A challenging rehabilitation environment: CREATE a team self-evaluation tool

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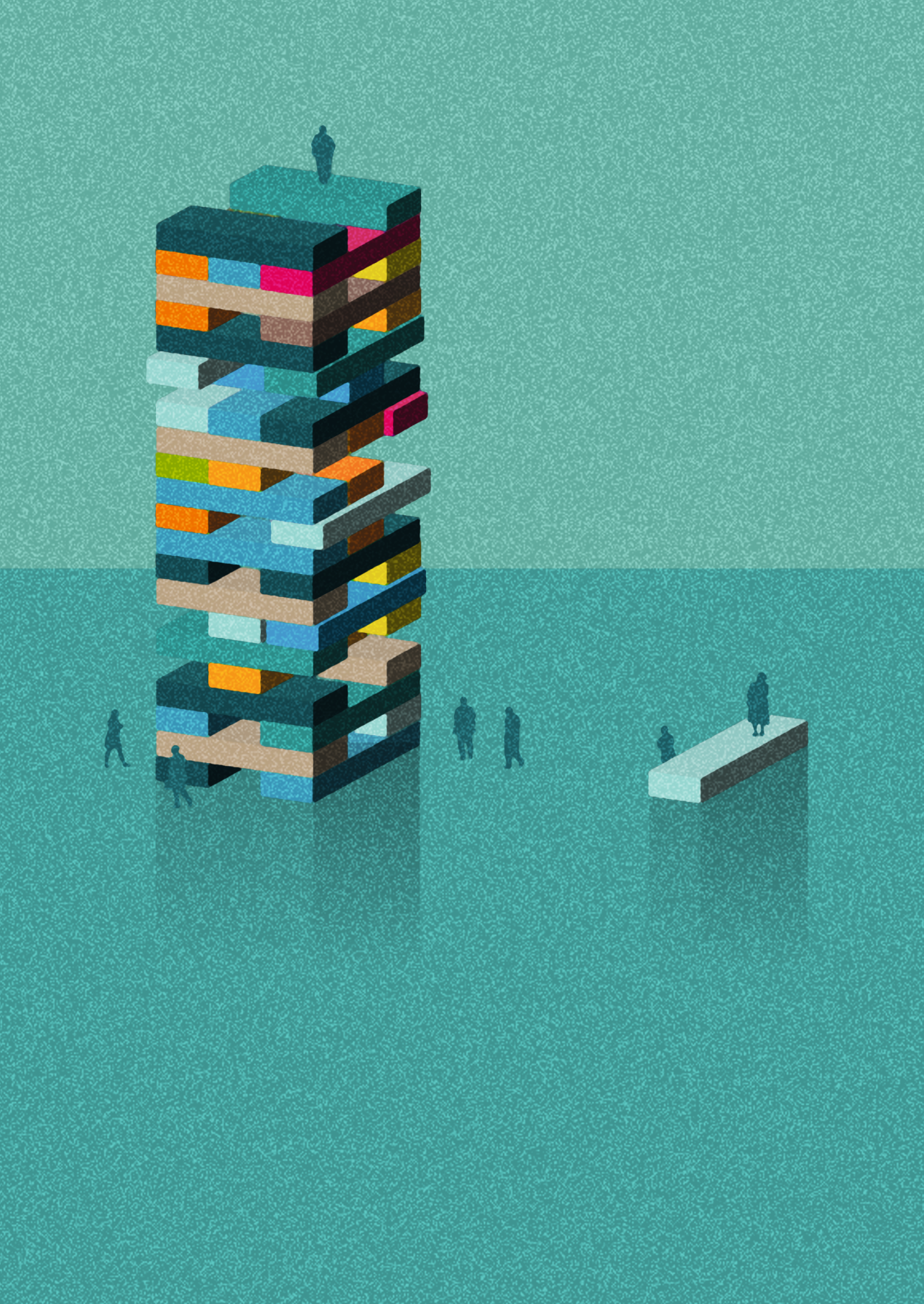

Summary

The global population is ageing, leading to an increase in multimorbidity, geriatric syndromes and hospital admissions. Common reasons for hospitalization in older persons are infections, cardiac problems, surgical interventions, stroke, cancer or fall related trauma. Due to a decreased strength, endurance and independence in activities of daily living, older persons are not always able to return to their own living situation after hospitalization. These persons are referred to geriatric rehabilitation.

Geriatric rehabilitation is a relatively young field and aims to optimize functional capacity, promote activity, and preserve functional reserve and social participation in older people with disabling impairments through a multidimensional approach of diagnostic and therapeutic interventions. Geriatric rehabilitation is offered by an interdisciplinary team consisting of nurses, elderly care physicians, physiotherapists, occupational therapists, psychologists, dietitians, and speech and language therapists. In the Netherlands, a total of 54.910 rehabilitants were treated in geriatric rehabilitation in 2021, which amounts to 1.5% of the Dutch population over 65 years of age. In 2019, 80% of the rehabilitants were able to return to their own living environment after geriatric rehabilitation.

