, staff shortages in nursing homes lead to frail older people being unable to move to nursing homes when they need to. Remarkably, the difference between qualitative and quantitative staff shortages in nursing homes was not addressed in the interviews. An interesting finding is that, because of these staff shortages, a grey area arises which is particularly worrisome and increases the likelihood of acute events occurring. This grey area is the period between the moment a frail older person receives a long-term care recommendation and the moment this older person can actually move to a nursing home. Experts attribute the staff shortages in home care services and nursing homes to an increasing demand for care and a shrinking supply of available healthcare personnel. This is widely supported in the literature, in which it becomes clear that staff shortages are not limited to home care services and nursing homes: virtually all care disciplines face staff shortages (Boeije, Verkaik, De Groot, Kappen & Korevaar, 2019; RIVM, 2018; SCP, 2019; Zorginstituut Nederland, 2018).

Two possible solutions were addressed. The first solution is to attract more people to work in healthcare, for example, in nursing. This solution could possibly be accomplished by improving healthcare education and by improving the image of and employment conditions in elderly care and is consistent with the work of Blomberg, James and Kihlgren (2013) and Hoeve, Jansen and Roodbol (2013).

The second solution is to implement technological innovations such as ehealth and home automation. It is interesting to note that most experts highlighted that the successful implementation of technological innovations is essential for addressing the staff shortages in home care services and nursing homes. Technology use increases the self-reliance of frail older people and enables personnel of home care services and nursing homes to work more remotely and therefore more efficiently. The use of more technology to cope more effectively with staff shortages supports the work of other studies in this field, who see the implementation of more technology as a necessary step forward in addressing staff shortages (Commissie Toekomst zorg voor thuiswonende ouderen, 2020; Nictiz & Nivel, 2019).

To successfully implement the desired technology, informal caregivers and involved healthcare personnel must become more familiar with ehealth and home automation. Often informal caregivers and healthcare personnel are unaware of the various ehealth and home automation options, and most frail elderly people are not convinced of the benefits (Hilbers-Modderman & De Bruijn, 2013; Peeters et al., 2013). Future research should investigate the reasons why most frail elderly people are not open to ehealth and home automation and should investigate the preferences of frail elderly people regarding the successful implementation of ehealth and home automation. Follow-up research should also explore what is specifically needed and desired to improve the image of elderly care and what nurses in elderly care specifically need in order to feel empowered.

It appears that the problem of staff shortages in home care services and nursing homes prevents the adequate provision of care subsequent to acute events both at the beginning and at the end of the acute healthcare chain. Not only do staff shortages increase the risk of acute events occurring; they also hinder the arrangement of adequate follow-up care at home or in nursing homes.

A fragmented healthcare system

The fragmented healthcare system in the Netherlands is the second bottleneck in the current provision of care subsequent to acute events. An unclear demarcation of healthcare laws, healthcare professionals who are unaware of each other's expertise, difficulties transferring patient data, the lack of patient ownership, the lack of a central control institution and the lack of a payment title for preventive collaboration all ensure that the various healthcare professionals and healthcare disciplines involved in providing acute care for frail elderly patients cannot collaborate efficiently. As a result, these patients do not always receive the care that is most appropriate for them, which increases the risk of acute events. Comparing these findings with those of other studies confirms that the Netherlands' fragmented healthcare system leads to an increased risk of acute events because it is difficult to digitally transfer patient data (Poldervaart, Van Melle, Reijnders, De Wit & Zwart, 2019), because different healthcare laws lead to different funding systems (Otte-Trojel et al., 2015), because there are perverse financial incentives (Berden & Baart, 2010) and because there is a lack of responsibility among different healthcare disciplines (RVS, 2020b; Stange, 2009).

Three solutions have been suggested for coping with this fragmented healthcare system. The first solution is to clarify that the primary responsibility for frail elderly patients lies with GPs. For this purpose, more intensive collaboration between GPs, geriatric specialists and nursing specialists specifically educated in geriatrics is needed, as the workload of GPs has increased in recent years. Several tasks and responsibilities have shifted from secondary care to primary care, and elderly patients' demand for care is now more complex than ever. The literature also explains that the increased workload among GPs is due to a shortage of GPs, which was not mentioned in the interviews (Nivel, 2019; Van Greuningen, Batenburg & Van der Velden, 2012).

The second solution is to further regulate healthcare via a central control institution. The government should control healthcare, after which decentralized decisions should be made in consultation with regions to organize care more regionally, which is consistent with the work of Companje, Kappelhof, Mouton and Jeurissen (2018) and Van Poucke et al. (2018), who state that principles regarding the organization of care should be centrally developed, after which regions should be responsible for properly coordinating care.

