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# Physical Activity in Older Adults: Exploring Healthcare Professionals' Judgments in the Context of Reablement

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Namsos, June 7th 2022

Hanne Leirbekk Mjøsund

# Summary

**Background:** Person-centered, integrated, and evidence-based healthcare (EBHC) is needed to sustainably support people to maintain their function and health in older age. Physical activity (PA) is important for older adults' function; however, the implementation of PA strategies in healthcare remains challenging. The aim of this thesis was to explore how PA is integrated into reablement, an interdisciplinary approach aiming to promote function and independence in home-dwelling older adults.

**Method:** This thesis includes three studies and a final synthesis. Study I is a systematic scoping review exploring how PA has been integrated into reablement research. Studies II and III are based on qualitative content analysis of individual interviews with 16 healthcare personnel (HCPs). Study II explores how PA is integrated into HCPs' clinical reasoning, and Study III explores facilitators and barriers influencing their judgments regarding PA in reablement. Finally, abductive analysis is used to synthesize the findings based on a framework of EBHC, supplemented by theories of person-centered care, integrated care, and clinical reasoning.

**Results:** There were substantial differences in how PA was emphasized in reablement, and strategies to promote PA varied. A complex relationship between several factors was found to influence HCPs' judgments regarding PA, including i) different ontological, epistemological, and normative perspectives influencing the use of evidence, ii) different interpretations of participants' preferences, i.e., their needs, goals, and values, and iii) different contextual opportunities and restrictions, depending on normative and functional integration between participant, professional, organizational, and system levels.

**Conclusion:** The integration of PA into reablement varies depending on several factors. This thesis contributes with knowledge of how these factors influence HCPs' judgments, adding to the understanding of the gap between research and practice.

# Sammendrag

**Bakgrunn:** Det er behov for person-sentrert, integrert og kunnskapsbasert praksis (EBHC) for å støtte eldre til å bevare funksjon og helse. Fysisk aktivitet (FA) er viktig for eldres funksjon, men det er utfordrende å implementere strategier for å fremme FA i helse, -og omsorgstjenestene. Formålet med denne avhandlingen var å utforske hvordan FA er integrert i hverdagsrehabilitering, en tverrfaglig tjeneste som har til hensikt å fremme funksjon og uavhengighet hos hjemmeboende eldre.

**Metode:** Avhandlingen inkluderer tre studier og en samlet syntese. Studie I er et systematisk scoping review som utforsker hvordan FA har vært integrert i forskning på hverdagsrehabilitering. Studie II og III er basert på kvalitativ innholdsanalyse av individuelle intervjuer med 16 helsepersonell (HP), og har til hensikt å utforske hvordan FA er integrert i HP's kliniske resonnering (studie II), samt fasilitatorer og barrierer som har innflytelse på HP's vurderinger knyttet til FA i hverdagsrehabilitering (studie III). Den samlede syntesen bygger på en abduktiv analyse av de tre studiene, med utgangspunkt i EBHC som overordnet rammeverk, supplert med teori om person-sentrert omsorg, integrert omsorg og klinisk resonnering.

**Resultater:** Det var betydelige forskjeller i hvordan FA ble vektlagt i hverdagsrehabilitering, og det ble brukt varierende strategier for å fremme FA. Et komplekst samspill mellom flere faktorer hadde innflytelse på HP's vurderinger: HPs vektla ulik kunnskap, basert på ulike ontologiske, epistemologiske og normative perspektiver; de tolket deltakernes preferanser ulikt, og hadde forskjellige strategier for å møte deltagernes mål, behov og verdier; de hadde ulike kontekstuelle muligheter og begrensninger, avhengig av hvordan hverdagsrehabilitering var normativt og funksjonelt integrert på tvers av deltager,- profesjons,- organisasjons,- og system nivå.

**Konklusjon:** FA integreres ulikt i hverdagsrehabilitering og er avhengig av en rekke ulike faktorer. Denne avhandlingen bidrar med kunnskap om hvordan disse faktorene

har innvirkning på HP's vurderinger, og gir en økt forståelse av gapet mellom forskning og praksis.

## The structure of the thesis

This is an article-based thesis consisting of two parts: Part I is an integrated presentation of the doctoral work in its entirety and is further outlined below, and Part II consists of three scientific articles in addition to a study protocol and is presented in the final part of this thesis.

Part I consists of seven chapters. *Chapter 1* provides a brief introduction to argue for the relevance and actuality of the thesis. The background is further elaborated through the themes of older adults and function, reablement, and physical activity, followed by a presentation of the motives, aims, and research questions of the project.

In *Chapter 2*, the theoretical framework of the project is presented. The theoretical framework is based on a framework of evidence-based healthcare and is supplemented with theory of person-centered care, integrated care, and clinical reasoning.

*Chapter 3* contains an elaboration on the methodology of the project. First, I position the project within a pragmatist and critical realist perspective before elaborating on the design and methods of Studies I–III and the final synthesis. Finally, I present the ethical considerations that were made throughout the project.

In *Chapter 4,* a short summary of the findings of each of the three articles is presented, followed by a synthesis of the findings, developed through an abductive interpretational process based on the theoretical framework of the project.

In *Chapter 5,* I first discuss the results of the findings in the context of the theoretical framework and previous research. Then, I discuss how the methodological choices and processes may have influenced the validity of the findings.

Finally, in *Chapter 6*, I discuss the implications of the findings for practice and research, followed by a conclusion of the project.

# Contents

# List of Figures



# List of Tables



# List of Abbreviations

PA: Physical activity, defined as *any bodily movement produced by skeletal muscles that requires energy expenditure*

HCPs: Health care professionals/healthcare providers/healthcare personnel (refers to all healthcare personnel irrespective of educational background)

PT: Physiotherapist

OT: Occupational therapist

RN: Registered nurse

TUG: Timed Up and Go

SPPB: Short Physical Performance Battery

COPM: Canadian Occupational Performance Measure

RCT: Randomized-controlled trial

EBP: Evidence-based practice

EBHC: Evidence-based healthcare

ADL: Activities of Daily Living

JBI: Joanna Briggs Institute

# Part II

## List of articles

**Ia** Mjøsund HL, Burton E, Moe CF, Uhrenfeldt L. Integration of physical activity in reablement for community-dwelling older adults: a scoping review protocol. *JBI Database System Rev Implement Rep.* 2019;17(9):1924-1932.

**Ib** Mjøsund HL, Moe CF, Burton E, Uhrenfeldt L. Integration of Physical Activity in Reablement for Community Dwelling Older Adults: A Systematic Scoping Review. *Journal of multidisciplinary healthcare.* 2020;13:1291-1315.

**II** Mjøsund HL, Moe CF, Burton E, Uhrenfeldt L. Promotion of physical activity through reablement for older adults – exploring healthcare professionals' clinical reasoning. *Journal of multidisciplinary healthcare*. 2021;14:1623-1635.

**III** Mjøsund HL, Uhrenfeldt L, Burton E, Moe CF. Promotion of physical activity in older adults: facilitators and barriers experienced by healthcare personnel in the context of reablement. *BMC Health Services Research.* 2022 (In review)

# Part 1

# 1. Introduction

The rapidly aging population demands a re-assessment of how we can sustainably assist people to develop and maintain their functional ability and well-being in older age (World Health Organization, 2021a). *Reablement* is an emerging interdisciplinary healthcare approach (Clotworthy et al., 2021) aiming to support older adults in regaining function and independence through activities they value by providing support that meets individual's goals and needs (Metzelthin et al., 2020). However, reablement has been defined and understood in many ways, involving substantial differences in how it is delivered and which components are emphasized in its delivery (Clotworthy et al., 2021; Cochrane et al., 2016; Legg et al., 2016; Metzelthin et al., 2020). Physical activity (PA) is known to be important for improving and maintaining function in older age. Although it is generally recommended that healthcare personnel (HCPs) implement evidence-based actions to provide advice about PA and sedentary behavior for older adults (World Health Organization, 2016, 2020), there is no consensus that PA should be integrated into reablement (Metzelthin et al., 2020). This thesis aims to explore how PA is integrated into reablement and the factors that influence its integration.

HCPs are gatekeepers of the healthcare system and largely decide who should receive care and how care should be provided (Vabø & Vabo, 2014). HCPs' judgments and decision-making should be built upon a synthesis of research-based and experience-based knowledge, knowledge about the individual person, and knowledge about the context (Jordan et al., 2019; World Health Organization, 2017a). The development, synthesis, and implementation of research-based evidence is emphasized to improve healthcare quality and global health (Jordan et al., 2019), and the use of research to inform healthcare practice is central to healthcare policies and education. Furthermore, healthcare should be delivered in a person-centered way, aligning with the individual's particular values and preferences, and services should be integrated to provide shared and continuous support adapted to the individual's needs, desires, and

the context in which the care is provided (World Health Organization, 2021a). To deliver evidence-based, person-centered, and integrated care, healthcare systems should be organized in a way that enables HCPs to make clinical judgments that are appropriate to the situation. However, professional knowledge and practice is multifactorial and complex, and to explore how PA is integrated into reablement, it is essential to pay attention to how HCPs synthesize different types of knowledge, values, and perspectives in their contextually adapted judgments.

In the following section, I elaborate on the background of the project. First, I describe the demographic development and healthcare challenges associated with functional decline in the aging population. Then, I elaborate on reablement, it being the context of this study. I then clarify the scope of PA and highlight the current evidence and challenges regarding the promotion of PA among older adults. Finally, I summarize the motives of this research, followed by a presentation of the research questions that guided this thesis.

## 1.1. Older adults and function

The global population is rapidly aging and, in Europe, life expectancy has increased by about 10 years over the last 50 years (European Commision, 2020). In Norway, where the primary part of this study originates, it is expected that, by 2060, the number of people over 80 years of age will be triple what it is today, and the number of people over 90 years of age will increase approximately fivefold (Statistics Norway, 2020). Adults older than 80 years of age who live in their own homes live healthier lives than in previous decades, and they are also more active than previous generations (Statistics Norway, 2019). However, as a consequence of these demographic changes, more people are expected to live longer with chronic diseases and complex health challenges (Ministry of Health and Care Services, 2014; World Health Organization, 2017b). This requires that healthcare services be organized and delivered in a way that meets older adults' needs in a sustainable way. In this thesis, the term "older adults" will be used

for people aged 65 years and older, with a focus on the oldest of older adults (>80 years), as they represent the typical target group for reablement.

The general need for assistance in daily activities increases with the aging population. In Europe, almost half of the population aged 65 years and over reports difficulties with at least one personal care or household activity (Eurostat, 2019). In Norway, nearly 30% of people aged 80 years and older receive homecare services, and most of them live in their own homes (Statistics Norway, 2021). Along with the aging population, there are increasing shortages of health- and social-care personnel (Norwegian Directorate of Health, 2017; World Health Organization, 2017b). This shortage leads to challenges of maintaining the sustainability of healthcare services and delivering healthcare services that meet older peoples' needs and desires. Healthcare systems around the world must be better prepared to address the needs of older people by providing sustainable, person-centered, and integrated care that focuses on optimizing older adults' capacities and functional ability as they age (World Health Organization, 2021a).

Aging involves deterioration of body structures and functions and is an inevitable part of life. Aging involves interactions between biological aging processes (e.g., deterioration of muscle strength, bone mass, or neuromuscular processes), psychological aging processes (i.e., an individual's personal experience of ageing), and social aging processes (i.e., aging in relation to the society) (Kirkevold et al., 2020). However, there are significant individual differences in how aging processes unfold, and a person's chronological age is a poor predictor of their individual health and functional ability. Although natural aging processes are inevitable, many factors influencing function in older age are preventable or treatable. However, perspectives on the definition of "function" and what is needed to improve function vary between different fields and sectors of health and social care systems, leading to the development of different strategies to support function. The biopsychosocial International Classification of Functioning (ICF) was developed to provide a common

framework for function and disability (World Health Organization, 2002). Function is seen here as a mutual influential relationship between resources and impairments in three main domains: 1) body functions and structure (i.e., physiological or anatomical parts of the body), 2) activity (i.e., the person's execution of a task or an action), and 3) participation (i.e., the person's involvement in life situations). These three domains are also mutually influenced by the person's health condition and contextual factors, including environmental factors (e.g., a person's physical, social, and attitudinal environment) and personal factors (e.g., gender, age, coping styles, social background, experiences, behavior patterns, motivations) (World Health Organization, 2002). Through the ICF model, functional ability and disability in older age can be seen as an individual, social, multifactorial, and context-dependent phenomenon.

Traditionally, older people have received homecare assistance to compensate for their functional decline, such as assistance in performing activities of daily living (ADL), meal delivery, and cleaning. However, in recent decades, there has been increased attention toward how such care models have prevented older people from taking an active part in their daily living, leading to passivity and further functional decline. Moreover, increased attention has been placed on how *ageism*—referring to stereotypes, prejudices, and discrimination based on a persons' age—can reduce opportunities for health, longevity, and well-being (World Health Organization, 2021b). Emphasis has been placed on approaches that support older adults in improving or maintaining their functional ability, independence, well-being, and ability to participate in meaningful activities (World Health Organization, 2017b). *Reablement* is one such approach that has been increasingly implemented and explored in high-income countries over the last decade (Clotworthy et al., 2021). In the following section, I will elaborate on the development, characteristics, and some of the challenges in the field of reablement.

## 1.2. Reablement

Reablement is an interdisciplinary approach that aims to help people who receive homecare services improve their functional ability and enable them to participate in

activities they find meaningful (Metzelthin et al., 2020). Over the last 2 decades, reablement has been increasingly developed and implemented in health- or social-care services in countries such as Norway, Denmark, Sweden, Australia, New Zealand, the United Kingdom, and the Netherlands (Clotworthy et al., 2021). Central to reablement is a focus on supporting people in managing their everyday lives as independently as possible by providing individually adapted interventions targeting goals set by the participants (Metzelthin et al., 2020). Reablement thus focuses on the person's function and participation in activities rather than being targeted to specific diseases or health conditions. A reablement plan is typically developed first and is based on a comprehensive assessment of the individual's goals and needs, followed by re-assessments during and after the reablement intervention (Jokstad et al., 2019; Metzelthin et al., 2020). While the assessments and development of the reablement plan are typically made by HCPs, such as physical therapists (PTs), occupational therapists (OTs), and/or registered nurses (RNs), the task of delivering reablement according to the reablement plan is often delegated to homecare assistants or other homecare service staff (Eliassen et al., 2018a; Hjelle et al., 2018; Maxwell et al., 2021). However, in some countries, such as the United Kingdom, reablement is delivered as part of the social care system, involving social care professionals and, to some degree, OTs (Beresford et al., 2019; Whitehead et al., 2018).

The population receiving reablement is a heterogeneous group, consisting of people with different health conditions and functional problems (Metzelthin et al., 2020; Tuntland, Kjeken, et al., 2016). The target group of reablement has mainly been home-dwelling older adults without severe cognitive disabilities and a mean age of approximately 80 years (Beresford et al., 2019; Burton et al., 2013; Langeland et al., 2019; Lewin et al., 2013; Tuntland et al., 2015; Whitehead et al., 2016; Winkel et al., 2015). However, there is international consensus that reablement should be an inclusive approach, irrespective of the person's age, capacity, diagnosis, setting, or

functional problems (Metzelthin et al., 2020). In the following, the term “participant” will be used to refer to people receiving reablement interventions.

Reablement has received substantial political interest in several countries due to its promising effect of supporting older people to be independent in daily living and thereby reducing the need for healthcare services (Beresford et al., 2019; Clotworthy et al., 2021; Langeland, 2016). Although the implementation of new strategies in practice is often referred to as challenging and time-consuming (Tucker et al., 2021), the implementation of reablement has been extensive and rapid in several countries. For example, in Norway, it was estimated that 63% of the 422 municipalities established reablement as a service between 2012 and 2018 (Bliksvær et al., 2021). Essential to this development was that the implementation of reablement did not emerge from research-based knowledge demonstrating its effect on improving function in older adults; in contrast, it was initiated in a collaboration between the practice field and political support and initiatives (Langeland, 2016).

Following the increased implementation of reablement, there has been a boom in published research, particularly after 2015 (Clotworthy et al., 2021). Several studies concluded that there was no evidence demonstrating the effect of reablement improving function in older adults (Cochrane et al., 2016; Legg et al., 2016). It has been emphasized that a challenge to the international research field of reablement is that the concept of reablement has been poorly defined and differently understood, with substantial variation in how reablement is conceptualized, organized, and delivered (Clotworthy et al., 2021; Cochrane et al., 2016; Legg et al., 2016; Metzelthin et al., 2020). Furthermore, it has been highlighted that reablement lacks a shared theoretical foundation (Legg et al., 2016; Thuesen et al., 2021).

The different contexts in which reablement can be implemented are suggested to have an impact on how reablement is delivered, involving different healthcare systems, professional groups, reablement organizations, population groups, and knowledge

bases (Metzelthin et al., 2020). In Norway, reablement is delivered as part of the tax-paid municipal healthcare services. A lack of appropriately targeted rehabilitation services for community-dwelling older adults was identified as the greatest rehabilitative challenge; however, it also holds promising potential in the Norwegian health and welfare sector (Meld. St. 26, 2014-2015). The implementation of reablement in Norway was supported by national policies that emphasized the need for developing services that helped older adults maintain their independence and to encourage a safe and active older age (Meld. St. 15, 2017-2018). The municipalities (n=356) are obligated to deliver services that follow national laws and align with overall national policies; however, they have the authority to organize and deliver the services as they find appropriate within their local context. HCPs working with reablement are obliged to follow the legislations of HCPs and to carry out their work according to the demands of their professional qualifications and what is expected in the particular situation (Healthcare personnel act, 1999). If required, based on the patients' needs, care should be provided through collaboration with other qualified personnel. Authorized HCPs can delegate certain tasks to other personnel as needed, considering the nature of the task, the qualifications of the personnel, and the supervision that is provided (Healthcare personnel act, 1999).

Studies exploring HCPs' experiences with reablement found that HCPs strongly valued shared collaboration toward the participants' goals (Birkeland et al., 2017; Gustafsson et al., 2019; Hjelle et al., 2016). Furthermore, they emphasized the strengths of the interdisciplinarity of reablement, in which they found that different professional skills and knowledge contributed to a broader perspective on older persons' situations and potential interventions (Birkeland et al., 2017; Gustafsson et al., 2019; Hjelle et al., 2016; Moe & Brataas, 2016). However, there has been little attention on what type of competencies and knowledge are emphasized by HCPs in reablement, or how different perspectives and evidence are integrated and negotiated between professionals and

between professionals and participants. These processes are essential to understanding and gaining knowledge about the scope of reablement.

To further explore how evidence is being integrated into reablement, this thesis aims to explore how PA is integrated into reablement. Despite evidence demonstrating the relationship between older adults' function and PA levels (Gomes et al., 2021), the integration of PA into reablement has been unclear. A recent international Delphi study involving 82 reablement experts from 11 countries found that there were diverse opinions on whether PA should be integrated into reablement (Metzelthin et al., 2020). Only 44% and 49% of experts agreed that physical exercise and motivation of PA should be involved in reablement, respectively (Metzelthin et al., 2020). This is in contrast with global recommendations emphasizing that HCPs should provide evidence-based and individually adapted advice about PA and sedentary behavior to older adults (World Health Organization, 2016), and it is important to further explore why these differences exist. In the following section, I will elaborate on the recommendations, definition, evidence, and knowledge gaps with regard to facilitating PA in older adults before further elaborating on evidence-based healthcare (EBHC) as the overall theoretical framework of this thesis.

## 1.3. Physical activity

Functional mobility has been reported to be the main prioritized goal among participants of reablement, including activities such as inside and outside walking, transferring, and climbing stairs (Tuntland et al., 2020). Interventions aimed at improving PA behavior may be essential to achieving these goals. Being physically active in older age is essential for maintaining physical capacity, health, and function. Low levels of PA in older age are associated with physical limitations and a poor sense of meaning in life (Gomes et al., 2017). Comprehensive research has demonstrated the positive effects of exercise and PA in older adults, such as reduced risk of falling (Sherrington et al., 2020), reduced level of frailty (Lozano-Montoya et al., 2017), and improved physical function (Zhang et al., 2020). However, older adults' PA levels

generally decrease with age, particularly if they require assistance from others (Gomes et al., 2017). Therefore, health–political strategies emphasize the importance of implementing evidence-based actions and ensuring that HCPs are in a position to provide simple and timely advice about PA and sedentary behavior that is tailored to individual health needs, capacities, and preferences (World Health Organization, 2016).