The concept of (socio)therapeutic climate has been used for some time in fields such as psychiatry and care for residents with dementia. This concept is based on a broad approach to treatment, which considers the social, physical and organizational environment to achieve the therapeutic goals. In 2011, this broad philosophy was transferred to geriatric rehabilitation by Marieke Terwel. Although this idea was enthusiastically adopted by rehabilitation wards in the Netherlands, there was no scientific substantiation of the concept at that time. As a result, it was not clear which aspects were important in the concept. Consideration was given to increasing therapy time, group training, independent practice, task-oriented practice and family participation.

This thesis describes results of the CREATE study (Challenging REhAbiliTation Environment). The aim of the CREATE study was to conceptualize this concept and the development of a tool to support rehabilitation departments in its implemen-

tation. The concept describes the entire environment in which the rehabilitation takes place and is intended to challenge rehabilitants to achieve the best possible result from the rehabilitation. This total concept will be referred to in this thesis as the Challenging Rehabilitation Environment.

In this thesis the following research questions were addressed:

1. Which aspects are important in a challenging rehabilitation environment and how can these be combined in a conceptualization?
2. To which extent is a team self-evaluation tool feasible to support rehabilitation wards by implementing a challenging rehabilitation environment?

Main research findings

In **Chapter 2**, evidence for the challenging rehabilitation environment was sought in the literature. Because there was no scientific evidence for the entire concept, a narrative review was used to examine various aspects that are relevant to the challenging rehabilitation environment. This review included 51 articles, from which a total of 7 main topics were identified. These involved: 1) therapy time; the level of physical activity and the relationship with rehabilitation outcomes, 2) group training; can be used to increase therapy time and achieve goals, e.g. in the areas of mobility and activities of daily living, 3) patient-regulated exercise; this increases the level of self-management and therapy time, 4) family participation; this can have a positive effect on rehabilitation outcomes and increases therapy time, 5) task-oriented training; in addition to therapy, nurses can stimulate rehabilitants to perform meaningful tasks that improve functional outcomes, 6) enriched environment; this can challenge rehabilitants to be active in social and physical activities, and 7) team dynamics; shared goals and good communication in a transdisciplinary team improves the quality of rehabilitation.

As the challenging rehabilitation environment was a relatively new concept with different interpretations on various wards, it was unclear if this review captured all relevant aspects. Therefore, the two qualitative studies described in **chapters 3 and 4** were conducted simultaneously. **Chapter 3** describes a qualitative study into the perspectives of rehabilitants and informal caregivers regarding the challenging rehabilitation environment. A total of 15 rehabilitants and six informal caregivers participated in telephone interviews or focus groups. These partici-

pants all had recent experience in (geriatric) rehabilitation. Thematic analysis led to 13 themes, divided into nine themes related to the rehabilitation process and four themes related to the organizational process. The themes related to the rehabilitation process had to do with: 1) rehabilitant; attention for resilience, motivation, cognition and emotional aspects, 2) rehabilitant centered; goal setting, coping and physical and cognitive functioning, 3) informal caregivers; involving informal caregivers and attention for their resilience and the relationship between informal caregiver and rehabilitant, 4) communication; aligning the rehabilitation process, 5) exercise; increasing intensity by using task-oriented exercise, patient-regulated exercise and group training, 6) peer support; for recognition and learning from each other, 7) daily schedule; influence on the planning and activities outside therapy, 8) nutrition; provides energy for rehabilitation, and 9) eHealth; this makes rehabilitation more challenging and fun. The themes related to the organizational process were: 1) environmental aspects; single bedrooms, shared room for activities and therapy options on the ward, 2) staff aspects; a small team with a motivating and empathetic attitude, 3) organizational aspects; organized in an efficient way, and 4) return home; a well-prepared discharge process with attention to home visits.

In **chapter 4** the perspective of professionals regarding the challenging rehabilitation environment were studied. For this purpose, 13 focus groups were organized with both national and international experts and rehabilitation professionals. In addition, four workshops were given at two Dutch conferences. A total of 69 professionals participated in a focus group and 180 professionals in a workshop. Thematic analysis led to 11 relevant themes for the challenging rehabilitation environment. The themes were similar to those that emerged in the study with rehabilitants and informal caregivers. However, in the analysis of this study, the theme of communication was a subtheme in involving informal caregivers and the theme of peer support was a subtheme in the theme of exercises. This led to seven themes related to the rehabilitation processes: 1) rehabilitant; attention for resilience and cognitive functioning, 2) goals; setting personal goals, 3) exercise; increasing exercise intensity, 4) daily schedule; following the daily rhythm, 5) involving the client system; informal caregivers participation, 6) nutrition; influences rehabilitation capability, and 7) technology; makes rehabilitation more safe and challenging. Four themes were identified regarding the organizational

processes: 1) environmental aspects; encourages exercises, 2) staff aspects; an interdisciplinary team, 3) organizational aspects; implementing a challenging rehabilitation environment requires a shared vision, and 4) factors outside the ward; such as a well-prepared discharge process.