The third solution is to diminish healthcare professionals' dogmatism and concentration on the fragmented healthcare system's shortcomings. Experiments and pilots should be carried out beyond the boundaries of the healthcare system to figure out how the provision of care subsequent to acute events can be organized as efficiently as possible.

The bottlenecks highlight the complexity of the fragmented healthcare system and show that healthcare is splintered in terms of supply, costs and regulation throughout the entire acute healthcare chain.

Early identification and advance care planning

In the desired situation, the provision of care subsequent to acute events is organized proactively, with a specific focus on early identification and advance care planning. Most experts attach great importance to early identification and advance care planning because they help identify the moment frail older people can no longer live at home earlier, allowing for appropriate follow-up care activities to be arranged in time. The importance of early identification and advance care planning is underlined in the literature (Brinkman-Stoppelenburg, Rietjens & Van der Heide, 2014; Chen, Gan & How, 2018; NHG, Laego & LHV, 2017; RIVM, 2018).

However, the successful implementation of proactive care for the elderly is hampered, as a payment title for preventive collaboration does not exist. The current provision of care subsequent to acute events is based on production incentives, which means that healthcare insurers receive a higher reimbursement for insured persons who become chronically ill than for insured persons who purchase preventive care. As a result, consultations among healthcare professionals regarding the organization of care to prevent geriatric escalations are not reimbursed. Because preventive collaboration is not reimbursed, implementing early identification and advance care planning is likely difficult.

Two possible solutions have been proposed. The first solution is to implement population funding. This means that a healthcare provider receives a fixed amount for each person in its population, regardless of whether or not this person actually makes use of healthcare. This stimulates efficient and prevention-oriented work: the healthier the patient, the less demand there will be for care. In the Netherlands, the introduction and implementation of population funding has long been debated (KPMG, 2013; Van Vliet & Van de Ven, 1992), and successful initiatives are known (Jung et al., 2018; NDS, KPMG & HHM, 2015). The issue of why population funding is not yet widely applied in the Netherlands should be addressed in follow-up studies. These studies will have to thoroughly evaluate existing initiatives with the help of case studies to answer questions such as, what are the advantages and disadvantages of population funding in practice, and to what extent does population funding give room to proactive care initiatives.

The second possibility is to use individual care budgets. With an individual care budget, people are given the opportunity to purchase care themselves, which means that care can be organized around the specific situations of individuals. It is striking that only one expert has mentioned this option. Remarkably, this alternative is very similar to a personal care budget, with which people buy their own care. It is unclear to what extent individual care budgets can be used to incorporate early identification and advance care planning effectively. Further research should investigate the motives, wishes and needs of frail elderly people when they

purchase preventive care to discern whether an individual care budget can be used to effectively stimulate proactive care.

Another possible solution found in the literature but not stated in the interviews is to employ medical specialists on a contract basis, which would remove the negative incentive that leads to additional production (CPB, Ministerie van Volksgezondheid, Welzijn en Sport & Ministerie van Financiën, 2020; Kok, Houkes & Tempelman, 2010). The literature shows that opinions are divided on this subject; supporters emphasize the potential savings and the removal of unnecessary treatments, while opponents mostly emphasize that medical specialists working on a contract basis would lead to increased waiting lists. Follow-up studies will have to investigate whether a system of compensation where medical specialists work on a contract basis contributes to better quality and prevention.

Early identification and advance care planning are found at the beginning of the acute healthcare chain and ensure that follow-up care choices can be made in time so that the remainder of the chain of acute care is well prepared.

New residential concepts that combine living and care

Another solution put forward is to develop new residential concepts that combine living and care. New residential facilities can be realized either by adjusting existing senior homes or by constructing new residential concepts. These results are in line with those of previous studies, which claim that new residential concepts are the solution to the existing gap between living independently at home and admission to a nursing home (Actiz, 2020b; Commissie Toekomst zorg voor thuiswonende ouderen, 2020; Homan, Jansen, Hulst & Dijk, 2019).

With regard to adjusting existing senior homes, an aspect found in the literature but not mentioned in the interviews is that adapting existing elderly homes can be difficult (Homan et al., 2019; De Groot, Van der Staak, Daalhuizen & De Kam, 2019). Many elderly people prefer not to invest in their homes on a large scale because of their budget, and municipalities and housing corporations are also reluctant to co-finance housing adjustments (De Groot et al., 2019). Municipalities and housing corporations argue that healthcare insurers should co-finance such investments because healthcare insurers will benefit from home adjustments. However, it is usually difficult for healthcare insurers to invest in preventive home adjustments since they are only permitted to cover healthcare expenses (Homan et al., 2019; Lijzenga, Bouwkamp & Boertien, 2015).