PA is commonly defined as "*any bodily movement produced by skeletal muscles that requires energy expenditure"* (World Health Organization, 2020, p. VII). PA may thus include different activities, such as leisure time PA, transportation, occupational activities, household activities, games, sports, everyday activities, and exercises specifically targeting improvement or maintenance of physical capacity. In addition, there has been increased attention over recent years on the impact of any activity that may reduce or interrupt the duration of sedentary time in older adults (Chastin et al., 2021; Dogra et al., 2017; Shrestha et al., 2018). Staying generally active in daily living by engaging in different types of activities is emphasized for maintaining function and health in older age (Meld. St. 15, 2017-2018; World Health Organization, 2017b, 2020). Although the amount of PA needed to improve and maintain physical function is unclear, there is a dose-dependent relationship between PA and physical function, including the onset of major mobility disabilities (Chase et al., 2017; Fielding et al., 2017); relatively small increases in PA (>48 minutes per week) have been found to have significant and clinically meaningful effects on functional ability in sedentary older adults (Fielding et al., 2017). Based on moderate-level evidence, the WHO has developed strong recommendations that older adults should be physically active with moderate-intensity activity for at least 150 minutes per week, performing activities that are adapted to their health situation, functionality, mobility, and individual needs; the recommendations emphasize that performing some PA is better than none (World Health Organization, 2020). Older adults with poor mobility are also recommended to perform muscle-strengthening activities and activities that enhance balance and

prevent falls 2–3 times a week and to reduce sedentary time (The Norwegian Directorate of Health, 2021; World Health Organization, 2020).

Although PA interventions are effective in promoting function among community-dwelling older adults, there is limited evidence for the effects of PA interventions in people receiving homecare services (Burton et al., 2019). There are many factors that are perceived by older adults as barriers to being physically active, such as health status, lack of knowledge about PA, low energy or fatigue, low self-esteem, fear of falling, and barriers in the local environment (Baert, 2011; Burton et al., 2017). Older adults report that HCPs play an important role in their experiences related to PA, and they find HCPs' *delivery* of PA interventions as important as the *content* of these interventions (Devereux-Fitzgerald et al., 2016). Furthermore, they emphasize the importance of being able to see the value of PA in addition to experiencing it as enjoyable (Devereux-Fitzgerald et al., 2016). Rather than favoring any specific PA intervention for older adults, research suggests the importance of having a system-oriented approach to ensure that the PA is motivating and meaningful and is tailored to individual needs in addition to social, individual, and environmental factors (Zubala et al., 2017).

Despite robust evidence of the relationship between PA and function in older age, challenges remain regarding how PA can be implemented in a meaningful and sustainable way in real-life healthcare contexts (Meld. St. 15, 2017-2018; Olanrewaju et al., 2016; World Health Organization, 2017b). It is emphasized that the systemic and contextual factors of PA interventions should be explored, paying attention to barriers of implementation at the level of individual older people, professionals, and their practices, organizational systems, and processes (Zubala et al., 2017). From this perspective, it is of interest to explore how PA is integrated into reablement, being an interdisciplinary, person-centered service that aims to improve function in older adults, and in which the adequacy of promoting PA has been questioned.

## 1.4. Motives of the research

In the following section, I will highlight the main motives of this research, which must be clarified to enhance the transparency and justification of the research (Maxwell, 2013). Inspired by Maxwell (2013), the motives of this study have been condensed into personal, practical, and intellectual motives.

My *personal motives* are closely related to my experiences in professional practice. My background as a physical therapist, experience working with older adults with functional challenges, interdisciplinary collaboration, and experience with promoting PA among older adults have laid important foundations for my motivation for this research. The aim and research questions of this project were developed based on a firm belief that there was unrealized potential in how we facilitated PA in older adults in a meaningful and effective way, and that it was essential to explore facilitators and barriers for promoting PA to help older people improve and maintain their function in daily living.

*Practical motives* are focused on *accomplishing* something, meeting a need, or changing a situation (Maxwell, 2013). The practical motives of this project are closely connected to my personal motives and have provided a strong motivation throughout the project. Based on the expected challenges related to sustainability of healthcare services (World Health Organization, 2021a), the lack of appropriately targeted PA and exercises offered for older adults, and the challenges associated with providing appropriate support for engaging in meaningful activities for older adults (Meld. St. 15, 2017-2018), the core motives of this research were to contribute to finding solutions for these challenges. However, no research can inform how PA *should* be facilitated in older adults, as such a question involves value components that cannot be fully addressed by research (Maxwell, 2013). These practical motives are as such beyond the scope of this research; however, they may nevertheless be informed through gaining a better understanding of the practice and the mechanisms influencing it, which lead toward the intellectual motives of this research.

*Intellectual motives* are focused on understanding something—to gain insight into what is going on and *why* it is so (Maxwell, 2013). The intellectual motives of this project evolved throughout the research, as a better understanding of the field was reached. In the beginning of the project, the core intellectual motive was to gain knowledge about the characteristics of PA promotion in reablement and to identify factors that influenced them. However, as the research evolved, demonstrating the considerable complexity and variation in how PA was promoted, the intellectual motives developed toward an interest in understanding the mechanisms influencing the practice and understanding *why* it varied. This development also drew the research toward a motivation for gaining a better understanding of the mechanisms influencing HCPs' judgments and EBHC in real-life settings.

## 1.5. Aim and research questions

Building upon the background and motives, the aim of this thesis was to gain knowledge about how promotion of PA is integrated into reablement. The overall research question was:

*How is promotion of PA integrated into reablement for older adults and which factors influence this?*

Three underlying research questions were developed to explore the overall research question:

1. How is PA integrated and explored in reablement research and what are the knowledge gaps?
2. How is PA integrated into HCPs' clinical reasoning in reablement?
3. Which facilitators and barriers do HCPs experience to influence the promotion of PA in the context of reablement?

To enhance the clarity of the underlying assumptions of these research questions, to link them together in a coherent manner, and to provide the foundations of the final

synthesis, the following chapter presents the theoretical framework of the thesis. Evidence-based healthcare (EBHC) is used as an overall framework for this thesis and is supplemented with theory of person-centered care, integrated care and clinical reasoning.

# 2. Theoretical framework: Evidence-based healthcare

The theoretical framework of this thesis draws upon the concept of EBHC, which was developed by the Joanna Briggs Institute (JBI) (Jordan et al., 2019; Pearson et al., 2005). EBHC is an interdisciplinary approach to decision-making in healthcare defined as *"clinical decision-making that considers the best available evidence, the context in which the care is delivered, client preference and the professional judgment of the health professional"* (Pearson et al., 2005, p. 209). EBHC builds upon the principles of evidence-based practice (EBP), though with its particular target being use within complex healthcare settings (Jordan et al., 2019).

A core focus in EBHC is that evidence should be gathered based on the knowledge requirements of the community, which includes knowledge about available resources and limitations in different practice contexts (Jordan et al., 2019; Pearson et al., 2005). The concept of *evidence* within EBHC is broad, including diverse sources of both research-based and non-research-based evidence (Pearson et al., 2005). Although this model of EBHC emphasizes the importance of integrating different types of evidence into clinical practice, little emphasis is put on what is meant by context and client preferences, and how HCPs should combine and prioritize different types of knowledge in their judgments. To propose an expanded theoretical framework for how HCPs utilize evidence in their judgments, the following sections will elaborate on the main components of EBHC, namely *evidence, personal preferences, context,* and *judgments.* To provide a deeper understanding of these components, I employ theory of person-centered care, integrated care, and clinical reasoning. First, I will elaborate on the meaning of the term *evidence.*

## 2.1. What constitutes *evidence*?

"*Evidence*" is a complex term that is used in different ways and has led to disagreements regarding the appropriateness of EBP strategies in different health- and social-care contexts (Thomas & Young, 2019). Pearson and colleagues define evidence

as *"the basis of belief; the substantiation or confirmation that is needed in order to believe that something is true"* (Pearson et al., 2005, p. 210). This understanding of evidence is similar to the one proposed by Maxwell (2012, p. 145), who further clarified that evidence *"does not exist in isolation, but only in relation to some claim (theory, hypothesis, interpretation etc.)."* From this point of view, evidence may have a variety of sources (both research-based and non-research-based), and the applicability and validity of the evidence must be considered in the context of the specific claim that the evidence is used to support or counter.

HCPs working in a complex, multifactorial healthcare setting, such as reablement, must consider many types of evidence in their everyday practice. Professional knowledge differs from disciplinary knowledge by building upon *practical synthesis* of evidence from several different disciplines, such as biology, physiology, psychology, pedagogy, and sociology (Grimen, 2008). Within any discipline of science, the evidence produced is developed from individual worldviews, involving specific ontological, epistemological, and normative assumptions about what evidence is and how it is produced (Andersen et al., 2019). HCPs' use of evidence is further influenced by ontological–epistemological–normative cultures within their professions and workplace cultures, influencing the type of evidence they rely on in their practice (Higgs, 2019).

Evidence can inform both about general phenomena or unique situations (Anjum, 2020). Here, I will use the term "*general evidence"* to refer to evidence that informs about general phenomena, and "*unique evidence"* to refer to evidence that informs about specific aspects of an individual's situation. General evidence may inform about similarities in a population, such as general behaviors, causal effects at a group level, or predictions of probabilities of events, making it "*generalizable*". In contrast, unique evidence is contextual, particular, and based on interpretations of different types of evidence, typically aiming to produce an *understanding* of a specific situation or context (Anjum, 2020). Both general and unique evidence may be essential in HCPs'

judgment formation, although both may be susceptible to misleading professional practice by being biased, not transferrable to a specific situation, or built upon misinterpretations. The confidence we place in any evidence, regardless of it being research-based, experience-based, or based on interpretations, must thus be considered in relation to the particular questions and purposes for which it is applied (Maxwell, 2012).

A central and perhaps neglected aspect of evidence debates is the attention placed on the questions and purposes for which evidence is needed to inform in practice. Which questions do the HCPs need to ask in a given context? And what are the purposes of asking these questions? The model of EBHC identifies four core categories of evidence that EBHC should target: feasibility, appropriateness, meaningfulness, and effectiveness (Jordan et al., 2019; Pearson et al., 2005). *Feasibility* refers to "the extent to which an activity or intervention is practical or viable in a context or a situation", *appropriateness* refers to "the extent to which an intervention or activity fits with a context or situation", *meaningfulness* refers to "how an intervention or activity is experienced by an individual or group and the meanings they ascribe to that experience", and *effectiveness* refers to "the extent to which an intervention achieves the intended result or outcome" (Jordan et al., 2019 p. 62). Each of these categories requires different types of evidence to inform practice, different emphasis on general and unique evidence, and different methodologies to obtain the required evidence.

In summary, the term evidence, as it is understood in this project, is a broad term that involves both research-based and non-research-based evidence and must be considered in the context of the questions and purposes for which the evidence is being used. In the following section, I will focus on what is meant by the participants' preferences, which also serves as an important type of evidence to inform HCPs' judgments.

## 2.2. What constitutes *personal preferences*? – A person-centered perspective

Involving the individual's preferences is considered a central part of EBHC (Pearson et al., 2005); however, EBHC literature provides little guidance for what is meant by "personal preferences" or how HCPs should involve personal preferences in their judgments. Here, I draw upon literature from a person-centered framework to elaborate on what constitutes personal preferences. Van Haitsma et al. (2020, p. 377) defined preference as an *"expression of the attractiveness of an option that serves to fulfill a person's needs, is determined based on one's values, and directs behaviors to achieve goals"*. They further clarified that needs can be biological, psychological, social, or functional in nature, that values are self-configured principles that guide individuals' behaviors, and that goals are the desired (un)conscious outcomes of a person's behaviors. According to this definition, needs, values, and goals are intrinsically related and form the foundation of a person's preferences to guide and facilitate—consciously or unconsciously—their behavior and engagement in their everyday actions (Van Haitsma et al., 2020).

To truly meet client preferences, a person-centered care philosophy is needed to guide healthcare delivery. The "person-centered care movement" has been considered a movement toward humanizing health services and ensuring that the individual is at the center of the delivery of care (McCormack et al., 2015). This movement is in line with the WHO's strategies, which highlight the need for a fundamental paradigm shift toward person-centered care to ensure that health services are funded, managed, and delivered in a way that is less fragmented and more efficient and sustainable than it has been previously (World Health Organization, 2015). However, person-centered care is understood and utilized differently in different healthcare settings (McCormack et al., 2015). McCormack et al. (2015) emphasized how person-centeredness emerges through cultures and relationships between HCPs, service users, and other significant people in their lives. They further emphasized that person-centeredness is

underpinned by values of respect, individual right to self-determination, empowerment, and mutual respect and understanding. Van Haitsma et al. (2020) further suggested that preference-based care affects the well-being of older adults by building on a focus on human motivation, autonomy, positive emotions, and a balance between a person's competences and the demands with which they are met.

In their person-centered nursing framework, McCormack and colleagues highlighted four essential constructs underpinning person-centered culture among HCPs: *prerequisites*, *the care environment, person-centered processes,* and *outcomes* (McCormack et al., 2015; McCormack & McCance, 2010). At the center of their framework is the *person-centered outcomes*, including satisfaction with care, involvement in care, feeling of well-being, and creating a therapeutic culture. To achieve person-centered outcomes, they indicated that *person-centered processes* should involve provision of holistic care, working with the person's beliefs and values, engagement, shared decision-making, and having a sympathetic presence. *The care environment* further focuses on the context in which care is delivered and includes supportive organizational systems, power sharing, the physical environment, potential for innovation and risk taking, effective staff relationships, appropriate diversity of skills, and shared decision-making systems. Finally, the *prerequisites* focus on attributes of HCPs and include being professionally competent, committed to the job, having developed interpersonal skills, being clear on one's own beliefs and values and knowing oneself.

As highlighted in this section, person-centered care is a complex, multifactorial way of thinking and acting in which a number of factors may influence HCPs' judgments when delivering healthcare. The context of care is emphasized as essential in relation to function, reablement delivery, promotion of PA, EBHC, and person-centered care. But what does "the context" actually refer to? In the following section, a conceptual understanding of context will be presented based on a framework of integrated care mechanisms.

## 2.3. What constitutes *context*? - An integrated care perspective

The context is considered essential to how evidence-based and person-centered principles are integrated into practice (Jordan et al., 2019; McCormack et al., 2015); however, the definition and scope of context is often unclear and inconsistent (Rogers et al., 2020). In the definition described by Rogers et al. (2020, p. 18), context is defined as a *"multi-dimensional construct encompassing micro-, meso-, and macro-level determinants that are pre-existing, dynamic and emergent […] These factors are inextricably intertwined, incorporating multi-level concepts, such as culture, leadership and the availability of resources".* Therefore, context is a multifaceted term involving interrelationships between different levels of the healthcare system.

To further conceptualize the complexity of the context, I will reference the framework of integrated care mechanisms developed by Valentijn et al. (2013). Essential to the principles of integrated care is the focus on enabling equal distribution of health services across populations, meeting both the specific needs of individuals and the general needs of the population (Valentijn et al., 2013). Both the person-focused and population-focused views are thus essential for linking the health and social systems to meet the needs of the population that they target.

Similar to the definition of context by Rogers et al. (2020), the framework of integrated care mechanisms considers the micro, meso, and macro levels of healthcare (Valentijn et al., 2013). The micro level concerns the clinical integration of care to meet the needs of the individual and match the appropriate services to their specific needs. At the meso level, the organizational and professional integration of care is essential to the delivery of the care to meet the needs of the target population. A number of factors, such as differences in culture, professional roles, responsibilities, service approaches, information systems, bureaucratic structures, fundings mechanisms, or regulations, may complicate the integration of care at the meso level (Valentijn et al., 2013). Furthermore, the collaboration between professionals both within and between professions, in addition to within and between sectors, is essential to providing

continuous, comprehensive, and coordinated care. Finally, at the macro level, the system integration of healthcare is essential to ensure a holistic approach that enhances efficiency, quality of care, quality of life, and consumer satisfaction (Valentijn et al., 2013). The integration of care at a system level may vary between national and regional needs, healthcare policies, and legislations. In summary, different interactions between factors on a participant, professional, organizational, and system level may influence how care is delivered in each setting.

Two main dimensions are suggested to link the micro, meso, and macro levels, namely *functional integration* and *normative integration* (Valentijn et al., 2013). *Functional integration* refers to mechanisms that are considered to add the greatest overall value to the system. This may include coordination of functions, such as financial management, human resources, strategic planning, or information management, and should be a flexible approach to adapt to constantly changing environments and needs. *Normative integration* is less tangible but represents an essential dimension to ensuring consistency between the levels of an integrated system. Normative integration builds upon shared values, culture, and goals, comprising social norms that guide behavior within a health system. While functional integration is necessary to ensure cost-efficiency and equality in healthcare delivery, normative integration is essential for the experiences of healthcare delivery; both are aimed toward improving population health (Valentijn et al., 2013).

The complex context of healthcare delivery is thus essential to understanding how principles of evidence-based and person-centered healthcare are utilized in practice. Formed by the opportunities and restrictions within the given context, the judgments made by HCPs are ultimately the key to how care is delivered to the individual. In the following section, I will elaborate on HCPs' judgment processes, with foundation in theory of clinical reasoning.

## 2.4. What constitutes *judgments*? – Theory of clinical reasoning

To make the required practical synthesis of different types of knowledge, HCPs are trained to make professional and contextually adapted judgments or *clinical reasoning*. Clinical reasoning is here understood as "*the thinking and decision-making processes associated with clinical practice; it is a critical capability in the health professions, central to the practice of professional autonomy that permeates clinical practice*" (Higgs & Jensen, 2019, p. 3). Therefore, clinical reasoning encompasses the thinking and decision-making processes involved in HCPs' judgments. The HCPs' capability of clinical reasoning allows them to make difficult decisions in situations involving complexity and uncertainty, which often occur in healthcare (Higgs & Jensen, 2019). As mentioned previously, HCPs build their judgments upon practical synthesis of knowledge from several different disciplines. In addition, the dimension of practice has a normative aspect, and the HCPs are expected to take moral, ethical, political, and juridical considerations into their judgments (Grimen, 2008). Furthermore, HCPs are expected to make judgments based on collaborative reasoning and decision-making with other HCPs, family members, and—last but not least—the participants themselves (Higgs & Jensen, 2019; World Health Organization, 2021a). Strategies for clinical reasoning thus enable HCPs to combine their comprehensive, multifaceted, and sometimes contradictory knowledge to make appropriate judgments for the individual in a specific situation.

Studies of HCPs' clinical reasoning within occupational therapy (Fleming, 1991; Mattingly, 1991), physical therapy (Edwards et al., 2004; Edwards et al., 2006; Jones et al., 2002), and nursing (Benner & Tanner, 1987; Tanner, 2006) have shown that HCPs use different clinical reasoning strategies that are interchangeably combined to meet different goals in their healthcare delivery. Therefore, different purposes such as assessing a person's needs, understanding a person's situation, values, experiences or coping resources, choosing an appropriate intervention strategy, predicting an outcome, developing a relationship, making adequate collaboration, or stimulating a

learning situation may require different clinical reasoning strategies (Edwards et al., 2004; Fleming, 1991; Tanner, 2006). While several clinical reasoning strategies have been described in the literature, two main groups of clinical reasoning strategies seem to be distinct across different healthcare professions, relating to either an hypothetico-deductive reasoning model or a narrative reasoning model. The hypothetico-deductive reasoning model involves "diagnostic reasoning" (Edwards et al., 2004), "procedural reasoning" (Fleming, 1991), and "analytical reasoning" (Tanner, 2006), in which the hypothesis of the person's diagnosis (or functional problems) and selection between different potential treatments are considered and tested for their validity and appropriateness. The hypothetico-deductive reasoning process is associated with quantitative and experimental knowledge, emphasizing accounts of objectivity, measurability, predictability, and generalizability (Edwards & Richardson, 2008). Furthermore, the learning and action strategies associated with the hypothetico-deductive reasoning strategy are characterized by being instrumental, with the purpose of determining the correctness of cause-effect relationships (Edwards et al., 2004). In contrast, the narrative reasoning strategy involves a comprehension of patients' stories, their beliefs, meaning perspectives, cultures, and contexts, and is characterized by being communicative and based on knowledge from an interpretative research paradigm (Edwards et al., 2004; Fleming, 1991; Schell & Schell, 2008; Tanner, 2006). The narrative reasoning process is associated with qualitative knowledge generation, involving interpretative knowledge that is context-dependent and socially constructed (Edwards & Richardson, 2008).