In **chapter 5**, the data from the first three studies were combined by means of concept mapping into an evidence-based, expert-based and experience-based conceptualization of the challenging rehabilitation environment. For this purpose, 70 statements were extracted from the first 3 studies. 20 (para)medics, 11 nurses and 15 rehabilitants and informal caregivers participated in the study. All participants assessed the statements for relevance and clustered the statements into related topics. Using the statistical procedure of concept mapping, a broadly supported classification into clusters was developed based on this input. This resulted in a division into five clusters;

1) Goals;
   Aspects that are relevant to the goal setting process. The goals should cover both the inpatient and outpatient period of rehabilitation. These goals should be used as a guidance through the rehabilitation process in terms of the use of therapies and the duration of the rehabilitation process. This cluster also describes that home visits are an integral part of rehabilitation.
2) Rehabilitant and informal caregiver;
   This cluster focuses on factors related to the rehabilitant and informal caregiver. In a challenging rehabilitation environment, it is important that they are part of the rehabilitation team. For example, they must be involved in formulating the rehabilitation plan, participate in multidisciplinary consultations and have access to and be able to report in the reports. In addition, it is important that rehabilitant and informal caregiver are educated about the medical condition that initiated the rehabilitation, how to deal with associated cognitive problems, and how to manage stimuli and resilience. It is also desirable if they are trained in the skills they need during and after rehabilitation.
3) Staff aspects
   In a challenging rehabilitation environment, staff should apply an interdisciplinary working method, which implies that there is no hierarchy. All employees are jointly responsible for achieving rehabilitation goals, have a rehabili-

tative mindset and integrate exercise moments into their daily contact with rehabilitants. In addition, the team members take the learning style of the rehabilitant into account and offer information in diverse ways and at multiple times. Staff members work in accordance with current scientific knowledge on geriatrics and rehabilitation. The rehabilitation team and management also have a shared vision on rehabilitation and the challenging rehabilitation environment.

4) Environmental aspects
   The overall layout of the rehabilitation ward is challenging and provides safety for rehabilitants to practice independently. This can be achieved, for example, by means of a seating area in the bedroom that invites rehabilitants to get out of bed, relevant areas within walking distance, or handrails in the hallways. Treatment takes place on the ward as much as possible and rehabilitants can use the exercise facilities throughout the day. Rehabilitants have their own bedroom, but can also use a common room. This gives them the opportunity to dose their number of stimuli. This cluster further states that the food must be tasty, healthy and (protein) enriched, prepared as much as possible with readily available products.
5) Exercise and peer support
   Exercises in a challenging rehabilitation environment focuses on goals regarding mobility, activities of daily living, grief, cognition and communication. Rehabilitants are encouraged to work on their rehabilitation throughout the day, for example through homework exercises. Daily therapeutic activity occurs via task-oriented training. In addition, group therapy is used to achieve rehabilitation goals and to stimulate peer support. Joint meals contribute to peer support and achieving the rehabilitation goals. In a challenging rehabilitation environment, the daily rhythm of the rehabilitant is followed. This means that there is no fixed planning. Informal caregivers are welcome on the ward throughout the day, but other visitors have visiting hours. eHealth is used to make exercises more fun and challenging and can support monitoring and visualizing changes in functioning of rehabilitants.

Using the conceptualization described above, a self-assessment tool for teams was developed in **Chapter 6**, the CREATE-tool. This tool consists of 70 statements divided over the five described clusters. A representation of the inter-

disciplinary team individually assessed all statements using the plan, do, check, act methodology. These ratings were considered as ordinal data and converted into individual and team standardized cluster ratings. These ratings were shown on a five-axis radar chart. The individual and team ratings were the input for a team meeting, where the participants discussed the results per cluster. They tried to identify the strengths and areas for improvement per cluster. The areas for improvement were noted on a flip chart and after the discussion, all team members indicated three quick wins and 3 larger areas for improvement. In **chapter 6,** this methodology was tested on five rehabilitation wards. A total of 28 (para)medics and 22 nurses participated in the study. Afterwards, these participants completed an evaluation survey. The study showed that the tool was helpful in identifying strengths and areas for improvement of a rehabilitation ward. Between 11 and 29 areas for improvement were identified per team. The participants were all very satisfied with the use of the tool, which was reflected in a median score of 7 or 8 on all evaluation questions.

Conclusion

The studies in this thesis jointly led to an evidence-based, expert-based and experience-based conceptualization of the challenging rehabilitation environment in five clusters. This conceptualization has been incorporated into the CREATE-tool, a team-self assessment tool that can be used to implement and evaluate the challenging rehabilitation environment in geriatric rehabilitation departments. This CREATE-tool is able to identify areas for improvement for the challenging rehabilitation environment at ward level and professionals are satisfied with the use of the tool. This thesis did not investigate to what extent the use of the CREATE-tool contributes to the rehabilitation outcomes of individual rehabilitants or to the improvement of the challenging rehabilitation environment at ward level. In previous studies, components of the CREATE-tool have proven their effect on rehabilitation outcomes. It is therefore recommended to use the CREATE-tool at least once every two years to identify the ward's areas for improvement. In addition, geriatric rehabilitation is a rapidly developing field. This also means that the conceptualization of the challenging rehabilitation environment is a dynamic concept and requires continuous further development.