When constructing new residential concepts, it is important to consider a common sense of community. Aspects such as supervision of care, safety and meetings with other older people are important issues for older people (Actiz, 2020a; Homan et al., 2019; Oldenkamp, De Klerk & Wagemakers, 2013; Moerbeek, Niehof & Van Ophem, 2007). Another aspect mentioned in the literature but not in the interviews is that frail older people should be made aware of the possibilities of new residential concepts. It appears that many are still unfamiliar with these concepts (Dijkman, 2017; De Groot et al., 2019). Furthermore, as with potential adjustments of existing senior homes, municipalities and housing corporations are reluctant to construct

new residential concepts. Several pilots have been developed, but the quest to fund them remains. Experience has shown that only small funds are made available by banks, pension funds and other investors to develop new residential concepts (FAME Groep, 2014; Rijksoverheid, 2019). An explanation for this lack of funding is that investors do not see the short-term viability of investing in new residential concepts (Rijksoverheid, 2019; Actiz, 2020a). Future policy should concentrate on establishing a shared responsibility between all involved disciplines: municipalities, housing corporations, healthcare organizations, healthcare insurers and investors. Future research into the long-term viability of investments in new residential concepts is required to accomplish this goal.

These findings indicate that solutions also need to be multidisciplinary and should apply more broadly than just to healthcare. New residential concepts ensure that frail elderly people can live independently at home for a longer period of time, with assistance if necessary. In this way frail elderly people are better monitored which means that acute events can be identified earlier, which is beneficial for the entire chain of acute care.

5.2 Strengths and limitations

Some strengths and limitations of this research need to be recognised. The first strength is that exploratory-descriptive qualitative research has been conducted to study the characteristics of and topics related to the provision of care subsequent to acute events experienced by frail elderly people. This provision of care was explored using experts' opinions and interpretations, which are effective means for identifying little-explored problems (Hunter et al., 2018).

A second strength of this study derives from its successful data saturation: the study has provided in-depth insight into the provision of care subsequent to acute events. Fifteen semi-structured interviews were conducted with experts from different healthcare disciplines, all of whom had specific expertise in elderly care and frail elderly patients. The change loop of the screening model enabled the researcher to gain broad insight into both the current and desired provision of care subsequent to acute events. Furthermore, the use of the acute healthcare chain model provided insight into where the bottlenecks and possible solutions lie in the acute healthcare chain.

Another strength is that an expert check has been conducted. Several healthcare professionals have reacted to the preliminary research results. This expert check provided additional knowledge and perspectives and led to new discussion points that were considered relevant by the healthcare professionals.

A limitation of this study is that only one data collection method was used, which makes the research less robust. A second limitation is the researcher's bias. The interviews and research results were conducted and analysed by only one researcher, which reduces the study's reliability and confirmability. Moreover, the choice of the semi-structured interview as the data collection method entails that the questions and subjects on the predefined topic list were not posed using the exact same words for each interview. A different tone or wording of

the questions can lead to a different interpretation of the questions, which leads to different answers (Johannes, Crawford & McKinlay, 1997).

6. Conclusion

This study has investigated the opinions of healthcare professionals regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands.

The greatest bottlenecks in the current provision of care subsequent to acute events are staff shortages in home care services and nursing homes and the fragmented healthcare system. These bottlenecks are complex and have developed to such an extent that no easy solution exists. Possible solutions include making employment in elderly care more attractive, implementing more technology, clearly dividing roles and tasks between primary and secondary care, establishing a central control institution and lessening dogmatic thinking. Another important solution is to proactively organize the provision of care subsequent to acute events. By doing so, frail elderly people with an increased risk of acute events can be identified in time, and the right follow-up steps can be taken in the care process. Early identification and advance care planning play an important role in this proactive approach. The development of a payment title for preventive collaboration is necessary for effective early identification and advance care planning.

Because of the size and multidisciplinary character of the problem, solutions that go beyond healthcare must also be sought. New residential concepts that combine living and care must fill the gap that has emerged between independent living at home and admission to a nursing home. Joint responsibility and a sense of commitment between municipalities, housing corporations, healthcare organizations, health insurers and investors is necessary for realising these concepts.

The increase in the number of acute events experienced by frail elderly people living at home is an urgent problem. Change is necessary, or the burden on the acute healthcare chain will only escalate further and ultimately collapse. Dutch government will have to act as an independent control institution and must initiate changes. More nurses will have to be recruited by making elderly care more attractive as a field of employment, the production incentive that offers more money when more patients are treated will have to be eliminated and a payment title for preventive collaboration will have to be initiated. Action, sooner rather than later, is required.