HCPs' clinical reasoning strategies are developed based on different ontological–epistemic assumptions and purposes (Edwards et al., 2004; Fleming, 1991; Tanner, 2006). However, HCPs cannot explicitly consider all aspects of their knowledge in every judgment they make, and much of their knowledge is tacitly incorporated into their clinical reasoning (Mattingly & Fleming, 2019). Clinical reasoning in expert HCPs has been found to substantially rely on tacit knowledge, involving shortcuts of reasoning

often expressed as intuition, pattern recognition, “gut feeling”, or “clinical grasp” (Benner & Tanner, 1987; Mattingly & Fleming, 2019; Tanner, 2006). Gabbay and le May (2004) found that, rather than being equivalent with particular theories, research evidence, or practice guidelines, expert HCPs develop “mindlines” of reasoning based on collectively reinforced, internalized, and tacit knowledge. HCPs’ clinical reasoning is thus formed through professional cultures and developed within the norms of professional practice. This way of managing large amounts of knowledge is a practical and effective way of informing HCPs’ judgments. However, such implicit and unquestioned knowledge may also pose a risk to the adequacy of professional practice by potentially involving mistaken assumptions, misinterpretations of evidence, or being unconsciously steered by norms and values (Kirkebøen, 2013). Furthermore, tacit or non-communicated knowledge and reasoning may challenge the accountability of professional judgments, the mutual understanding between different professions or professional cultures, and hinder the sharing of knowledge.

HCPs have the authority to make discretionary judgments based on their professional authorization, building upon a trust that they are capable and willing to solve their tasks in a justifiable and—preferably—the best possible way (Molander, 2013). However, the extent to which healthcare should be based on discretionary judgments has been debated. On one side, discretionary judgments are necessary to make judgments adapted to the particular context and situation and are thus essential for the political intentions of developing person-centered healthcare services (World Health Organization, 2015); on the other side, a high degree of discretionary judgment reduces the level of control of services and may be accompanied by inequalities in healthcare delivery and undesired judgments. Molander (2013) indicated that the discretionary judgments of professionals can be controlled in two main ways: structural and epistemic. Structural control refers to controlling the *space* in which discretionary judgments can take place. The introduction of procedures or standardized patient pathways are examples of control mechanisms that reduce the

extent of variability and thus reduce the space for discretionary judgments and HCPs' options. In addition, different contextual factors may influence the opportunities and space of discretionary judgments. In contrast, epistemic control has the aim of improving the quality of the clinical reasoning and judgments (Molander, 2013). Examples of epistemic influence are the knowledge inputs gained from healthcare education, reflections on and about practice, knowledge gained from experience, education beyond professional qualification, and acquisition of research-based knowledge.

In summary, understanding how evidence is integrated into healthcare practice requires a broad understanding of what constitutes evidence, how personal preferences are interpreted and integrated into decision-making, how context may influence EBHC, and how HCPs make professional judgments. This landscape constitutes the theoretical foundation of this thesis and leads into the next chapter, in which I elaborate on the methodology I used to gain an improved understanding of how PA is integrated into reablement and HCPs' judgment processes.

# 3. Methodology

In this chapter, the methodological approach of this thesis is described. First, I clarify foundational theoretical perspectives on science before describing the design of the thesis and the methods used in Studies I–III and the final synthesis. Finally, I highlight the ethical considerations made throughout the research process. The methodological approach is further discussed in Chapter 5.2.

## 3.1. Theory of science

The scientific position of this thesis is predominately argued from a pragmatist and critical realist position, which were useful to contribute complementary perspectives to position the research; the pragmatist perspective founded the overarching perspective on science in this thesis, while the critical realist perspective was used to clarify the ontological and epistemological perspectives of the research.

The practical motives of this research are in line with the core question in pragmatism: *"what are the practical consequences and useful applications of what we can learn about this issue or problem*?" (Patton, 2015, p. 152). Within this lies a search for practical understanding about concrete, real-world issues that can provide insights to inform actions (Patton, 2015). This thesis was developed based on a view that knowledge is complex, dynamic, and that the adequacy of the knowledge depends on specific situations and purposes. This aligns with a pragmatist perspective, which emphasizes that different scientific approaches are required for different purposes (Kivunja & Kuyini, 2017). As Maxwell (2011) suggested, philosophical and methodological positions constitute toolkits, rather than mutually exclusive paradigms. The pragmatist position is considered appropriate for embracing the different knowledge traditions informing HCPs' judgments and practice. Moreover, openness to methodological plurality has been central to the development of this research, in which the methodological approach was not pre-set from a specific scientific paradigm, but rather a pragmatist approach was taken, considering that methodological choices must

be adapted based on consideration of how they allow for the acquisition of useful knowledge (Kivunja & Kuyini, 2017).

The refusal to position this research within a specific knowledge paradigm is, however, not equivalent to denying the idea that particular knowledge traditions, preunderstandings, and worldviews lead to different beliefs and actions in research (Morgan, 2014). Such underlying assumptions often tacitly inform hypotheses and interpretations in research (Andersen et al., 2019), and recognition of the underlying assumptions that have guided the inquiries and interpretations in this thesis has developed throughout the research process. In the following section, the core aspects of the ontological and epistemological views underpinning this research are described, primarily inspired by the critical realist position outlined by Maxwell (2012).

Different scientific positions involve different ideas about reality (ontology) and how we can gain knowledge about it (epistemology) (Maxwell, 2013). The ontological and epistemological perspectives of this thesis are similar to those of a critical realist position, combining a realist ontology with a constructivist epistemology (Maxwell, 2012). The ontological focus primarily concerns HCPs' judgments related to promoting PA and the factors influencing their judgments and practice in the context of reablement. Central to the ontological focus of this research is a focus on understanding central aspects of HCPs' judgments in addition to gaining an understanding of *how* and *why* these vary. This core ambition is in line with the core focus of critical realism: to explore the *causal mechanisms that explain how and why reality unfolds as it does in a particular context (*Patton, 2015, p. 111*)*. Causal mechanisms in this sense do not only refer to regular and generalizable causal effects, but are considered to be contextual mechanisms that may or may not produce regularity (Maxwell, 2012). In other words, causal mechanisms are context-dependent and in a practice such as reablement, different causal mechanisms may influence practice in different situations and contexts. These causal mechanisms may vary from

situation to situation; however, they may appear in more or less regular patterns, with similar influences between different situations.

HCPs' understandings, beliefs, knowledge, values, and intentions are essential parts of the ontological reality in this thesis, and they play an important causal role in HCPs' judgments and practice. Rather than demonstrating general causal relationships, a core ambition from this perspective is to enter what Maxwell (2012) refers to as the "black box of variation theory"—to explain the variation rather than simply describing it. However, such phenomena are not observable and are only accessible through our interpretations of them; therefore, insights into these phenomena require interpretative claims (Maxwell, 2012). Aligning with Maxwell's epistemological stance, knowledge is here considered to be socially constructed with the attempt of gaining an understanding of the real world and the mechanisms occurring in it. Recognizing that all science is formed by specific perspectives (Andersen et al., 2019), knowledge is considered to always be partial, incomplete, fallible, constructed through our inquiries and experiences, based on our interpretations and theories, and influenced by our individual perspectives and worldviews (Maxwell, 2012).

## 3.2. Design of the study

This project has an overall qualitative and explorative research design. Designing qualitative research should be a reflexive process, involving iterative considerations of the cohesion between the goals of the research, the conceptual framework, the research questions, the methods, and the validity of the results and conclusions (Maxwell, 2013). Although the overall design of the project, including the planning of the three studies, were made in the initial phase of the project, this was followed by a reflexive process that was built upon what was learned during the process. Therefore, the findings of each study had implications on the methodological decisions and interpretations made in the following studies. In the following, I briefly describe the overall design and cohesion between the three studies, followed by a more detailed presentation of the design and methods of each study.

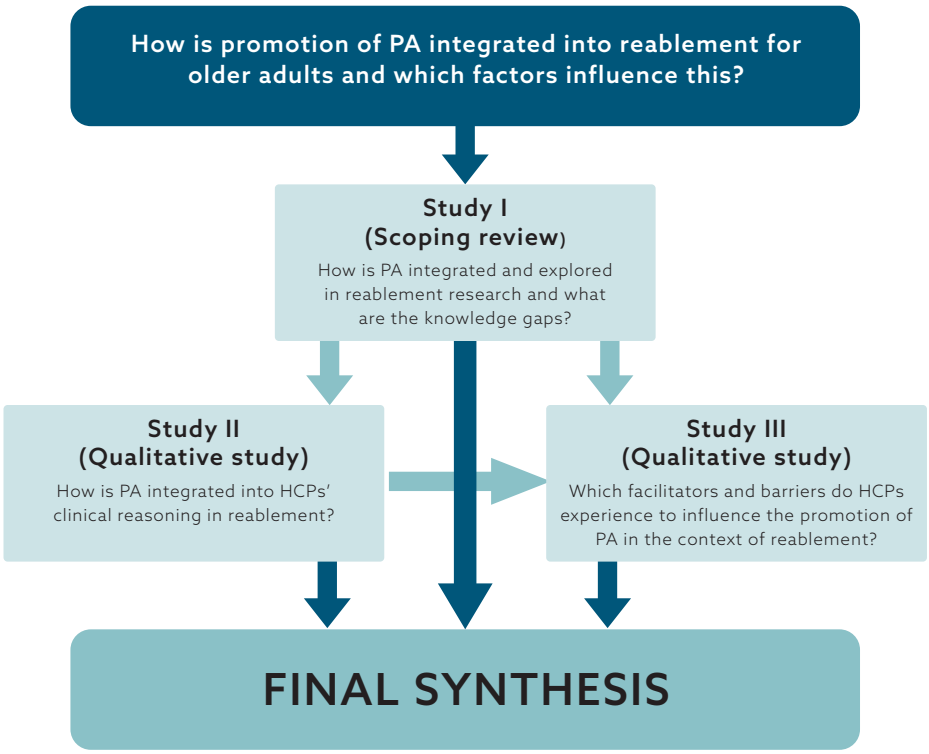


**Figure 1** Overall design and research questions of the thesis.
Abbreviations: physical activity (PA), healthcare personnel (HCP)

The overall design of the thesis is illustrated in Figure 1. In Study I, the objective was to explore the scientific field of reablement and identify how PA had been integrated and explored in the existing research. Based on the findings of this scoping review, knowledge gaps were identified and informed the development of subsequent studies. The knowledge gaps that were pursued in the subsequent studies were related to how the HCPs made judgments about PA in the context of reablement, as this was found to be essential to how PA was integrated into reablement and had not been explored in existing literature. The two following studies (Study II and III) were designed to explore how PA was integrated into HCPs' judgments and to identify facilitators and barriers to promoting PA that were experienced by HCPs in the context of reablement. The data for both studies were collected concurrently through individual interviews with HCPs.

Finally, the findings of all three studies were synthesized through an abductive process between the theoretical framework and the findings of the studies with the purpose of addressing the overall research question of the project. Table 1 presents an overview of each of the studies, outlining their respective objectives, the empirical data, and their method and analytical approach.

**Table 1** Overview of the studies of the thesis

| Study | Objective | Data/context/sample | Method/analysis approach |
|---|---|---|---|
| I | To map evidence of how PA has been integrated and explored in reablement research and to identify knowledge gaps | Original studies<br>International field of reablement | Systematic scoping review |
| II | To explore how PA is integrated in HCPs' clinical reasoning | 16 HCPs recruited from 4 Norwegian municipalities | Individual interviews<br>Content analysis |
| III | To identify facilitators and barriers experienced by HCPs that influence the promotion of PA in the context of reablement | | Individual interviews<br>Content analysis |

Abbreviations: physical activity (PA), healthcare personnel (HCP)

## 3.3. Method of Study I

To explore how PA had been integrated into reablement research, we used a systematic scoping review method following the recommendations of the JBI (Peters et al., 2015; Peters et al., 2020) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist for scoping reviews (Tricco et al., 2018). The scoping review method was chosen for its adequacy in mapping concepts underpinning a field of research, identifying types of available evidence in a given field, and identifying knowledge gaps (Peters et al., 2020). Therefore, we considered the scoping review approach beneficial for *exploring* PA as a concept in reablement research. The intention of the scoping review was to *map* the evidence and to identify knowledge gaps for further research.

Following the JBI guidelines, we developed and published a scoping review protocol prior to undertaking the research (Mjøsund et al., 2019). The purpose of developing the protocol was to justify the rationale of the scoping review, clarify the concepts and questions under investigation, clearly define the inclusion and exclusion criteria of the review, and clarify how the scoping review would be conducted.

The overall objective of the scoping review was to "identify and map existing evidence of how PA strategies are integrated and explored in studies of reablement for community-dwelling older adults and to identify knowledge gaps that are important for further research". Three specific scoping questions were developed to address this objective and to clarify what type of evidence would be sought:

1) To what extent have PA strategies been used in reablement for older adults and what are the reported characteristics of these strategies?
2) What evidence regarding experiences (of older adults, HCPs, and family members) and barriers related to PA facilitation in a reablement setting can be identified?
3) What is the scope of the assessment methods used in reablement that can inform about older adults' (changes in) PA behavior and physical fitness?

The eligibility criteria for the studies that were to be included were determined through the scoping review protocol and involved delimitations following the PCC mnemonic (Population, Concept and Context). Details of the eligibility criteria can be found in the article; they included studies with different designs that concerned reablement (the concept) and targeted older adults >65 years old (the population) within a homecare service context (the context). We used a comprehensive, three-step search strategy, as recommended by the JBI (Peters et al., 2020), in which we initially searched for relevant search terms, then utilized a systematic search strategy adapted for PubMed, Cochrane central register of controlled trials, Embase, PsycINFO, AMED, PEDro, and CINAHL. In addition, we searched the references and citations of the

included studies. The screening and selection of studies were performed independently by two reviewers (HLM and CFM) according to the eligibility criteria and were discussed with a third reviewer (LU or EB) if an agreement could not be reached. Data from each of the included studies were extracted (independently by HLM and CFM) according to pre-defined data extraction forms. Finally, the data were mapped to describe the findings and identify knowledge gaps to be addressed in future research.

## 3.4. Method for Studies II and III

A qualitative design was developed to explore the second and third research questions. The overall purpose of the design was to gain an understanding of how HCPs made judgments regarding promoting PA in reablement (Study II) and how different factors influenced these judgments (Study III). Qualitative interviews were considered appropriate for data collection as they seek to understand experiences from the interviewee's perspective and are suitable for exploring different aspects of the human experience. These interviews are appropriate when the aim of the research is to gain an understanding of how something is experienced and how something is being done (Kvale & Brinkmann, 2015). Through the design of the study, we aimed to identify common patterns in addition to diversities related to the study objectives. The data for the two research questions were collected concurrently and are thus largely described together.

*Sampling strategy and recruitment*

We used a purposive sampling strategy based on the principles of variation sampling, with the intention of obtaining variation in small samples based on pre-defined selection criteria, as described by Patton (2015). This sampling strategy is considered useful for learning about central themes that cut across existing variation and for capturing diverging perspectives related to the phenomena being explored (Patton, 2015). Based on these principles, we included HCPs with different professional backgrounds who were involved in the delivery of reablement. To achieve diversity at

the municipal level, we recruited HCPs from municipalities that differed from each other regarding size and the way in which reablement was organized.

To recruit HCPs, we chose four municipalities based on knowledge about their reablement organization obtained from their web page or through other information sources. We initially contacted the reablement leaders and encouraged them to suggest potential HCPs with diverse professional backgrounds who had at least 1 year of experience with reablement and who they considered to be reflective of their practice. We included 16 HCPs with diverse professional backgrounds (4 OTs, 4 PTs, 2 RNs, 4 homecare assistants, and 2 with other professional backgrounds) in the study. The HCPs were recruited from Norwegian municipalities ranging in population from ~4,000 to 200,000 people and with reablement organized into specialized teams (n=2) or integrated into existing homecare services (n=2). The appropriate sample size was determined with the intention of achieving a balance between ensuring that the data did not become too extensive for in-depth analysis but remained sufficiently saturated to address the objectives of each study. As emphasized in literature on qualitative methodology (Braun & Clarke, 2021; Kvale, 1996), the sample size was determined based on the comprehensiveness and saturation of the meaning obtained from the interviews, rather than the number of informants.

*Data collection for the qualitative studies*

The data were collected through individual face-to-face interviews with HCPs, as this method was considered to be appropriate for learning about the HCPs' individual reasoning and experiences. I was the interviewer in all the interviews and had no prior relationship with the HCPs. Prior to the interviews, a semi-structured interview guide (see Appendix 4) was developed, inspired by Kvale and Brinkmann (2015). The intention of the semi-structured interview guide was to ensure that the same basic lines of enquiry were addressed in all interviews while remaining free to build a conversation about the topics and to ask probing and clarifying questions that were suited to the situation. To enhance the appropriateness of the interview guide, it was

discussed with HCPs working with reablement who did not participate in the study. The interview guide consisted of two main parts. In the first part, the goal was to gain knowledge about the reablement context and the HCP's general considerations and experiences regarding reablement. In the second part, the goal was to gain specific knowledge about the HCPs' considerations and experiences regarding PA in reablement in addition to factors that they believed influenced PA promotion in the context of reablement. The intention of the questions was to facilitate narrative descriptions and reflections regarding individual cases in addition to general reflections about their practice. After each interview, I carefully noted my first impressions and experiences.

*Data analysis of the qualitative studies*

The interviews were transcribed verbatim and consisted of approximately 300 pages of transcriptions. For both of the qualitative studies, we used an inductive qualitative content analysis approach inspired by Erlingsson and Brysiewicz (2017) to interpret the meaning of the data. Content analysis is considered appropriate for exploring complex phenomena (Erlingsson & Brysiewicz, 2017) and for identifying and exploring the core meanings of patterns and themes (Patton, 2015). The term "pattern" refers here to a descriptive finding (Patton, 2015), while a "theme" takes an abstract form, interpreting the meaning of the pattern (Erlingsson & Brysiewicz, 2017). The transcripts were initially read several times, and ideas, reflections, and potential patterns were noted accordingly. A thorough and systematic process was then performed to identify meaningful units of text in the data, organize these units into condensed text, codes, and categories, and interpret the meaning of the text (subthemes and themes) through a reflexive process according to the objectives of each study. Table 2 shows an example from Study II of the coherence between meaning units, codes, categories, subthemes, and themes.

**Table 2** Examples from the coding tree in Study II

| Meaning unit | Code | Category | Subtheme | Theme |
|---|---|---|---|---|
| My experience is that when you have some exercises that you are going to do with them, then it is important that…you need to understand why you are doing this. […] You need to give an explanation…what happens with your body when you do this and this, and why is this important. | Understanding benefits of PA | Increasing motivation for PA | Increasing physical capacity | Improving the person's ability to participate in meaningful activities |

Abbreviation: physical activity (PA)

Although we used a content-analysis approach for both Studies II and III, the reflexive processes for interpreting the meaning of the analysis varied between the studies. In Study II, in which the intention was to explore how PA was integrated into the HCPs' clinical reasoning, the initial organization of meaning units, codes, and categories clarified the main content of the findings. However, this content was found to contain diverging perspectives and patterns. To further explore these patterns, the transcripts in their entirety were re-visited to further explore, question, and confirm the clinical reasoning patterns of each HCP. In Study III, the initial organization of meaning units, codes, and categories demonstrated a high degree of complexity of the factors that the HCPs reported influenced the promotion of PA in reablement. To systematically present these factors, we were inspired by the integrated care mechanisms framework described by Valentijn et al. (2013) to organize the findings into factors related to the participant, professional, organization, and system levels.

The interpretational phases of reflexive content analysis are essential (Erlingsson & Brysiewicz, 2017; Lindgren et al., 2020). To strengthen the validity and transparency of the interpretations in terms of how they reflected the HCPs' clinical reasoning and experiences, the hermeneutical principles outlined by Kvale and Brinkmann (2015) were used to guide and critically question the interpretational phases of the analysis. Central to these principles is that no understanding is built upon no preunderstandings,

and that the researchers' preunderstandings are important to facilitate new understandings (Kvale & Brinkmann, 2015). An essential part of the analysis was therefore to clarify my own preunderstandings, opinions, assumptions, and personal beliefs to avoid having them *unconsciously* steer the analysis process and to enhance awareness of how they facilitated, formed, and potentially misled interpretations of the analysis. The interpretations were developed through a continuous iterative process, moving between parts of the data and the whole body data, described as the "hermeneutical spiral" (Erlingsson & Brysiewicz, 2017; Kvale & Brinkmann, 2015). According to hermeneutical principles, the interpretations were further questioned in terms of the cohesion between part interpretations and the overall interpretations, seeking an internal cohesion with no logical contradictions (Kvale & Brinkmann, 2015).

## 3.5. Method for the final synthesis

The intention of the final synthesis was to summarize the findings of the three studies and to clarify how PA was integrated into reablement and explain how this is influenced by different factors. An abductive approach, inspired by Alvesson and Sköldberg (2017), was used to facilitate the synthesis. Abductive analysis is advantageous in exploring and explaining underlying patterns in qualitative research and in obtaining a deeper understanding of a phenomenon (Alvesson & Sköldberg, 2017). The analysis was developed through a reflexive process involving an interpretative dialogue between theory and the empirical material from Studies I–III. As described by Alvesson and Sköldberg (2017), this abductive process does not involve a mechanical application of theory to describe the empirical data; rather, theory is used as a source of inspiration to discover patterns that enhance understanding, in which both empirical data and previous theory are both successively reinterpreted in light of each other. The hermeneutical principles described in the previous section (Kvale & Brinkmann, 2015) were essential to this phase, and the analysis was built upon continuous questioning of the cohesion between the empirical material and theories that could contribute to explaining the empirical data. Through this process, the components of EBHC—

involving HCPs' judgments based on a synthesis of evidence, client preferences, and context—captured the main essence of the HCPs' judgments regarding PA. However, the framework of EBHC was not found to be sufficient for explaining the diversity found within each of these components, and other theoretical sources were utilized to gain a deeper understanding of these diversities, as described in the theoretical framework in Chapter 2. Enhancing an internal cohesion with no logical contradictions (Kvale & Brinkmann, 2015) was essential in guiding the analysis, paying ultimate attention to the degree to which the theoretical contribution that was reached in the synthesis captured both the general commonalities and the diversities of the empirical data.

## 3.6. Ethical considerations

This research was developed in accordance with juridical and ethical principles and research norms (Reseach Ethics Act, 2017; World medical association, 2013). The interviews involved personal information about the HCPs and were therefore reported to the Norwegian Center for Research Data (NSD) prior to data collection (Ref. no. 405436). The study was not within the scope of approval for the Regional Ethics Committee (REK). Ethical considerations should be made through all phases of research (Kvale & Brinkmann, 2015); in the following section, I elaborate on ethical considerations regarding informed consent, confidentiality, the role of the researcher, and moral responsibilities when reporting research.

*Recruitment and informed consent*

When recruiting participants for the interviews, I first contacted the leaders of reablement in the municipalities and encouraged them to suggest potential HCPs who I could contact. I did this to identify potential HCPs and to ensure that my request was accepted by reablement or healthcare leaders. However, by initially approaching the leaders of the HCPs, I risked placing unintended pressure on the HCPs to accept participation in the project. Therefore, when approaching the HCPs, I emphasized to inform them that their participation in the project was voluntary. Prior to participating in the interviews, all the HCPs were provided with information about the project both

orally and in written form (see Appendix 2 – participant information and consent form), and they signed an informed consent form. They were informed about their rights when participating in the interviews and were given contact information if they had any further questions.

*Confidentiality*

Every precaution should be taken to protect the privacy and confidentiality of research subjects (World medical association, 2013). The participants were informed that we would publish articles based on the interviews without presenting any person-identifiable information. As reablement often involves only a few HCPs in each municipality, particular attention was paid to avoid presenting information that would identify the municipalities, such as exact number of citizens in each municipality. Furthermore, I avoided presenting an overview of which HCPs belonged to each municipality, as this introduced a risk of recognizing the HCPs and linking them to the quotations presented in the article. For the same reason, I chose to describe the professions of two of the HCPs as "other", as their specific educational background was less common in reablement, and they therefore risked being identified.

To ensure the HCPs' confidentiality, it was essential that person-identifiable information was kept confidential. We followed guidelines from the NSD (see Appendix 2 – Application for NSD) and stored the sound recordings from the interviews in an encoded location. Contact information (name, e-mail, workplace, and participant number) of the HCPs were similarly stored in an encoded location, separate from the data. When transcribing the interviews, information that could be identifiable for the municipality or interviewee (e.g., geographical information, specific information about the municipality) was anonymized. All personal information that could link the HCPs to the data was deleted after the project ended.

*The role of the researcher and moral responsibility*

The role of the researcher is decisive for the quality of the scientific knowledge and the ethical decisions made in the research (Kvale & Brinkmann, 2015). My role as a researcher is essential to how the data is collected, interpreted, and presented, particularly in the qualitative study, but also in the scoping review. In the interview setting, I focused on creating a respectful, open, and trusting atmosphere to encourage the HCPs to be open about sharing their reflections. Nonetheless, I had to consider that the interview setting was an asymmetrical power relationship in which the researcher defined the topics, questions, and direction of the interview (Kvale & Brinkmann, 2015). I attempted to focus on asking questions in an unprejudiced manner and to be confirmative and open to the HCPs' attitudes, opinions, and experiences. Throughout the research process, I had to take into consideration how my role as an interviewer and my preunderstandings, values, and attitudes could potentially have influenced the participants' stories. Furthermore, I remained aware of the moral responsibility that accompanied this facilitation of the participants' sharing of experiences and not to misuse this trust to depict a potential degrading or devaluing presentation of the data. Therefore, during the analysis and interpretation, I was attentive to how my own preunderstandings, questions, and appearance in the interviews influenced the conversations, and I focused on searching for the HCPs' intended meanings rather than my own interpretation of their meanings. In the scoping review, we collected and interpreted information based on published studies. During this process, we took into consideration how the aim of our study could have potentially conflicted with or misrepresent the theoretical perspectives or methods used in the included studies. Moreover, we focused on balancing a respectful but clear and concise reporting of our findings.

# 4. Results

## 4.1. Results of Study I

Through a systematic scoping review, the objective of Study I was to identify and map existing evidence of how PA strategies are integrated and explored in studies of reablement for community-dwelling older adults and to identify knowledge gaps that were important for further research (Mjøsund et al., 2019; Mjøsund et al., 2020). We identified 51 articles that met the eligibility criteria of the study and served as the overall material for the scoping review (15 intervention studies, 4 studies with mixed design/other, 4 studies based on quantitative research, and 27 qualitative studies, of which 18 focused on HCPs' perspectives, 7 on older adults' perspectives, and 2 on family members' perspectives).

We found that, with a few exceptions, the term PA was rarely mentioned or explored as a theme in reablement research. Exercise interventions were reported in 10 of the 15 intervention studies, though there was generally little information about the content of these exercises or how they were targeted to the participants' individual needs. Both standardized and individualized approaches to exercise were reported. Practice of daily activities were involved in most intervention studies, though the degree of which this involved PA was unexplored. Although both exercises and practice of daily activities were commonly included in reablement, there was no evidence on how such activities influenced participants' PA levels and insufficient evidence on any influence on the participants' physical capacity. HCPs', older adults', or their relatives' experiences with PA in reablement were not systematically explored, although several studies touched on themes related to PA.

We identified several knowledge gaps related to PA in reablement and made suggestions for future research. We pursued the knowledge gaps in the two subsequent studies, exploring how HCPs made judgments regarding PA in reablement and how the reablement context may have influenced these judgments.

## 4.2. Results of Study II

Through a qualitative explorative research design, the objective of Study II was to "explore how PA is integrated into HCPs' clinical reasoning in a Norwegian reablement setting" (Mjøsund et al., 2021). Through interviews with the HCPs, we discovered that an overall theme of "improving the person's ability to participate in meaningful activities" was a shared focus of the HCPs' clinical reasoning and was guided by the participants' individual goals. In addition to this overall theme, we identified two subthemes with a primary focus on either i) increasing physical capacity or ii) improving activity performance. Each of these subthemes involved different focuses in clinical reasoning and diverse perspectives on how to integrate PA into reablement. There was consensus among the HCPs that PA involved all types of bodily movement and that participation in daily activities was a specific focus in reablement.

Within the first subtheme, the HCPs considered PA to be an essential part of reablement due to the participants' need to increase their physical capacity. The clinical reasoning related to this subtheme had a primary focus on i) ensuring appropriate and sufficient PA to improve and maintain physical capacity, ii) increasing motivation for PA, and iii) ensuring the feasibility of PA. Within the second subtheme, PA was not considered by the HCPs to be a central focus in reablement, but rather a positive consequence of participating in meaningful activities. Within this subtheme, the HCPs' clinical reasoning was primarily focused on i) ensuring the meaningfulness of activities, ii) improving activity skills and techniques, and iii) improving self-efficacy.

The findings of this study suggested that HCPs developed their clinical reasoning based on different knowledge and perspectives, leading to diverse priorities regarding how to integrate PA into reablement.

## 4.3. Results of Study III

Through a qualitative explorative research design, the objective of Study III was to *identify facilitators and barriers experienced by HCPs that influence the promotion of*

*PA in the context of reablement* (Mjøsund et al., 2022). The study revealed that the HCPs considered the most important facilitators and barriers to be at the level of the participant (micro level). The participants' goals and motivations for reaching their goals were considered crucial, in addition to factors concerning the participants' motivation for PA, activity habits, social and physical environment, health, and functional status.

The study further revealed that several facilitators and barriers at a professional and organizational level (meso level) influenced how HCPs promoted PA. At a professional level, the strategies used for promoting PA, the interdisciplinary collaboration and reablement philosophy among the HCPs, and the homecare staffs' competencies and motivations for reablement were considered essential to how the HCPs promoted PA. Moreover, factors at an organizational level were considered essential to how the HCPs' professional practice was conducted, although these were often factors that the HCPs could not easily interfere with. These factors included staff resources, hereunder competencies involved in reablement, time available and their ability to be continuously involved in reablement. Furthermore, the collaboration structure, including the possibility of interdisciplinary formal or informal meetings, and the strategy by which appropriate participants were recruited to reablement were considered important factors at the organizational level.

Finally, factors at a system (macro) level were important to how the HCPs believed they could promote integrated and sustainable support for PA among the participants. At the system level, the integration of a shared enabling philosophy in the municipality—particularly in the homecare services—was considered essential to maintaining continued focus and awareness of PA and activity after reablement. Furthermore, the availability and variability of PA and activity support in the municipality was considered important to maintaining PA in a meaningful way in continuation of reablement.

This study showed how a complex interrelationship between factors on participant, professional, organizational, and system levels influenced HCPs' ability to promote PA through reablement. Moreover, it showed that there were substantial variations between municipalities on all levels, leading to different priorities and practices surrounding PA promotion.

## 4.4. Synthesis of findings

The overall objective of this thesis was to explore how evidence of PA is integrated into reablement and its influencing factors. To explain *how* PA is integrated into reablement, I first focus on what type of PA strategies are used in reablement, what their characteristics are, and how they vary. Then, I present a synthesis of the factors that were found to influence how PA is integrated into reablement. The three studies (I–III) approached this topic from different angles: they investigated how PA was integrated and explored in the research field of reablement (Mjøsund et al., 2020), how PA was integrated into HCPs' clinical reasoning and judgments (Mjøsund et al., 2021), and the facilitators and barriers for promoting PA that were experienced by HCPs in the context of reablement (Mjøsund et al., 2022). The following synthesis of the findings aims to clarify and summarize how the findings contributed to addressing the overall objective of the thesis. The results obtained through this synthesis are further elaborated on and discussed in the Discussion section. Figure 2 presents the main components of the synthesis and how they are related to each of the studies (I–III).

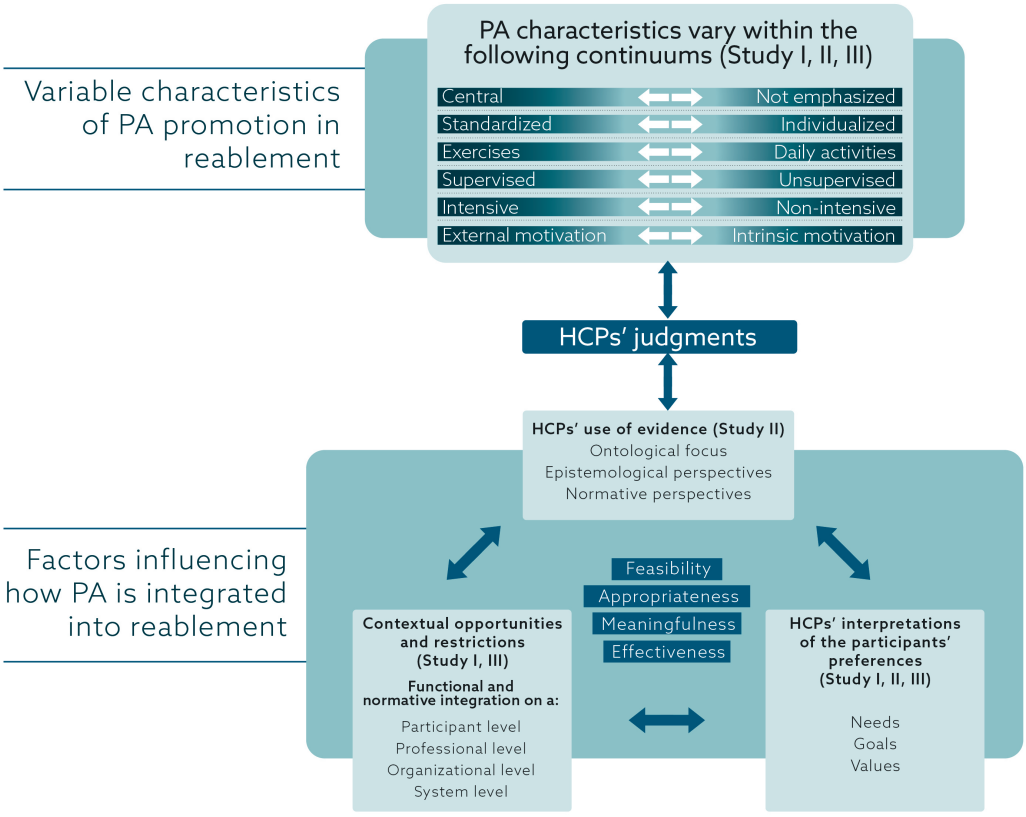


**Figure 2** Variations of PA strategies in reablement and their influencing factors.
The figure illustrates the variable characteristics of PA in reablement (top) and the factors influencing how HCPs integrate PA into their judgments (bottom).
Abbreviations: physical activity (PA), healthcare personnel (HCP)

The first part of the overall objective was to explore how PA was integrated into reablement (illustrated in the top box of Figure 2). All three studies demonstrated that there was substantial variation in how PA is integrated into reablement. To capture the variation and dynamics of the PA strategies, they are described through six different continuums, of which the strategies utilized may favor either side of each continuum or involve a combination of them. Within these continuums, the strategies to promote PA through reablement were: 1) central or not emphasized in reablement, 2) based on standardized or individualized approaches, 3) built upon exercise programs or daily activities, 4) supervised (by HCPs) or unsupervised ("self" exercises), 5) intensive

(targeted to individual capacity/progression) or non-intensive (not targeted to individual capacity/progression), and 6) employing external or intrinsic motivation strategies.

The second part of the overall objective was to explain which factors influenced how PA was integrated into reablement (illustrated in the lower box of Figure 2). Although the HCPs emphasized targeting the participants' individual preferences, we found that the practices and perspectives on PA varied between reablement settings, involving different priorities regarding whether or how PA should be integrated into reablement (Studies II–III). Through the abductive analysis, the factors influencing HCPs' judgments were summarized into three main areas, inspired by the concept of EBHC (Pearson et al., 2005): i) the HCPs' use of evidence, ii) the HCPs' interpretation of the participants' preferences, and iii) contextual opportunities and restrictions. They were further seen to incorporate all of the questions suggested in the "pebble of knowledge" of EBHC, including feasibility, appropriateness, meaningfulness, and effectiveness (Jordan et al., 2019; Pearson et al., 2005), although they involved different perspectives and considerations to these questions.

First, the HCPs' use of evidence in their judgments regarding PA varied. The two themes identified in Study II, namely "increasing physical capacity" and "improving activity performance" showed that the HCPs had different perspectives on PA in reablement. In the following, I refer to these themes as the "physical-capacity mindline" and the "activity mindline", referencing Gabbay and le May's (2004) concept of clinical mindlines representing collectively reinforced, internalized, and tacit guidelines informing HCPs' judgments. To further elucidate the core components of these mindlines, I referenced Andersen et al.'s (2019) concept of "philosophical biases" being the core ontological, epistemological, and normative assumptions directing our perspectives on science and evidence. The mindlines were found to involve different ontological focuses, with a prior emphasis on either increasing physical capacity or facilitating meaningful activity experiences. The HCPs further built upon different

epistemological perspectives; within the physical-capacity mindline, the HCPs relied on general evidence of the effect of PA for improving physical capacity, in addition to unique evidence to adapt their approaches to the participants' preferences. In the activity mindline, the HCPs placed most of their emphasis on unique evidence informing them about the individuals' experiences and activity performance. Moreover, the HCPs' ontological–epistemological perspectives involved different normative perspectives that influenced how they valued PA as a part of reablement.

Second, HCPs highly emphasized that reablement should align with the participants' preferences (Studies I–III). The HCPs in Studies II and III emphasized that their relationship or therapeutic alliance with the participant was essential for building trust, confidence, and motivation to participate in activities. However, their perspectives on how PA was valued by the participants varied. To facilitate an understanding of how HCPs' interpretations of the participants' preferences regarding PA varied, I used the concept of preferences being an interrelationship between a person's needs, goals, and values (Van Haitsma et al., 2020). Despite building upon a shared initial assessment and goal-setting process, the HCPs prioritized different aspects of the participants' needs, had different opinions on how the participants' goals should be approached, and different approaches to whether or how the participants' values and motivations regarding PA should be influenced.

Third, several factors related to the context of reablement influenced the HCPs' abilities to satisfy the principles of evidence-based and person-centered practice. The integrated care mechanism framework by Valentijn et al. (2013) was used to enhance an understanding of how the complex relationship between functional and normative factors at the participant, professional, organizational, and system levels influenced the opportunities and restrictions to how PA was promoted in reablement. These factors influenced how HCPs could reach out to participants who could benefit from PA promotion, how they integrated PA into reablement to meet the goals, needs, and

values of the participants, and how they were able to facilitate sustainable PA habits among the participants.

This section has provided a synthesis of how PA is integrated into reablement by identifying the range of variation in PA approaches in addition to providing a systematized conceptualization of the factors that influence how PA is integrated into reablement. In the following chapter, I will further elaborate on the findings of this synthesis and discuss them in terms of the theoretical framework and existing research.

# 5. Discussion

In this chapter, the findings of the thesis are discussed in terms of the theoretical framework and previous research. Furthermore, I discuss how the methodology may have influenced the validity of the findings and the conclusions drawn from the project.

## 5.1. Discussion of results

The findings demonstrated that the integration of PA into reablement was variable, depended on the HCPs' multifaceted judgments, and was influenced by the HCPs' use of evidence; it was influenced by their interpretations of the participants' preferences and functional and normative factors in the reablement context. In this discussion, the intention is to go deeper, beyond the HCPs' judgments regarding PA, and discuss the structures and patterns that seem to—more or less consciously—direct their judgments. To do so, I will first focus on the two mindlines that were identified: the physical-capacity mindline and the activity mindline. By referring to these as delimited mindlines, my intention is not to render a reductionist or generalized picture of the complex, multifactorial, interdisciplinary, dynamic, and context-specific judgments of the HCPs; rather, this delimitation serves to identify and discuss contrasts in the HCPs' judgment patterns. These contrasts are important to consider to understand differences in the HCPs' judgments and practices. First, I will discuss how the mindlines are guided by different types of evidence. Then, I will discuss how the mindlines influence how the HCPs interpret the participants' preferences regarding PA in reablement. Finally, I will discuss how the context of reablement influences the HCPs' abilities to confirm with their evidence-based and person-centered principles related to PA.

### 5.1.1. Healthcare personnels' use of evidence related to physical activity

The findings of this thesis clearly demonstrate that HCPs use many different sources of evidence to guide their judgments regarding PA in reablement, and that the weighing of different types of evidence is guided by what they believe is required to meet the

individual's goals. To further discuss how different types of evidence are prioritized and how they inform HCPs' judgments regarding PA, I will discuss how the physical-capacity mindline and activity mindline build upon different ontological, epistemological, and normative perspectives and influence how PA is integrated into reablement. The main contrasts between the mindlines are illustrated in Table 3.