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Appendix 1: Topic list interviews

Introduction

- Introduction of the researcher and the expert
- Informed consent
- Explanation of the study
- Explanation of the screening model

Start of the interview

- Background information about the work and organization of the expert
 - Relationship between work and the provision of care subsequent to acute events experienced by frail elderly people living at home

During the interview

1) Current situation

- Input
 - What is the aim?
 - What are the bottlenecks?
- Process
 - Strategy (aim)
 - Structure (tasks, competences, responsibilities)
 - Culture (interaction, communication)
 - What are the bottlenecks?
- Output
 - Outcome
 - What are the bottlenecks?

2) Desired situation

- Possible solutions
- New norms
- Benefits
- Implementation
- Acute healthcare chain
- Bottlenecks

End of the interview

- Are there any parts that have not been discussed yet?
- Discuss and check the content
- The expert is thanked and the interview is finished

Appendix 2: Themes, subthemes and examples of codes

Themes	Subthemes	Examples of codes
Staff shortages in home care services and nursing homes	No appropriate care in the home situation	Increasing demand for care
		Closure of care homes
		Staff shortages GP practices
		Staff shortages GP posts
		Staff shortages home care services
		Qualitative staff shortages
		Quantitative staff shortages
		Evening hours
		Weekend hours
		Salaries
		Living longer at home
		Weekend
		Image
		Acute events
Informal caregivers		
Appreciation		
	Not able to move to nursing homes in time	Capacity problems in nursing homes
		Grey area
		No alternatives available
		Primary care residences
		Coordination of available beds
		Staff shortages nursing homes
		Loneliness
		Budget cuts
A fragmented healthcare system	Unclear demarcation of healthcare laws	WMO
		WLZ
		ZVW
		Bureaucratization
		Splintering of supply
		Splintering of costs
		Splintering of regulation
	Healthcare professionals are unaware of each other's expertise	Primary care
		Secondary care
		Mutual trust
		Expertise
		Communication

		Collaboration
		Triage
	Difficult transfers of patient data	ICT
		Data
		Privacy
		Systems
	Lack of patient ownership	Responsibility
		GPs
		Dogmatism
		Secondary care
	Lack of a central control institution	National
		Regional
		Leading role
		Bureaucratization
	A payment title for preventive collaboration does not exist	Production incentives
		Perverse financial incentive
		Healthcare insurers
		Revenue model
		Face-to-face contact
Early identification and advance care planning	Early identification	Curative care
		Proactive care
		Preventive care
		Early identification
		Time availability
		Refusing help
		Overestimation
		Budget
	Advance care planning	Curative care
		Proactive care
		Preventive care
		Advance care planning
		Informal caregivers
New residential concepts that combine living and care	Adjustment of senior homes	Living at home independently
		WLZ-indication
		Ehealth
		Home automation
		Change established order
		Old houses
		Housing corporations
	Construction of new residential facilities	Real estate
		Municipalities
		Investors
		Healthcare insurers

Appendix 3: Informed consent

Informed consent Cas van den Hoek – Wageningen University & Research

Dear Mr./Ms.,

My name is Cas van den Hoek, and I am a master's student in Communication, Health & Life Sciences at Wageningen University & Research. For my master's thesis, I am conducting a qualitative study into the opinions of healthcare professionals regarding the provision of care subsequent to acute events experienced by frail elderly people living at home in the Netherlands.

The interviews will last about an hour and will be held in Dutch. Before the start of the interview, you have the opportunity to ask questions. The interviews will be recorded and then transcribed. After completion of the study, the recording of the interview will be deleted. The results of the interviews will be treated confidentially. You will be given the opportunity to change the transcriptions if necessary. It is possible that quotes from the interview are used anonymously in the report. Your personal data will be made anonymous. Participation in the survey is voluntary. You always have the opportunity, without further explanation, to withdraw from the study.

Because of COVID-19, the interviews will take place via Zoom software. If you have understood this informed consent and therefore agree to participate in the study, please let me know by email or at the start of the interview. Furthermore, you can always ask me questions before, during or after the interview. I will answer these questions as best as I can.

In addition, as executive researcher, I declare that I will give oral or written explanations about the study to the experts and that I will answer as best as I can any further questions about the research.

In case you wish to contact me:

Telephone number: 06-39446172 | Email address: cas.vandehoek@wur.nl

Kind regards,

Cas van den Hoek