**Table 3** Core contrasts between the physical-capacity and activity mindlines

| Mindline | Ontology | Epistemology | Norms | Practice | Shared focus |
|---|---|---|---|---|---|
| ***Physical-capacity mindline*** | Physical capacity<br><br>Causal effects | - General evidence and unique evidence<br>- Hypothetic–deductive reasoning | Effectiveness is valued for achieving meaningfulness | Focus on PA/ exercises that improve physical capacity | Achieving the participants' goals |
| ***Activity mindline*** | Meaningful experiences through activities | -Unique evidence<br>-Narrative/ interpretational reasoning | Meaningfulness is valued for achieving effectiveness | Focus on practicing activities | |

*Ontological perspectives*

The primary ontological focuses of the two mindlines were substantially different. In the physical-capacity mindline, the HCPs considered the participants' physical capacity, such as bodily strength, balance, mobility, and endurance, to be the central cause of their functional problems and thus a central focus of reablement. Their interventional approaches were focused on activities they considered to have the best *causal effect* on increasing physical capacity, in which PA had a central role, taking into consideration the participants' motivations, interests, and opportunities. In contrast, in the activity mindline, the HCPs primarily focused on the participants' *meaningful experiences* in relation to their goal activities. Here, the HCPs focused on improving the participants' experiences and success when performing their goal-oriented activities in addition to feelings of meaningfulness and self-efficacy related to their valued activities. If regarded through the biopsychosocial ICF model (World Health Organization, 2002), each of the mindlines involves a primary focus on different domains of the model: while the physical-capacity mindline predominately focuses on the "body functions

and structures" domain, the activity mindline primarily focuses on the "participation" domain of the model. Both mindlines focus on how the activities lead to achievement of the participants' goals, and they both pay attention to how personal factors, environmental factors, and health conditions influence the participants' function, as highlighted in the ICF model.

It is essential to draw attention to the differences in the nature of physical capacity and meaningful activity experiences and the way in which these phenomena are thought to be causally influenced. First, physical capacity is a characteristic that is generally associated with the natural sciences or biomedical science (Anjum, 2020). A persons' physical capacity is dependent on the anatomical structures and physiological processes of the body; the way in which these structures and physiological processes are influenced by different stimuli is known to produce certain levels of regularity. For example, PA influences all peoples' physical capacity to some degree (e.g., everyone's muscle mass will decrease if they are immobile, regardless of our world perspectives, values, or knowledge). Therefore, the ontology of the physical-capacity mindline involves expectations of general causal mechanisms, or what Maxwell (2012) referred to as causality that produces regularity. Another important aspect of physical capacity is that changes typically occur over time. For example, clinically meaningful changes in muscle mass following strengthening exercises do not appear immediately, but rather after several weeks. This is essential to the HCPs' clinical reasoning regarding PA because it requires that the HCPs base their actions on predictions of what those actions may lead to, rather than immediate feedback to inform about their effects. However, as was evident through the physical-capacity mindline, in contrast to the general causality associated with physical capacity, the causal factors influencing peoples' PA *behavior*, were considered to be much more complex. PA behavior involves factors such as motivation and the physical and social environment, which were not considered to produce the same degree of regular causality, but rather build upon causality that is specific to the individual's situation. As such, the physical-

capacity mindline involves a primary ontological focus on physical capacity, being a factor that produces regularity; however, it is influenced by a range of causal factors that do not necessarily produce regularity and thus need to be explored and identified in individual situations.

In the activity mindline, *meaningful activity performance* was the primary ontological focus. The values that a person places on an activity and their personal experience of performing that activity were considered central. Peoples' experiences of meaningful activities are—in contrast to physical capacity—phenomena that are unique to the individual, connected to specific situations, contexts, and environments, and are experienced in the context of the individual's world perspectives and previous experiences (Schell & Schell, 2008). The activity mindline focused on how people performed relevant and valued activities in interaction with their environment. This ontological understanding of activity performance is similar to the one outlined by Townsend and Polatajko (2007) and focuses on the relationship between a person's activity performance, the task of the activity, and the environment in which the activity is performed. The experience of meaningfulness is thus inherent to the person and develops from an interaction between the person and their environment. The participants' experiences of activities can be considered fluctuating phenomena that unfold differently in different times and places and in interaction with others. As such, the participants' meaningful experiences of activities are not phenomena that are associated with what Maxwell (2012) referred to as causality that produces regularity; rather, the participants' meaningful experiences are influenced by what Anjum (2020) referred to as particular or unique causal mechanisms. Moreover, the experiences and the meaning-formation of those experiences are developed by the person in the specific situation and may be immediately influenced through HCP's interference, unlike the potential influence on physical capacity that does not manifest until weeks later.

*Epistemological perspectives*

Epistemologically, the two mindlines are primarily anchored in different knowledge paradigms and build upon different strategies for clinical reasoning. The clinical reasoning pattern within the physical-capacity mindline shares similarities with what has been described as the hypothetico-deductive clinical reasoning pattern (Edwards & Richardson, 2008; Fleming, 1991; Tanner, 2006). The central purpose in hypothetico-deductive reasoning is to learn about cause-effect relationships and search for causal mechanisms that influence a person's situation/condition or ability to improve (Edwards et al., 2004). The hypothetico-deductive reasoning pattern is associated with a biomedical understanding of health, relying primarily on objective, measurable, predictable, and generalizable knowledge about general causal mechanisms (Edwards & Richardson, 2008). Although this perspective on objective and generalizable causal knowledge is often considered essential in EBP approaches focusing on the effectiveness of interventions (Higgins et al., 2019), it has been criticized for being reductionistic and ignoring individual variations and participants' narratives and perspectives (Anjum, 2020). However, within the physical-capacity mindline, HCPs not only emphasize knowledge about *generalizable* causal mechanisms between PA and physical capacity, but they also emphasize gaining knowledge about unique causal mechanisms influencing the participants' *PA behaviors*, such as motivation, interests, values, and previous PA experiences (Mjøsund et al., 2021; Mjøsund et al., 2022). Therefore, the physical-capacity mindline coincides with the focus on causal mechanisms, as described in the hypothetico-deductive clinical reasoning pattern; however, the mindline does not restrict the ontological view to exclusively biomedical factors or general causal mechanisms, but instead involves a range of factors within a biopsychosocial and context-dependent perspective. Within the physical-capacity mindline, research-based evidence about effective PA strategies was emphasized. The HCPs' arguments were based on research-based evidence when they justified why they used standardized exercise programs or why they emphasized PA in reablement, referring to the evidence of general causal effects in older people. However, the HCPs

considered it essential to adapt such programs to the preferences of the participant, and they emphasized the importance of measuring developments in the participants' physical capacity and function to confirm whether their approaches were effective for the individual participant.

The activity mindline is predominately built upon what is described as an interpretive knowledge paradigm (Edwards et al., 2004; Mattingly, 1991; Tanner, 2006). Within this mindline, the HCPs focused mainly on understanding the unique lived experiences of the participants and how they created meaning in everyday life through activities they valued. In order to learn about the participants' lived experiences, the HCPs utilized a reasoning strategy similar to what has been characterized as narrative reasoning (Chapparo & Ranka, 2019; Edwards et al., 2004). The HCPs attempted to construct an understanding of the meaning of the participant's situation based on their individual stories and experiences and by observing how the participants engaged in meaningful activities. Similar to what Schell and Schell (2008) described, this approach builds upon an understanding that we largely identify ourselves by what we do, and the observations and narratives about what a person does evoke the unique personal capacities and identity of the participant. Narratives are subjective and unique by nature and are created through an interpretive process within the individual when creating these narratives and an interpretative process when attempting to understand their narratives (Schell & Schell, 2008). Rather than building their knowledge on decontextualized elements or general rules/principles (as was seen in the physical-capacity mindline, by involving external evidence of effectiveness and general causal factors), HCPs constructed an understanding of meaning based on their perceptions of the person-specific and contextual situation, as described by Chapparo and Ranka (2019).

Within the activity mindline, the HCPs did not refer to research-based evidence; rather, they referred to different tools and techniques that they used to learn about the participants' situations and narratives, such as different interviewing tools or

observational methods. Schell and Schell (2008) suggested that therapy experiences (from an occupational therapy point of view) are remembered by therapists as total contextual patterns of what is possible, rather than decontextualized elements or general rules. Based on their understanding of the participants' lifeworld, the HCPs considered how they should interact with their lifeworld to help them produce positive experiences in which they master their everyday life and find it meaningful. The HCPs accomplished this within the activity mindline by engaging in goal-oriented activities with the participant and helped them consider how they could conquer challenges as they emerged or helped them to think differently about their experiences. This is considered a communicative type of learning/action in which the evidence (or knowledge) used by the HCPs develops as a mutual learning process between the HCP and the participant, as described by Edwards et al. (2004).

Summarized, the physical-capacity mindline and the activity mindline build upon different ontological and epistemological perspectives. This further involve different normative perspectives on what type of knowledge is valuable in reablement and what reablement "should be".

*Normative perspectives*

The HCPs in Studies II and III often referred to what reablement "should be", reflecting that they had a conceptualization of more or less correct ways of practicing reablement. This involved statements such as "reablement should be intensive", "reablement should be about practicing daily activities", and "reablement should involve homecare assistants". Such statements related to a *normative* understanding of what reablement should be. Norms of practice refer to "*a common frame of reference (i.e., shared mission, vision, values and culture) between organizations, professional groups and individuals"* (Valentijn et al., 2013, p. 8). This search for a normative agreement of what reablement should be is also seen in the research field of reablement and is clearly exemplified through the study by Metzelthin et al. (2020) that aimed to find international consensus among reablement experts about the

concept of reablement. However, both their findings and the findings of this thesis showed that there were diverging norms about how reablement should be practiced. Metzelthin et al. (2020) reported that approximately half of the reablement experts agreed that recommendations for PA or exercises should be a part of reablement. Similarly, the findings of Study II showed that the HCPs had diverging normative perspectives on how PA should be integrated into reablement. Different ontological and epistemological perspectives are reflected in the norms of how we think science ought to be practiced (Andersen et al., 2019; Anjum, 2020). The differences between the two mindlines may explain some of these normative differences and further highlight that HCPs have different norms regarding what type of evidence should be valued to inform reablement practice.

A central normative difference between the two mindlines was related to how the HCPs valued *effectiveness* and *meaningfulness* of the reablement activities. While both effectiveness and meaningfulness were valued in both mindlines, they were integrated in different logics. In the physical-capacity mindline, meaningfulness of reablement was assumed to be reached through the effects of the interventions. Therefore, if reablement was effective for achieving the participants' goals, it was assumed to be experienced as meaningful. In contrast, in the activity mindline, effectiveness was assumed to be achieved through meaningful experiences of goal-oriented activities. Therefore, reablement was considered effective if it led to meaningful activity experiences (as will be mentioned when discussing the HCPs' interpretations of the participants' preferences—both assumptions may or may not meet the values and expectations of the participants). Questions regarding effectiveness and meaningfulness constitute two of the central components of the pebble of knowledge in the EBHC model and should both be emphasized in healthcare delivery (Jordan et al., 2019; Pearson et al., 2005). However, the findings of this thesis suggest that HCPs employed different strategies to achieve meaningfulness and effectiveness and that

normative perspectives may be central to how questions of effectiveness and meaningfulness are raised and informed in practice.

Norms of professional practice develop within particular cultures, such as the culture within a profession or the culture in a particular workplace, community, or healthcare system (Gabbay & le May, 2004; Higgs, 2019). The physical-capacity mindline and the activity mindline share similarities with the knowledge fields of physical therapy and occupational therapy, respectively. Similar to the physical-capacity mindline, physical therapy places a core emphasis on developing, maintaining, and restoring maximum movement and functional ability according to a person's goals (Norwegian Physical Therapist Association, 2012; World Confederation for Physical Therapy, 2019). The main field of knowledge within physical therapy relates to body, movement, and function, recognizing the need to consider a range of bio-psycho-socio-cultural factors that influence health and disability (Norwegian Physical Therapist Association, 2012). In contrast, the activity mindline shares similarities with the norms of occupational therapy, in which the core emphasis is placed on promoting meaningful activity and participation, focusing on activity performance, adaptation of activities, and development of an inclusive environment (Norwegian Occupational Association, 2017; Townsend & Polatajko, 2007). Occupational therapy is typically based on observation of how people perform relevant and valued activities in interaction with their environment (Chapparo & Ranka, 2019). The ontological, epistemological, and normative aspects of the mindlines share similarities with these professional fields. However, there was no clear relationship between the HCPs' professional backgrounds and their normative perspectives on how PA should be integrated into reablement. Instead, the findings suggested that there were different (normative) emphases between reablement settings regarding the focus on PA and performance of daily activities. This is in line with the findings of Eliassen and Lahelle (2020), who reported that Norwegian reablement teams emphasized either exercise-based training, activity-based training, or a combination of both. These findings of Studies II and III suggested

that the HCPs' shared norms of reablement had developed and were negotiated within each of the teams/working cultures, leading to different normative perceptions of what reablement should be. Such a development is in line with the findings of Gabbay and le May (2004), who described how mindlines were developed through collaborative and shared reasoning. However, if these normative assumptions remain tacit, they may complicate interdisciplinary collaboration and hinder or mislead the HCPs' ability to appropriately meet the participants' preferences.

### 5.1.2. Interpretations of participants' preferences regarding physical activity

The findings of Studies I–III revealed that HCPs emphasized that their judgments should be person-centered and that they focused on meeting the participants' individual preferences. However, Study II indicated that the HCPs interpreted the participants' preferences differently. McCormack et al. (2015) similarly indicated that person-centeredness is understood and utilized differently in different healthcare settings, and that HCPs' relationships and values are important to consider when reflecting on the adequacy of person-centered practice. In the following section, I will discuss how the HCPs approached principles of person-centered practice through their interpretations of the participants' goals, needs, and values in relation to PA.

*Focusing on the participants' goals*

Studies I–III demonstrated an emphasis on working toward *goals* set by the participants as a kay aspect of reablement, and the participants' goals were considered crucial to how HCPs emphasized PA in reablement. The degree to which the goals accurately represent the participants' preferences must thus be considered. Several goal-setting tools, such as the Canadian Occupational Performance Measure (COPM) (Tuntland, Aaslund, et al., 2016) and the Towards Achieving Realistic Goal in Elders Tool (TARGET) (Parsons et al., 2012) have been proposed to support the goal-setting process in reablement, and the use of goal-facilitation tools has been associated with improvements in participants' health-related quality of life (Parsons et al., 2012). However, it has been highlighted that reablement may fail to meet the actual goals of

participants, especially goals related to outdoor mobility (Wilde & Glendinning, 2012) and social participation (Pettersson et al., 2021; Wilde & Glendinning, 2012). The HCPs in Studies II and III described how they used goal-setting tools to guide the reablement process and to ensure that reablement was targeted toward what was meaningful to the participants. However, the ways in which the HCPs used the goals to guide their reablement strategies varied between the physical-capacity mindline and the activity mindline. In the activity mindline, the goals directly informed which activities were to be practiced in reablement. In contrast, in the physical-capacity mindline, the goals were central to informing the reablement approach and ensuring that the participants were motivated to engage in reablement; however, different activities were considered according to their anticipated effect on reaching the goals.

Study III revealed that the HCPs generally found it important that the goals were concretized as specific activities, believing that a specific, meaningful activity goal facilitated the participants' engagement in reablement. However, some of the HCPs found it difficult to support the participants in setting specific goals and reported that some participants did not find the goal-setting process meaningful. Based on their study of older adults' experiences, Jokstad et al. (2020) suggested that the interpretation of participant involvement as being equal to participant-set goals in reablement may be over-emphasized. They found that older adults spoke of their futures in terms of dreams, hopes, yearning, or desires rather than specific goals, and suggested that goals may be a more important tool for HCPs than for participants. The degree to which the participants' goals relate to their dreams may therefore be essential to how the participants value the goal-setting process. Moe et al. (2017) highlighted how HCPs' communication skills were essential in the goal-setting process, and they found that the goals set in reablement varied between being ascribed by the staff, self-set, or mapped after negotiation between the participant and staff. Some of the HCPs in our study viewed the goal-setting process to be a continuous process and believed that the participants sometimes needed time to form a belief that it was

possible to change their situation. They reported that participants became more eager to set goals when they started to see progress and were encouraged and supported by the HCPs. This observation is in line with the person-centered principles outlined by McCormack et al. (2015), who emphasized that building a relationship with the participant is essential and should support values of respect, autonomy, empowerment, and understanding. Therefore, while initial goals may be important to some participants, others may benefit more from gradually developing goals through communication with their HCPs, supporting their respect, autonomy, empowerment, and mutual understanding. This also suggests that HCPs should be careful with how the participants' goals defined in the beginning of reablement inform the decision of whether PA is integrated as a part of reablement.

*Focusing on the participants' needs*

The findings of Studies I–III demonstrated that assessments of the participants' individual *needs* are central to how PA is integrated into reablement. "Knowing the person" was considered key to success with reablement; the HCPs described how they used different methods to broadly assess the participants' needs, including standardized methods for assessing the participants' physical function, observation of activities, and interviewing techniques to assess the person's perspectives, values, motivation, desires, environmental factors, and daily life habits. Their assessments of the participants' needs thus involved a biopsychosocial perspective on needs, which is considered an important foundation of preference-based care (Van Haitsma et al., 2020) and functioning (World Health Organization, 2002). However, the two mindlines identified in Study II suggested that HCPs made different judgments regarding which needs should be emphasized and different judgments regarding what was required to meet those needs; through the physical-capacity mindline, the HCPs were reluctant to emphasize the participants' need to improve their physical capacity, while in the activity mindline, the HCPs were reluctant to emphasize the participants' need to practicing the goal-activity.

Another important aspect to elucidate is the congruence between the HCPs' understanding of the participants' needs and the participants' own understanding of their needs. Both when reasoning from the physical-capacity mindline and the activity mindline, the HCPs described how some participants were skeptical of how their needs were met through reablement (Mjøsund et al., 2021); some participants were skeptical of engaging in exercises because they did not believe that the exercises would meet their particular needs, and other participants were skeptical of spending time on practicing an activity when all they needed was to become stronger and more fit. Having a tacit or implicit focus on specific aspects of functioning may risk neglecting other important needs of the participants; moreover, it may prevent a shared understanding of the participant's needs. McCormack et al. (2015) emphasize that being clear about one's own values is critical for the HCPs' ability to meet the participants' individual needs and to appropriately involve them in shared decision-making. The broad biopsychosocial assessment strategies used in reablement may facilitate a holistic understanding of the participants' needs; however, the values influencing the *priorities* of those needs must be considered.

*Understanding the participants' values*

The HCPs emphasized that reablement should be targeted to the individual participant's interests and motivations, focusing on activities that the participants found meaningful in their daily lives. These aspects relate to the participants' *values,* which are considered crucial to meeting the participants' preferences (Van Haitsma et al., 2020). However, our findings suggested that the HCPs interpreted and acted upon the participants' values regarding PA differently. This difference may be explained by the different perspectives in the two mindlines of how PA is meaningful for the participants. Within the physical-capacity mindline, the participants' experience of meaningfulness of PA was assumed to be reached through the *effect* that the PA had on their goal achievement. The HCPs here focused on adapting PA to the participants' values and *intervening* in the participants' values regarding PA. They emphasized the

importance of making the participants understand the importance of PA to reaching their goals, increasing the participants' motivation for PA, and as such influence how they found PA to be valuable. In contrast, in the activity mindline, the HCPs focused primarily on the value that the participants attributed in performing their goal activities. Therefore, they did not focus specifically on influencing the participants' values regarding PA, but rather facilitated that the activities the participants engaged in were of value to them. This distinction raises an important normative question concerning the integration of PA into reablement: to what degree should the HCPs attempt to meet the participants' pre-existing values and to what degree should they attempt to intervene in them? Furthermore, to what degree are they *able* to intervene in the participants' values regarding PA? Older adults' preferences regarding PA vary and may be differently influenced by HCPs; some older adults are seen to appreciate a "push" and value physical strengthening through reablement (Hjelle et al., 2017; Magne & Vik, 2020; Moe & Brinchmann, 2016), while others are less motivated and may not find PA motivating or meaningful (Hjelle et al., 2017). The HCPs' ability to dynamically and purposefully integrate different approaches to PA may be essential to meeting the participants' preferences.

A core concern of the HCPs in our study was their ability to facilitate activity beyond the reablement period. Some of the HCPs described how some participants changed their perspectives on the values of PA during reablement and how their increased physical capacity enabled them to perform activities they had previously avoided. The ability to identify and adapt to a person's *changes* of preference has been emphasized by HCPs, highlighting that participants' preferences may change over time (Abbott et al., 2016). Van Haitsma et al. (2020) identified how a person's values may fluctuate based on their particular circumstances, but also that they are built upon fundamental and stable value systems. The findings of Study III suggested that the HCPs found it challenging to facilitate the participants' understanding of the importance of PA in improving and maintaining their function. Furthermore, they reported that the

participants often found the recommended exercises boring and meaningless, and substantial motivational skills were required to motivate the participants to engage in such activities. This may indicate a mismatch between the HCPs' and the participants' value systems. Similarly, from the activity mindline, the HCPs reported that they sometimes had to put effort into convincing the participants of the value of practicing the activities they found challenging, rather than performing exercises, as the participants may have expected when starting reablement. HCPs' awareness of their own beliefs and values in addition to the emphasis on working with the persons' beliefs and values are essential to enhancing person-centered care (McCormack et al., 2015). Further exploration of both HCPs' and participants' value systems regarding PA, in addition to their interactions, may thus be required to facilitate meaningful and effective promotion of PA in the long term.

### 5.1.3. Opportunities and limitations in the *context* of reablement

The previous discussion elucidated how different ontological, epistemological, and normative perspectives among the HCPs and different interpretations of the participants' preferences influenced the HCPs' judgments regarding how they integrated PA into reablement. Study III further described how a number of contextual factors on the participant, professional, organizational, and system levels influence how PA was integrated into reablement. Differences in the reablement context may influence what Molander (2013) refers to as the *space* of discretionary judgments, influencing how judgments are made in reablement. In the following section, I employ the integrated care mechanisms framework by Valentijn et al. (2013) to discuss how a *normative* and *functional* integration across different levels is required to promote PA in an integrated and sustainable way.

*Normative integration of PA in the reablement context*

The findings of Study III demonstrated that normative perspectives from participant, professional, and community/system levels influenced how HCPs promoted PA in reablement. Based on the EBHC pebble of knowledge (Jordan et al., 2019), such

normative factors can relate to how the *appropriateness* of PA is considered. The normative perspectives of the HCPs in studies II and III involved perspectives on the values of PA but were also built upon normative perspectives regarding how peoples' resources and limitations should be met in older age. The WHO highlight that ageism is a widespread global phenomenon in institutions, laws, and policies and how it risks denying people the ability to reach their full potential (World Health Organization, 2021b). Recognizing that ageism is largely unrecognized and unchallenged, they call for attention to how we think, feel, and act toward ageing to avoid prejudices and stereotypical views leading to discrimination and restricted opportunities based on a person's age. The HCPs in Studies II and III described how such ageist perspectives could represent a barrier to promoting activity in the older adults, their social networks, or from HCPs. Therefore, the HCPs found it essential to help the participants see their own potential and opportunities, to guide family members supporting the participants to be active, and to influence the healthcare philosophy among other HCPs. The integration of an enabling philosophy, particularly in homecare services, was considered by the HCPs as essential to how they were able to reach out to potential reablement participants and how the participants were supported to continue being active and to maintain function after reablement. Although the Norwegian healthcare policy emphasizes the importance of integrating such an enabling philosophy into healthcare (Meld. St. 15, 2017-2018), the experiences of the HCPs suggested that the integration of this shared philosophy was challenging and remained largely unrealized.

The appropriateness of the normative philosophies underpinning reablement has been debated. In their grounded theory study, Moe and Brinchmann (2016) found that the theory of "optimizing capacity" was a shared philosophy underpinning reablement and was grounded in the social and cultural lives of the participants. Thuesen et al. (2021) further challenged the adequacy of how reablement is seemingly built upon theories of successful aging and discussed how different medical, epidemiological, psychological, and sociocultural perspectives may lead to different approaches to

successful aging through reablement. They called for a stronger emphasis to be placed on sociocultural values and a need to help older adults balance between optimizing their capacity and accepting losses while aging. Supporting the existence of different underlying perspectives on what reablement should be, Bødker (2018) found that HCPs working with reablement drew on a balance between two co-existing logics of care, including a logic building upon ideals of successful aging and life-long development and a logic of retirement, allowing people to retreat from activities they no longer found enjoyable. Such different theoretical underpinnings lead to different normative perspectives on what constitutes "good care" and "bad care" (Bødker et al., 2019). Bødker et al. (2019) found that HCPs valuing development and training were seen as "good carers", while HCPs valuing "caring genes", with focus on providing help and care, were devaluated as "bad carers" who had an unprofessional and almost naïve approach to caring. The normative perspectives influencing reablement and the context in which reablement is implemented thus seem to differ; they build upon diverse theoretical foundations and discourses that may have a crucial impact on how PA is promoted through reablement.

The normative perspectives underpinning reablement must be considered based on different purposes, hereunder to meet the preferences of older adults and ensuring that the available healthcare resources are utilized and distributed in an equal and sustainable way. To enable an appropriate integration of normative perspectives regarding PA in reablement, a *functional integration* through the micro, meso, and macro levels is required, which will be discussed further in the next section.

*Functional integration of PA in the reablement context*

In addition to normative factors, Study III identified a number of factors relating to functional integration of PA across the participant, professional, organizational, and system levels. Functional integration refers to how mechanisms, such as available financial and human resources, sharing of information and knowledge, or strategic planning, are linked across different levels of healthcare to contribute the greatest

value to the system (Valentijn et al., 2013). These factors influenced how participants were recruited to reablement, how the principles and approaches emphasized by the HCPs were realized in the specific reablement situation, and how the HCPs were able to realize continued activity support after reablement. Based on the EBHC pebble of knowledge, such questions relate to the *feasibility* of particular practices (Jordan et al., 2019).

Previous research has suggested that different organizational models may have different impacts on reablement delivery (Beresford et al., 2019; Langeland, 2016). However, the findings of Study III demonstrated that, within each of these organizational models, several different factors influenced the delivery of reablement in different directions. Recruitment strategies were one of the factors found to be essential to how HCPs promoted PA through reablement. While the need to clearly identify the adequate target group of reablement has been emphasized (Cochrane et al., 2016; Legg et al., 2016; Metzelthin et al., 2020; Stausholm et al., 2021), the processes by which potential reablement candidates are approached has received less attention in research. The findings of Study III suggested that recruitment strategies are a critical aspect of reablement and have a considerable influence on the characteristics of the people receiving reablement, including different needs and motivations regarding PA.

Reablement participants' diagnoses, functional levels, and motivations for reablement are significant predictors of outcomes following reablement (Tuntland, Kjeken, et al., 2016) However, it is emphasized that reablement should be an inclusive approach, irrespective of a person's age, capacity, diagnosis, or context (Aspinal et al., 2016; Metzelthin et al., 2020). The HCPs in our study reported that HCPs who were not familiar with reablement or did not value an enabling philosophy may not sufficiently focus on identifying early signs of functional decline, reduced activity, or rehabilitation needs among older people. Furthermore, they raised questions regarding the degree to which HCPs without reablement training were able to adequately pass on the

philosophy of reablement and to explain it to potential reablement candidates in a meaningful and motivating way. The HCPs questioned whether this could be a barrier to reaching out to potential participants. Having reablement integrated into homecare services was therefore considered to facilitate how potential participants could be approached in an effective way. Stausholm et al. (2021) described how all citizens applying for practical assistance, personal care, aid, food service, or cleaning in a Danish municipality were screened for rehabilitation potential and adequacy of receiving reablement to regain independence. This approach may ensure identification of potential participants; however, it may also be restrictive to how participants' preferences are met in reablement and may cause conflicting expectations between reablement participants, HCPs, and governance (Stausholm et al., 2021). Study III demonstrated that recruitment processes for reablement varied substantially; they involved different inclusion or exclusion criteria, different degrees of discretionary judgment by the HCPs, and different approaches to who could apply for reablement (i.e., anyone, the homecare staff, or the older person themself). Therefore, recruitment may be influenced at all levels of the integrated care framework, requiring integrated collaboration to target reablement and the promotion of PA adequately to meet the needs of the population, both in the short and long term.

Similar to the findings of Eliassen et al. (2018c), we found that the collaboration and knowledge exchange between therapists and homecare staff varied considerably between municipalities. The competencies of the homecare staff in our studies were essential to how different PA approaches were emphasized in reablement, and some of the therapists indicated that they would have promoted PA differently if they were to follow up with the participants themselves. The HCPs in our study further described how the relevant knowledge was transferred through reablement plans, interdisciplinary meetings, and continuous documentation, but that these practices were substantially influenced by how reablement was organized in their municipalities. Some of the homecare staff called for more in-depth knowledge sharing, emphasizing

their need to understand the therapist's reasoning or competencies regarding how exercises were performed and adapted appropriately, or how they could motivate participants with different personalities. This observation suggests that the homecare staff experience a need for sharing knowledge beyond what can be explained in text. Eliassen et al. (2018b) found that frequent meetings between HCPs were essential to enabling learning through reflection and to support adequate supervision practices in reablement teams. The necessity of establishing formal and informal interdisciplinary meeting points has also been emphasized by HCPs in other studies (Birkeland et al., 2017; Gustafsson et al., 2019; Hjelle et al., 2016; Moe & Brataas, 2016). However, while previous reablement research has highlighted the importance of transferring knowledge and mindsets from HCPs to homecare assistants (Bødker et al., 2019; Eliassen et al., 2018b; Hjelle et al., 2018), we also found that HCPs highly valued the homecare assistants' competencies, including their knowledge of the participants' lives, interests, habits, and relationships as being important to reablement. In line with our finding, Moe and Brataas (2016) reported that a respectful collaboration, acknowledging all of the HCPs' competencies, was essential in reablement.

Some of the HCPs in study III reported that the organization of reablement restricted them from being able to follow up on the participants in a continuous way. A high turnover of staff in homecare services and the challenging logistics of shift schedules made it difficult to ensure that the homecare staff involved had the required competencies, knowledge about the participant, and that they were able to continuously follow up the participant during reablement. Furthermore, although the HCPs emphasized the importance of building a trusting relationship with the participants, some of the HCPs described how the organizational structure made it a challenge to follow up on the same participant over time. This may compromise the HCP's ability to follow principles of person-centered practice, for which building a relationship is considered essential (McCormack et al., 2015). The lack of motivation of some of the homecare staff, which was found to be a barrier to promoting PA in Study

III, could potentially be caused by a lack of opportunity to utilize their professional knowledge and to build upon their own professional values. Moreover, the time and resources available for reablement varied considerably between municipalities, which is likely has an impact when combining different professional approaches in reablement, meeting the participants' preferences, and providing an adequate intensity of PA. If reablement is organized in a way that enables different perspectives to be combined and negotiated in a dynamic, reflective, and feasible way, it may serve as an innovative context in which different principles of evidence-based, person-centered, and integrated care can support older people to become more physically active and improve and maintain their function and well-being.

## 5.2. Methodological discussion

In this section, I will discuss how different aspects of the research methodology may have influenced the validity of the findings. The term *validity* is here understood as an overall concept relating to the relationship between the interpretations and conclusions made and the phenomena that the interpretations and conclusions are intended to be an account of (Maxwell, 2012). Enhancing the validity of qualitative research requires transparency regarding how the conclusions are reached to allow for evaluation of how the interpretations and conclusions reached through the research can be mistaken or incorrect (Maxwell, 2013) or how the methodological approach may have skewed the interpretation of the phenomena (Kvale & Brinkmann, 2015). First, I will discuss aspects of the overall design and theoretical perspectives that guided this thesis. Then, I will discuss the methodological approaches in the scoping review and the interview study individually before discussing how the findings may have a transferrable value beyond this setting.

### 5.2.1. Overall design and theoretical perspectives

The overall design of this project was qualitative and explorative, building upon a pragmatic and critical realist perspective. The research design was developed through a reflexive process through which the theoretical perspectives, methodological

approaches, and analytical and interpretational work were formed, aligning with the iterative principles of developing qualitative designs, as described by Maxwell (2013). My scientific experiences prior to this project were primarily based on quantitative research, and I had little knowledge about the theory of science involved in a qualitative research tradition. Therefore, a significant challenge during this research was to understand the logic involved in qualitative research and to clarify and justify the underlying perspectives that guided my thinking.

Throughout the project, there was a development from considering the project as mainly having a descriptive character toward positioning the research within an interpretational knowledge position. As such, the development of the scoping review in the early phase of the project was built upon a descriptive approach, employing values of objectivity, measurability, predictability, and generalizability (Edwards & Richardson, 2008). At this point, my underlying assumptions were that evidence of the general effects of PA in reablement and peoples' experiences of PA were the core questions that needed to be explored. However, during the research process, it was revealed that the integration of PA in reablement was complex, intrinsically incorporated, variable, and context-dependent, and a different research perspective was required to understand how different mechanisms influenced the integration of PA. During the qualitative studies, and particularly in the final synthesis of this thesis, the methodological choices I made were increasingly argued from an interpretational research perspective, in which the aim is to seek insight and understanding into context-dependent and socially constructed phenomena (Edwards et al., 2006). The underlying purpose of the research thus evolved from a primary focus on *describing how* PA is integrated in reablement to *explaining why* it is integrated in different ways. However, this development toward a more interpretational and explanatory research paradigm occurred after I had conducted Study I and after I had collected data for Studies II and III. As such, the way in which the data were collected may have

introduced limitations to the degree to which the data could be used to support the interpretative claims in a valid way (this point will be further discussed later).

Promotion of PA is the core focus of this project. The decision on focusing on PA developed from my professional knowledge, perspectives, and values. My professional experiences have been shaped by specific ontological, epistemological, and normative worldviews, which may have skewed the research in a certain direction (Andersen et al., 2019). Molander and Smeby (2013) highlight that there is a risk of epistemological drifting when there is proximity between studies of professions and members of the professions. This risk of epidemiological drift was important to consider in this project as I explored a theme that I considered important to my own professional perspective and brought it into an interdisciplinary field that may build upon understandings and values of PA that were different than mine.

The professional perspective I brought to the research enabled and facilitated a focus and sensitivity toward certain aspects regarding PA but may have also limited my ability to recognize aspects from other professional perspectives. An important threat to the validity of qualitative conclusions is the researcher's selection of data that fits with their prior preunderstandings (Maxwell, 2013). As such, my professional perspectives may constitute what Andersen et al. (2019) refers to as a "philosophical bias" with the risk of leading the interpretations in the direction of my own understanding rather than the HCPs' perspectives and experiences. However, every understanding develops from a prior understanding, and the researcher's prior knowledge and perspectives are necessary to facilitate new insights into a phenomenon (Kvale & Brinkmann, 2015). Using one's previous knowledge and intuition is essential in qualitative research, however, being attentive to data that feels unusual or is different from what one knows (i.e., atypical or odd) is important to facilitating new and valuable insights (Erlingsson & Brysiewicz, 2017). However, this demands reflexivity and transparency toward how my own preunderstandings may have influenced and potentially misled the interpretations, which is a difficult task to balance (Erlingsson & Brysiewicz, 2017). My

realization that the perspectives and judgments regarding PA in the reablement field varied emerged through the initial scoping review. Through the interviews, I became aware of disagreements and inconsistencies in the understanding of PA, which I had difficulty understanding, and which became a core focus of the subsequent analysis. In this process, I had to pay close attention to how my interpretations were truly supported by the data, which required a high degree of reflexivity.

Reflexivity is essential to enhancing validity in interpretational qualitative research and should be an essential part of all stages of research (Kvale & Brinkmann, 2015; Lindgren et al., 2020; Maxwell, 2013). During the analysis of Studies II, III, and the final synthesis, I used hermeneutical principles outlined by Kvale and Brinkmann (2015) to enhance the validity of the interpretations I made. This involved continuously questioning the interpretations I made and challenging them by asking how they could potentially be understood differently or by searching for potential discrepancies in the data that could disconfirm my interpretations. Essential to the reflexive processes is making one's preunderstandings clear (Erlingsson & Brysiewicz, 2017; Kvale & Brinkmann, 2015); this was a continuous process throughout this project, through which I continued to become more aware of underlying aspects of my preunderstandings. I learned that there were several aspects of my own preunderstandings that tacitly influenced my perspectives and that were slightly different than those of other professionals and researchers with whom I discussed such themes. This familiarization with my own preunderstandings also helped me become aware of how underlying aspects of the HCPs' perspectives could influence their perspectives and judgments.

Essential to this thesis is the claim that differing mindlines influenced the participants' judgments regarding PA and that they were influenced by the HCPs' ontological-epistemological-normative perspectives, the HCPs' interpretations of the participants' preferences and contextual factors. The identification and description of these mindlines was a challenging and balancing task in which I had to carefully move between my preunderstandings and new interpretations, continuously questioning the

validity of my interpretations according to the data. I used my own recognition and agreement with some perspectives and disagreement with other perspectives as an approach to identifying and understanding this diversity. This facilitated a sensitivity toward contrasts that I do not believe could have been reached without actively using my preunderstandings to explore the data. However, I had to pay careful attention to not develop interpretations of the mindlines according to my own perspectives rather than the HCPs' perspectives. As all qualitative research is colored by the researcher's perspective (Kvale & Brinkmann, 2015), it is essential to make the interpretational processes as transparent as possible to enable the reader to make judgments about the adequacy and validity of the conclusions (Elo et al., 2014). My own professional perspectives aligned most with what I have referred to as the physical-capacity mindline; I had to be attentive to this and open my mind to grasp the logical underpinnings of the contrasting perspectives in addition to refining the content of both the mindlines and the contextual factors influencing these mindlines. Engagement with different types of literature and numerous discussions with colleagues with different professional backgrounds were crucial to the process of opening my mind to recognizing and understanding how different perspectives could influence judgments regarding PA. Through the final abductive synthesis and results discussion of this thesis, I provide additional support for the validity of the mindlines by discussing them in terms of pre-existing theories and research.

### 5.2.2. Method in Study I (scoping review)

The scoping review method was chosen for its adequacy for mapping concepts underpinning a field of research, identifying types of available evidence in a given field, and identifying knowledge gaps (Peters et al., 2020). The findings of the scoping review constituted a foundation for the following studies and served as an important source of knowledge that was used to critically question the interpretations that were made throughout the project, including the final abductive synthesis. Furthermore, the international perspective of the scoping review provided examples of how reablement,

and the integration of PA, was provided differently between different reablement contexts on an international level.

By developing and publishing a protocol a priori (Mjøsund et al., 2019), we sought to justify the rationale of the scoping review, clarify the concepts and questions under investigation, clearly define the inclusion and exclusion criteria of the review, and clarify how the scoping review would be conducted. The protocol was published in a scientific journal, and the peer review in this process contributed to improving the quality of the protocol. The development of a scoping review protocol is considered crucial to enhancing the validity of the findings (Peters et al., 2020). However, despite recognizing the necessity of explicitly clarifying these criteria, these decisions involved dilemmas and choices that were difficult to make prior to knowing the full extent and content of the available research.

Our delimitation of reablement and inclusion and exclusion criteria were based on an existing definition of reablement (Cochrane et al., 2016). However, the characteristics of reablement have been debated and the international consensus on how reablement should be defined has developed (Metzelthin et al., 2020). Due to the overall aim and motives of this research project, we chose to include reablement studies that exclusively targeted older adults (>65 years of age) in addition to studies focusing on HCPs or older adults' family members. Although many reablement studies have reported that older adults are the main recipients of reablement, there is a consensus that reablement should include people of all ages (Metzelthin et al., 2020). By adding an age criterion in the eligibility criteria of the scoping review, we may have neglected studies that could have broadened the evidence of the concept of reablement. Furthermore, because reablement is a relatively new concept, we chose to include studies that used other terms as long as they met the criteria we used to describe reablement. However, considering this retrospectively, this openness introduced unnecessary challenges when selecting studies, and the research may have benefited from being limited to studies that positioned themselves within the field of

reablement, as the overlap of similar approaches was vague. The definition of reablement that we used also required other characteristics of reablement to be present, such as being interdisciplinary, time-limited, and targeted to goals set by the participants (Mjøsund et al., 2019). This led to the exclusion of several studies that positioned themselves within the field of reablement, however did not meeting our inclusion criteria of reablement.

A central consideration when developing the search strategy was whether we should only include studies that explicitly informed about PA in reablement. As it was of interest to explore the degree to which PA was integrated into reablement, we chose to include studies, irrespective of their focus on PA, to enable a more open exploration within the field. As such, the focus of the search strategy was reablement rather than PA. This turned out to be a useful strategy to better understand the perspectives and mechanisms that may influence the integration of PA in reablement and was useful in the following development of the project. We used a comprehensive search strategy that was carefully developed in accordance with the JBI guidelines (Peters et al., 2015; Peters et al., 2020). The comprehensiveness of the 3-step search strategy added to the credibility of the study by making it more probable that we identified all studies that met our inclusion criteria. However, the searches were performed using only English search terms, and therefore we did not reach out to studies written in other languages. Although a more targeted search for Norwegian studies could have been beneficial to inform the following studies of this thesis, searches in languages we were familiar with would have skewed the findings from an international perspective.

To enhance consistency and rigor when selecting eligible studies and extracting evidence from those studies, two reviewers conducted these processes independently, based on pre-piloted data extraction forms, as recommended in the scoping review methodology (Peters et al., 2015). Data mapping and summarization were conducted by only one reviewer, and the decisions regarding how to collate and present the findings may have been unconsciously influenced by my preunderstandings and values.

To extract the available information related to PA, we selected information that we considered to be related to PA; however, this information was drawn from the original focus of that study. In this process, we had to reflect on how the aim of our study could have potentially conflicted with or misrepresented the theoretical perspectives or methods used in the included studies. It is important to note that the reporting of scoping reviews should lead to a descriptive presentation of findings, rather than a synthesis of findings, due to the fact that quality assessments of the included studies are typically not made in scoping reviews (Khalil et al., 2021). Specifically regarding the qualitative studies, it is important to consider that the mapping of findings is not a synthesis of evidence, but rather a descriptive mapping of possible issues related to PA. To enhance the transparency and validity of the reporting of the scoping review, we used the PRISMA extension for scoping reviews (PRISMA-Scr) (Tricco et al., 2018). This checklist provided both guidance toward what was necessary to reflect upon when designing the study and guidance toward what information was important to report in the study to enhance its methodological rigor and transparency.

### 5.2.3. Method in Studies II and III (qualitative interviews)

The methods of Studies II and III are discussed simultaneously as they build upon the same data collection and analysis methods; differences between the two studies are highlighted where relevant. I focus on discussing the study design, sampling strategy and recruitment, data collection, data analysis, and reporting of the research.

*Study design*

Designing the research and selecting the most appropriate approach to data collection to answer the research question(s) is essential to ensuring the credibility of the research (Elo et al., 2014). Individual interviews with HCPs were considered suitable for exploring the HCPs' clinical reasoning and experiences with PA in reablement. However, the HCPs' clinical reasoning is complex and context-dependent, and important aspects regarding their situational clinical reasoning and shared decision-making with participants and colleagues may have been overlooked through this study

design. Therefore, we may have gained a different understanding of the HCPs' clinical reasoning and contextual mechanisms if we had observed their practice and interviewed them based on those observations. However, all study designs have their strengths and limitations and are only capable to capturing certain aspects of real-life phenomena (Maxwell, 2013). By conducting individual interviews outside of the HCPs' daily practice, we may have facilitated the HCPs' general reflections about their practice and enabled a clearer recognition of diverging patterns in their clinical reasoning.

The researchers' experience and knowledge about qualitative methodology is important to the formation of decisions in all phases of an interview study (Kvale & Brinkmann, 2015). In qualitative analysis, the researcher is the tool of the analysis, and the findings and conclusions rely on the researcher's ability to collect and interpret the meaning of the data (Erlingsson & Brysiewicz, 2017; Maxwell, 2012). Prior to this study, I had no experience with qualitative research, which made it difficult to anticipate the consequences of the methodological choices I made. As such, I found it difficult to adequately grasp the consequences of the methodological decisions I made before I experienced—through the analysis and reporting phases—how they had influenced the data I obtained and the validity of the interpretations and conclusions I could make based on the data. Despite preparing by engaging in theory of interviewing, taking a qualitative interview class, conducting a pilot interview, and thoroughly discussing the interview approach with my supervisors and peers, I learned that qualitative thinking had to be learned through practice. To account for this possible influence on the dependability of the research, I strived to be sensitive and reflect on how this potentially influenced the research in all stages and kept notes on reflections I made throughout the process.

*Sampling strategy and recruitment*

The intention of the purposive variation sampling strategy we used was to capture central themes that spanned the variation and diverging perspectives related to the

phenomena under investigation. The logic of this was to turn the heterogeneity of the field (which may be considered a weakness or a challenge in other research designs) into a strength by acknowledging that patterns emerging from great variation are of particular interest and value for capturing the core experiences or dimensions of a phenomenon (Patton, 2015). This variation in the sample adds to the transferability of the findings by identifying central aspects that are shared or vary among HCPs or across different reablement settings and are thus likely to also exist in other reablement settings. However, as we found in Study III, there are many factors influencing how reablement is organized and delivered in each municipality, and by including several municipalities, we may have revealed other contextual factors than those we found.

Despite striving for heterogeneity through this sample strategy, it is also essential that the cases have sufficient similarities to be able to identify common themes among them (Flick, 2018). For practical reasons, I had to conduct all the interviews before I was able to truly engage in data analysis, and I thus did not make alterations to the sampling strategy based on insights reached through the analysis. The perspectives and experiences shared by the HCPs in our study had many similarities that contributed to common themes across the sample, which we found to be compatible with the principles of data saturation for reflexive content analysis (Braun & Clarke, 2021). However, inclusion of additional HCPs or follow-up interviews with the HCPs may have enabled a recognition of additional patterns or deeper understanding of the patterns we had found, which could have strengthened the credibility and depth of our findings. However, all research led to the formation of new questions, and the findings were of sufficient depth to form a coherent story and contribute new knowledge to the field of reablement.

To recruit participants, we initially contacted the leaders of the reablement teams and asked them to suggest potential HCPs who we could contact. This approach may have led to the overrepresentation of certain HCP characteristics in our study, which may not reflect the reablement field in general. The leaders may have been reluctant to

suggest HCPs who they knew had certain values or perspectives on PA. This may have strengthened our study by involving HCPs who were engaged, reflective, and interested in the topic of PA; however, it may have excluded HCPs who had values and perspectives regarding PA and reablement that were considered to be less appropriate by the leaders.

*Data collection*

The semi-structured interview guide was developed prior to the interviews and included suggestions for how questions could be formulated. Although semi-structured interview guides are not intended to be strictly followed (Kvale & Brinkmann, 2015), the consideration of questions is essential to ensuring credibility and confidence in how appropriately the data addressed the intended focus (Elo et al., 2014). When developing this guide, I emphasized the importance of gaining knowledge about the HCPs' reablement practices, perspectives, and experiences in general before leading the focus toward PA. The intention of this emphasis was to gain a sense of the HCPs' general perspectives before I intentionally drew the focus toward PA in specific. However, the HCPs were initially informed that PA would be the overall theme of the interview, and I had to take into consideration how this could influence the participants' general reflections at the beginning of the interview.

The interviewer in qualitative interview research is considered the tool of the research, and the interviewer's interviewing skills, sensitivity, and knowledge is considered essential to the quality of the knowledge produced (Kvale & Brinkmann, 2015). Illuminating the actual influence of the interviewer is impossible; rather, the ability to understand the influence and use it productively is crucial (Maxwell, 2013). Before and during the interviews, I focused on establishing a trusting atmosphere and relationship with the interviewees so that they would feel confident in sharing their stories with me. This involved conducting the interviews in a familiar environment in a location in which we would not be disturbed. I further focused on engaging in "small talk" with the interviewees prior to the interview to establish a more relaxed atmosphere. I also

paid attention to how we were seated next to each other in the room and was attentive that my body and verbal language radiated kindness, openness, curiosity, and acceptance of the interviewees' beliefs and perspectives. Despite these measures, I was aware of the unequal power relationship in the research interview setting (Kvale & Brinkmann, 2015), and I made note of how the interviewees reacted to my appearance and the interview setting. Despite being attentive and striving to establishing a trusting atmosphere, I noted that some of the interviewees were easier to connect with than others, which I reflected on after each interview, noted, and re-visited in the analysis phase to question why this may have occurred and how it may have influenced the interviews and the conclusions that could be drawn from them.

How a question is worded and delivered affects how the interviewee responds to the question (Patton, 2015). In content analysis studies, it is emphasized that the interview should be open, unstructured, and not overly directed by the questions of the interviewer (Elo et al., 2014). The interviewer should be able to actively listen to what the interviewee says, be present, empathic, non-judgmental, and neutral, and at the same time steer the conversation toward the intended aims of the research and ask clear and appropriate questions (Kvale & Brinkmann, 2015; Patton, 2015). Retrospectively, I noticed in the transcripts how my formulation of some of the questions did not meet these ideals and may have influenced the responses of the interviewees. I identified situations in which my formulation of questions was unintentionally directing and situations in which the questions were so open or unclear that the interviewees became unsure of how to respond. Furthermore, I noticed that my ability to control the conversation while actively listening developed throughout the interviews. This gradual development of interview technique is natural when learning the art of interviewing (Kvale & Brinkmann, 2015); however, it may have influenced the credibility and dependability of the information I gained throughout the series of interviews. My lack of experience with qualitative interviewing likely influenced the depth of meaning I was able to gain from the interviews. However, the

fact that most of the HCPs were accustomed to clinical reasoning, to reflecting upon their experiences in daily practice, and seemed to be confident in their professional knowledge was likely beneficial to my data collection. The HCPs were eager to share their experiences and perspectives, and many of them continued talking with only few interruptions from me. I therefore considered the data as a whole to be rich and possessing credible material for exploring the aims of this research. However, the reflexive considerations I made along the way were essential to questioning how my approaches could have influenced the data and potentially influenced the interpretations that could be made from the data.

*Data analysis*

For both the qualitative studies, we used an inductive qualitative content analysis approach to interpret the meaning of the data (Erlingsson & Brysiewicz, 2017). The analytic interpretations started in the interview setting and persisted throughout the transcription phase, the focused analysis phase, and the reporting phase, as described by Kvale and Brinkmann (2015). Likewise, reflections on the trustworthiness and validity of the interpretations I made were an integrated part of the entire process, as emphasized by Elo et al. (2014).

During the first phases of the analysis, I stayed close with the explicit content of the data and sorted and organized meaningful units of text into codes and condensed units of text and categories, as outlined by Erlingsson and Brysiewicz (2017). This systematic approach helped to make the analysis process more structured and transparent and enabled me to compare what different HCPs had said about the same issues, which was crucial for identifying patterns that existed across the data. However, in this phase of the analysis, there is a risk of fragmenting the meaning of the data because it detaches elements of the text from its original context (Elo et al., 2014). This risk of not being able to see the true meaning of the data was something I experienced early in the analysis of Study II. I found it difficult to extract meaningful units of text when I sensed that the true understanding was in the relationship between these units taking

into consideration cohesion and context. Therefore, it was difficult to understand parts of the reasoning process (Study II) without taking into consideration the HCPs' entire reasoning pattern; similarly, it was difficult to understand the contextual factors experienced by the HCPs (Study III) without seeing them in their entire context. To maintain my understanding of the context from which these fragments were taken, I re-visited the whole transcripts a number of times during which I questioned whether or not my interpretations were supported by both parts of the data and the whole of the data, attempting to address discrepancies and being open to reaching new understandings.

The trustworthiness of content analysis is often discussed in terms of the credibility and dependability of the coding processes (Elo et al., 2014; Graneheim & Lundman, 2004). However, I believe that the trustworthiness and validity of this research is more adequately addressed through the interpretational phases of the analysis, in which both manifest and latent content in addition to de-contextualized and re-contextualized aspects of the data were interpreted (Lindgren et al., 2020). This reflexive process is in line with the hermeneutical aspects in content analysis (Erlingsson & Brysiewicz, 2017) and supported the interpretational phases of the research. The reflexivity and the use of the hermeneutical principles that were discussed previously were important tools for enhancing the validity of the analysis. This also involved re-interpreting or discarding previous interpretations if discrepant evidence or negative cases were found in the data that were not in line with the interpretations.

*Reporting the research*

The reporting of research is a crucial part of the research process and should provide an accurate and transparent description of the methods and how they led to the results to enable readers to draw their own conclusion on the trustworthiness of the results (Elo et al., 2014). In both of the qualitative studies, we used the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Tong et al., 2007) to guide the

reporting and to ensure that the important information from the studies was included. Although this checklist, through its 32 components, provides detailed information about what to include in the reporting, it provides little guidance on how to ensure transparency of the interpretational aspects of the research. In line with the epistemological perspective I outlined earlier, the reporting of the interview can be seen as a construction made by the researchers, providing a specific perspective of the phenomena studied (Kvale & Brinkmann, 2015; Maxwell, 2012). As Kvale et al. stated, no reporting is innocent; they are all influenced by the researcher's interests and motives (Kvale & Brinkmann, 2015). During the reporting of the articles, I focused on establishing an argument for the study, explaining central concepts and clarifying the meaning I placed on the central terms I used. Although this background story of the research to some degree informs the reader about our pre-understandings and motives, it may not be sufficient for the reader to determine how it may have influenced the conclusions. The elaborations on theoretical perspectives and methodological discussions presented in this thesis may contribute valuable information to aid in the determination of the trustworthiness and validity of the research. By including supporting quotations in the findings, researchers enhance the transparency and trustworthiness of the interpretations that are made (Tong et al., 2007). We emphasized the presentation of citations in both qualitative studies to demonstrate the main aspects of the findings and to enable the reader to make judgments on whether they consider the interpretations to be valid with respect to the content of the citation.

### 5.2.4. The transferability of the research

As a final part of this methodological discussion, I will briefly discuss the transferability of the findings, paying particular attention on the findings of the final synthesis of the thesis. Any form of research claims some sort of generalization or transferability, seeking to draw conclusions that are relevant beyond the immediate situation of data collection (Flick, 2018). Qualitative research typically builds upon theoretical or

analytical logic to evaluate how the knowledge may have a transferrable value beyond the specific research setting (Kvale & Brinkmann, 2015). Analytical generalization involves a justified judgment of the degree to which the findings can be used to understand other similar situations and depends on both the researcher's thorough reporting of the research and the reader's evaluation of the applicability of the research to similar situations (Kvale & Brinkmann, 2015). The final synthesis aimed to explain the underlying mechanisms influencing HCPs' judgments regarding PA in reablement. The synthesis was developed through an abductive process, taking into consideration the findings of Studies I–III, the findings of the studies identified in the scoping review, and external theories that were found to be helpful in explaining the findings. The findings of this thesis cannot be generalized to determine whether the same mechanisms influence HCPs' judgments similarly in other contexts; however, by capturing the divergences of these mechanisms and by underpinning them using external theories, the findings can have implications beyond what was analyzed in this study. Therefore, the findings may hold transferrable value to suggest explanations for why there are inconsistencies in interdisciplinary reablement practice, why there are disagreements regarding the values of EBP, or why there are challenges in implementing PA in healthcare practice.

# 6. Implications and conclusion

In this chapter, I discuss the implications of the findings to practice and research before making a final conclusion.

## 6.1. Implications for practice

The findings of this thesis demonstrated the complexity of HCPs' judgments regarding promotion of PA through reablement and identified some of the mechanisms that influence these judgments. The findings contribute in the recognition of the professional competencies and multifaceted knowledge that is necessary to make appropriate and feasible judgments in real-life practice. Healthcare policies emphasize that healthcare services should be person-centered, integrated, and evidence-based to meet the needs of individuals and populations in society. However, the dilemmas and sometimes contradictory values associated with these ambitions are often overlooked. The findings of this study suggest that reablement can potentially be a suitable area for promoting PA among older adults, but also demonstrate that a number of factors on micro, meso, and macro levels need to be considered to ensure that the PA approaches are accessible to the people in need of them and that they are meaningful and effective.

The findings further demonstrate how the HCPs' actions, communication, and relationship-building was essential in the development of their clinical reasoning and judgments related to PA. When transferring information to other HCPs, the HCPs need to be aware of the comprehensiveness of their professional knowledge and ensure that not only information about recommended actions are transferred, but also more complex knowledge regarding communication and approaches to building relationships with the participants. Enabling interdisciplinary meetings and discussions in which all involved HCPs take part is important for sharing such knowledge, as it may be difficult to make this knowledge explicit in a reablement plan or through written documentation. Furthermore, the findings of this study suggest that more attention

should be placed upon recognizing homecare assistants' unique competencies and exploring how they contribute to meeting the participants' preferences, rather than considering them simply as recipients of other HCPs' knowledge.

This thesis demonstrated that HCPs based their practices on different ontological, epistemological, and normative perspectives, different interpretations of participants' preferences, and within different contextual premises, which may lead the practices in different directions. Some of these underlying mechanisms seem to be tacit in interdisciplinary collaboration and communication, leading to tensions and disagreements that the HCPs have difficulty explaining. By identifying, expressing, and clarifying some of the central components of HCPs' clinical reasoning, this thesis contribute to a greater understanding and clarification of dilemmas that should be openly discussed and explored in the field of reablement. Although this study focused on HCPs' judgments regarding PA, the findings may contribute to a general understanding of how professional perspectives vary and can thus be useful in other interdisciplinary settings and to topics other than PA.

The gap between research and practice has been considered a barrier to achieving best practice, and strategies for implementing research evidence into healthcare education and practice have been emphasized (Jordan et al., 2019; World Health Organization, 2017a). In relation to promoting PA, this thesis showed that HCPs relied to a high degree on unique evidence about the individual participant, the specific reablement context, and their professional competencies, and less on general evidence obtained from research. Rather than devaluating such practices as not being sufficiently evidence-based, more attention should be placed on investigating what type of evidence can best inform HCPs' judgments to improve the appropriateness, feasibility, meaningfulness, and effectiveness of their practice. Based on the findings of this thesis, more attention should be placed on exploring the questions that need to be raised in practice (from healthcare system, HCP, and participant perspectives) and more openly

debating how both general and unique evidence can be gained and utilized in an appropriate and valid way to inform practice.

Enhancing interdisciplinary reflexivity in addition to promoting functional and normative integration of care principles across micro, meso, and macro levels may be important to meeting participants' preferences regarding PA in a sustainable manner. There is a need to continue focusing on what type of knowledge is needed and valued in reablement, both with respect to meeting the preferences of individual participants and to enhancing the sustainability of healthcare services. This requires shared understanding between HCPs, leaders and politicians regarding mechanisms influencing HCPs' judgments and practice.

## 6.2. Implications for research

The findings of this thesis have implications for several fields of research and inform gaps identified within PA research, reablement research, and research concerning the understanding of EBP.

First, it has been highlighted that more attention needs to be placed on how PA can be promoted among older adults in a meaningful and sustainable way in real-life healthcare contexts (Olanrewaju et al., 2016). It has been stressed that PA approaches need to be developed that are effective, both in short and long term, meaningful for older adults, and that reach out to the people who need them (Dogra et al., 2017). It has further been suggested that more attention should be placed on developing interdisciplinary approaches and exploring how contextual factors influence the promotion of PA on the levels of individual older people, HCPs and their practice, and organizational systems (Zubala et al., 2017). Further to this, social and cultural norms influencing policies and care regarding PA and sedentary behavior in community-dwelling older adults should be explored (Chastin et al., 2021). This thesis informs these gaps by providing practice-based evidence on HCPs' complex, multifactorial clinical reasoning in an interdisciplinary setting targeting older adults. The findings may

explain some of the factors that prevent the implementation of PA-promoting strategies in healthcare practice, in which HCPs' mindlines, interpretations of the participants' preferences, and a number of contextual factors are important to pay attention to.

Second, this thesis contributes to the research field of reablement by demonstrating and describing how different perspectives influence reablement delivery. The Delphi study on reablement experts showed that there were different perspectives on whether exercises and promotion of PA should be a part of reablement (Metzelthin et al., 2020). The findings of our study may explain some of these differences by elaborating on different perspectives on PA in reablement in addition to different contextual premises when delivering reablement. While such variations in normative perspectives are important to identify, they may also pose the risk of developing the field of reablement in certain directions that may not adequately meet participants' preferences and needs or align with the healthcare systems' provision of sustainable healthcare. Study I revealed that neither the effects of PA for improving participants' functional and goal-oriented achievements nor the participants' experiences related to PA had been adequately explored in the research field of reablement. It is therefore important to further explore how different approaches to PA applied in reablement are experienced by participants and whether or how they are effective in improving and maintaining the participants' function.

Third, this thesis contribute to the understanding of the concept of EBHC by providing evidence of how HCPs synthesize different types of knowledge in their judgments. EBHC strategies are considered essential to delivering quality healthcare services, emphasizing competencies in how to systematically search for, synthesize, and implement the best available evidence (Jordan et al., 2019). Such strategies have aimed to fill the gap between research and practice and have been emphasized in healthcare education. However, the "evidence-movement" has been criticized for being reductionistic, for being based on values of new public management, and for

neglecting principles of person-centered care and theories of practical knowledge (Thomas & Young, 2019). This thesis contributes to the understanding of the research–practice gap by identifying how different ontological–epistemological perspectives among HCPs lead to different perspectives on which questions are important to raise in practice and what type of evidence is needed to inform these questions.

It is important, from a research perspective, to understand practice-based knowledge, as this may be a valuable source of knowledge for understanding the mechanisms influencing practice in real-world settings. Therefore, more practice-based evidence is needed to better inform EBHC. Furthermore, it should be recognized that the gap between research and practice is not only caused by HCPs' incompetence, time restrictions, or lack of interest in research, but that it can equally be caused by the inability of the research field to understand and take into account the complex and contextually situated questions that are raised in practice.

## 6.3. Conclusion

The aim of this study was to explore how PA is integrated into reablement for older adults and its influencing factors. By exploring how PA has been integrated into the research field of reablement, how HCPs integrate PA into their clinical reasoning, and the facilitators and barriers encountered by HCPs that influence their ability to promote PA, we found that the integration of PA was variable and influenced by a number of factors on micro, meso, and macro levels. The HCPs built their judgments upon multifactorial knowledge informing them about the individual participants' preferences and involved consideration of what types of PA to prioritize in addition to consideration about how to communicate, collaborate, negotiate, and build trusting relationships with the participants. We found that reablement was built upon person-centered values, in which the goals of the participants were the key factors guiding whether or how PA was integrated into reablement. However, the HCPs' ontological and epistemological perspectives, along with varying contextual factors, influenced how they valued, emphasized, and prioritized the promotion of PA in reablement and

led to the development of norms of how PA should be integrated into reablement practice. The integration of PA into reablement should be considered based on evidence-based, person-centered, and integrated care principles to facilitate feasible, appropriate, meaningful, and effective approaches to reaching its goals. Further research should explore how different approaches to PA in reablement are effective in reaching the goals of the participants and how participants experience these approaches as meaningful.

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# Part 2

# Articles (I-IV)

**Ia** Mjøsund HL, Burton E, Moe CF, Uhrenfeldt L. Integration of physical activity in reablement for community-dwelling older adults: a scoping review protocol. JBI Database System Rev Implement Rep. 2019;17(9):1924-1932.

**Ib** Mjøsund HL, Moe CF, Burton E, Uhrenfeldt L. Integration of Physical Activity in Reablement for Community Dwelling Older Adults: A Systematic Scoping Review. Journal of multidisciplinary healthcare. 2020;13:1291-1315.

**II** Mjøsund HL, Moe CF, Burton E, Uhrenfeldt L. Promotion of physical activity through reablement for older adults – exploring healthcare professionals' clinical reasoning. Journal of multidisciplinary healthcare. 2021;14:1623-1635.

**III** Mjøsund HL, Uhrenfeldt L, Burton E, Moe CF. Promotion of physical activity in older adults: facilitators and barriers experienced by healthcare personnel in the context of reablement. BMC Health Services Research. 2022 (In review)

**Ib** Mjøsund HL, Moe CF, Burton E, Uhrenfeldt L. Integration of Physical Activity in Reablement for Community Dwelling Older Adults: A Systematic Scoping Review. Journal of multidisciplinary healthcare. 2020;13:1291-1315.

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REVIEW

# Integration of Physical Activity in Reablement for Community Dwelling Older Adults: A Systematic Scoping Review

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*Journal of Multidisciplinary Healthcare*

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**Background:** Reablement is a rehabilitative intervention provided to homecare receivers with the aim of improving function and independence. There is limited evidence of the effectiveness of reablement, and the content of these interventions is variable. Physical activity (PA) is known to be important for improving and maintaining function among older adults, but it is unclear how PA is integrated in reablement.

**Purpose:** To map existing evidence of how PA strategies are integrated and explored in studies of reablement for community dwelling older adults and to identify knowledge gaps.

**Methods:** An a priori protocol was published. Studies of time-limited, interdisciplinary reablement for community-dwelling older adults were considered for inclusion. Eight databases were searched for studies published between 1996 and June 2020, in addition to reference and citation searches. Study selection and data extraction were made independently by two reviewers.

**Results:** Fifty-one studies were included. Exercise strategies and practice of daily activities were included in the majority of intervention studies, but, in most cases, little information was provided about the intensity of PA. Interventions aiming to increase general PA levels or reduce sedentary behavior were rarely described. None of the studies explored older adults', healthcare providers' or family members' experiences with PA in a reablement setting, but some of the studies touched upon themes related to PA experiences. Some studies reported outcomes of physical fitness, including mobility, strength, and balance, but there was insufficient evidence for any synthesis of these results. None of the studies reported PA levels among older adults receiving reablement.

**Conclusion:** There is limited evidence of how PA is integrated and targeted to older adults' individual needs and preferences in a reablement setting. The feasibility and effectiveness of PA interventions, as well as experiences or barriers related to PA in a reablement setting, should be further investigated.

**Keywords:** rehabilitation, exercise therapy, health services for the aged, aged, 80 and over, physical fitness, health personnel

## Introduction

Reablement is an interdisciplinary practice introduced in homecare services during the last two decades. The aim of reablement is to provide homecare services that help people (mostly older adults >65 years) regain function and independence, rather than continuing to increase services to compensate for ongoing functional loss.[1–4] Different terms have been used for reablement such as everyday rehabilitation and restorative care. For the purpose of this study, the term reablement will be used and is

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defined as rehabilitative initiatives that aim to maximize functional ability and independence among homecare service users, by offering intensive, time-limited, interdisciplinary, person-centered, and goal-directed homecare services.[4] A common feature of reablement is that the services are person-centered, with an emphasis on identifying and working towards the participants' own prioritized goals.[4] Different types of healthcare personnel (HCPs) are typically involved in reablement, including healthcare professionals (with a bachelor degree) such as occupational therapists (OTs), physical therapists (PTs), registered nurses (RNs), and also allied healthcare personnel (without a bachelor degree), eg, nurse assistants, students, or community healthcare workers.[5]

Reablement seems to meet political healthcare priorities by introducing innovative and sustainable initiatives that may improve functional ability and well-being in older age.[6] However, the evidence-base supporting reablement is still limited. Several recent systematic reviews have investigated different perspectives of the effectiveness of reablement.[1–5,7] Although some promising implications are reported,[2,7] there is limited evidence of the effect of reablement for improving function and independence compared to standard home care.[13–5] The specific characteristics of reablement provided in the included intervention studies are reported to be poorly described, and little is known about the effect of individual components included in reablement practice.[3,4,7] The focus of this review was to map evidence on how physical activity (PA) is integrated in reablement, as PA is considered an important factor for improving and maintaining older adults' physical function.[8]

For the purpose of this study, physical activity was defined in accordance with the definition used by WHO as "any bodily movement produced by skeletal muscles that requires energy expenditure".[9] This includes different activities, such as leisure time PA, transportation, occupational activity, household activity, games, sports, everyday activities, and exercise. Within this broad definition of PA, the focus of this study was on general PA facilitation and also exercise strategies and prevention of sedentary behavior. Exercise was defined as

> physical activity that is planned, structured, repetitive, and purposive in the sense that improvement or maintenance of one or more components of physical fitness is an objective.[10]

Sedentary behavior was defined as "any waking behavior characterized by low energy expenditure [...] while in a sitting, reclining, or lying posture".[11]

Inactivity among older adults affects their physical fitness (eg, cardiorespiratory and muscular endurance, muscular strength, flexibility, balance, mobility, or speed of movement), and is correlated to frailty and functional limitations.[12] Research demonstrates the positive effects of regular PA and exercise for older adults such as reduced risk of falling,[13] reduced level of frailty,[14] and improved performance in ADLs.[15] WHO recommend older adults be physically active for at least 150 minutes a week, including activities that are adapted to the individuals' functional level.[8] They also recommend activities that enhance muscle-strength and balance be included at least twice a week.

However, there are many factors that are perceived by older adults as barriers to being physically active.[16,17] It is recommended that HCPs pay special attention to inform older adults about the health benefits of PA and that they consider the persons' personal, social, and environmental constraints for being physically active.[16,18] Furthermore, it has been suggested that more attention be directed to real-life contexts of PA interventions among community-dwelling older adults.[19]

PA or exercise strategies are reported as part of the reablement intervention in some systematic reviews of reablement published over the last few years,[2,4,5,7] but no further characteristics of these strategies are provided. No identified systematic review mentions strategies aimed at reducing sedentary behavior among participants.[1–5,7] It was anticipated that experimental, quantitative, and qualitative study designs would provide evidence relevant to the objective of this scoping review and the intention was, therefore, to include a broader range of study designs than previously included in systematic reviews of reablement. A scoping review was considered appropriate in order to identify and map different types of evidence related to PA in reablement.

The objective of this systematic scoping review was to identify and map existing evidence of how PA strategies are integrated and explored in studies of reablement for community dwelling older adults and also to identify knowledge gaps that are important for further research.

More specific, the questions of this review were:

- To what extent have PA strategies been used in reablement for older adults and what are the reported characteristics of these strategies?

- What evidence regarding experiences (of older adults, HCPs and family members) and barriers related to PA facilitation in a reablement setting can be identified?
- What is the scope of assessment methods used in relation to reablement that can inform about older adults' (changes in) PA behavior and physical fitness?

# Methods

We used a systematic scoping review method following recommendations from the Joanna Briggs Institute.[20,21] The study was reported based on the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).[22] A protocol was published prior to the review.[23]

## Eligibility Criteria

### Types of Participants

To be included, the studies had to focus on older adults aged 65 years and over that were in receipt of reablement services. Studies focusing on HCPs working with reablement and family members of reablement participants were included. Studies focusing on people requiring end-of-life care were excluded.

### Concept

Studies that investigated or explored the concept of reablement were included. The reablement intervention had to be delivered by several types of HCPs (involving at least two disciplines of healthcare professionals or one discipline in addition to allied healthcare personnel), aiming to improve functional ability and be person-centered (ie, targeted to the participants' individual goals). Studies investigating reablement with no time-restriction or a duration of more than 6 months were excluded. Studies focusing on home rehabilitation targeting people with one particular diagnosis (eg, heart failure, hip fractures, stroke, osteoarthritis) were also excluded. These particular criteria were not specified in the protocol, but were considered necessary in order to separate similar interventions that would not be considered reablement due to their specialized diagnostic focus. The criteria were decided upon prior to the selection process and used consistently throughout the selection. Studies were included regardless of whether or not they reported any information related to PA, since it was an aim to map both the existence of, and the absence of information related to PA in reablement studies.

### Context

To be included, the reablement intervention had to be provided by homecare services (eg, managed by local government or not-for-profit agencies) in the participants' home (including a variety of housing arrangements) or local environment. Studies focusing on reablement interventions provided in long-term care facilities/nursing homes or housing arrangements with 24-hour care were excluded. Studies investigating reablement in relation to transition from a hospital setting were included if they met all other eligibility criteria. There were no restrictions regarding country of origin of the studies.

### Types of Sources

This review included original peer-reviewed scientific studies with different designs, including (but not limited to) intervention studies (eg, Randomized Controlled Trials (RCTs), controlled trials, case control studies), qualitative studies, quantitative research, and mixed method research. Reviews, cost-effectiveness studies, and study protocols were excluded. Text (eg, political documents or government recommendations) and opinion papers were also excluded. Studies published in English, Norwegian, Danish, Swedish, and German were considered for inclusion. Reablement is a relatively young intervention with the majority of studies being published in the 2000s.[1,2,4,5,24] Given the search by Cochrane et al[4] had no date restrictions yet found few studies (ie, only those in the 2000s), we decided, like Ryburn et al,[24] to only include studies published in 1996 or later.

## Search Strategy

Firstly, an initial limited search in PubMed and CINAHL was undertaken to identify relevant key words and search terms used in titles and abstracts in studies published within the field. Secondly, based on search terms identified in this initial search, a search strategy was developed with assistance from a librarian. PubMed, Cochrane central register of controlled trials, Embase, PsycINFO, AMED, PEDro, CINAHL, and Google Scholar were all searched from 1996 to June 2020, with the latest update of the search being made on June 19, 2020. Although we initially intended to search for grey literature, we decided to only include peer-reviewed published studies, since there are no specific recommendations for inclusion of grey literature

in scoping reviews.[20] Therefore, we did not find it necessary to search ProQuest as reported in the protocol. The search strategy for PubMed is presented in Supplementary file 1 and includes search terms related to participants (aged/older adults) and concept (reablement). We did not include search terms related to context, to avoid narrowing the search and risk missing studies that did not explicitly describe the context. Relevant MeSH terms and headings were identified and used where required. Only English search terms were used in the search strategy. The language changed slightly depending on the database, however the main key words were used throughout. Thirdly, the reference lists of included studies were searched and a citation search of included studies was performed through Google Scholar in order to identify eligible studies that had not been identified through the previous search strategy.

## Study Selection

After removing duplicates, two reviewers (HLM, CFM) independently performed screening of titles and abstracts and excluded studies not meeting the inclusion criteria. The remaining studies were retrieved in full-text and further evaluated for eligibility independently by two reviewers (HLM, CFM). Disagreements were solved by discussion or by involving a third reviewer for consensus (LU or EB). The authors of 24 studies were contacted for additional information related to our inclusion criteria (this information is specified in the result Tables). Rayyan[25] and End Note X8 (Thomson Reuters, 2017) were used to manage records and data throughout the selection process.

## Data Charting Process

Data charting forms were developed by the whole research team (HLM, CFM, EB, and LU) and piloted by two reviewers (HLM and CFM) prior to data extraction. Data extraction was made independently by HLM and CFM and then compared in order to reduce errors.

Extracted data included information about author, year, country, aim, study design/method, intervention and comparative intervention (if applicable), duration of intervention, HCPs involved, characteristics of reablement receivers, including age distribution if provided, sample size/informants. The following specific information related to the scoping review questions was extracted: Characteristics of general PA facilitation, exercise characteristics, experiences related to PA (by older adults, HCPs, or family members), and information of assessment of physical fitness and assessment of PA levels. An additional data extraction was made by HLM to identify PA-related terms used in each study.

Data mapping and summarization was conducted by one reviewer (HLM) in cooperation with the rest of the review team. For the second scoping question (experiences and barriers related to PA), meaningful units of text from the studies were extracted, condensed and systematized in an additional Excel spreadsheet. The findings were mapped and summarized and presented in text and tables.

# Results

After screening 2527 unique records, of which 248 were examined in full-text, 51 articles met our eligibility criteria and served as the overall data material for the scoping review (illustrated in Figure 1, Prisma Flow Diagram). Among these studies were 15 intervention studies, including seven RCTs,[26–32] five non-randomized controlled trials,[33–37] and three non-controlled pre–post studies,[38–40] in addition to one RCT long-term follow-up study;[41] four studies with mixed design/other;[42–45] four studies based on quantitative research;[46–49] and 27 qualitative studies, of which 18 focused on HCPs' perspectives,[50–66] seven on older adults' perspectives[67–73] and two on family members perspectives.[74,75]

In most of the included studies, the terms reablement or restorative care were used (n=47). However, four of the studies that met our inclusion criteria did use other intervention terms including "homecare rehabilitation service specially trained in falls identification",[37] "supported discharge team",[28] "everyday rehabilitation,"[63] and "rehabilitative eldercare/homecare".[62] Different groups of HCPs were represented in the interdisciplinary teams involved in the studies, including OTs (49 studies), PTs (42 studies), RNs (14 studies), or nurses (28 studies), allied healthcare personnel (46 studies), and social educators/managers (seven studies). The duration of reablement interventions varied between studies from 6 weeks or less (24 studies), 7 weeks–3 months (25 studies) or more than 3 months (two studies).

All of the included studies served as the collective data material for investigating if and how PA was described and explored in reablement research. Intervention studies are presented in Table 1, and studies that provided additional information about PA characteristics or provided information about PA experiences or barriers are presented in Table 2. Further information and study details of all included studies is presented in Supplementary file 2.

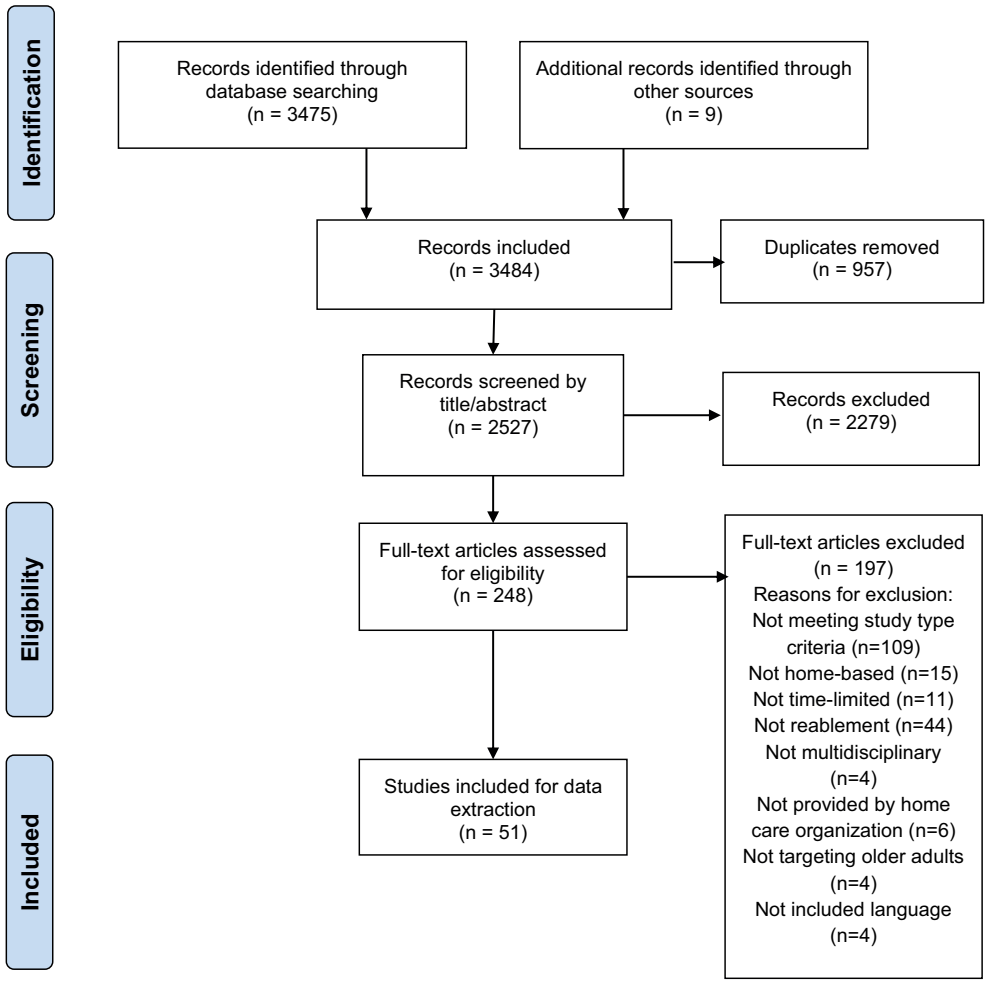


**Figure 1** Prisma Flow diagram. (Adapted with permission from the PRISMA Group) Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097.The PRISMA Statement and the PRISMA Explanation and Elaboration document are distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. (http://prisma-statement.org/PRISMAStatement/CitingAndUsingPRISMA.aspx).[76]

## Q1: Extensiveness and Characteristics of Physical Activity Strategies in Reablement

### Characteristics of General PA Interventions

Five Australian studies aimed to specifically investigate PA-related inquiries in a reablement setting.[26,41–43,46] In one of these studies, PA/Exercise interventions were described in detail, including intensity of the intervention,[26] and two of the studies referred to government recommendations of PA in the background of the studies.[42,43] Additionally, one Japanese RCT study reported including motivational interviews with the aim of assessing and encouraging physical activity (as one of several focuses of the interviews).[31] With the exception of these studies, the term physical activity was rarely mentioned in other studies. Instead, a range of terms that were likely to involve some degree of PA were used, such as training, training in daily activities, practicing ADL-

**Table 1** Intervention Studies with PA Characteristics and Assessment Methods for Physical Fitness and PA Levels

| Author, Year, Country | Design | Intervention | Control Intervention | Duration of Intervention | HCPs | Sample Size (Each Group) | Characteristics of General PA Facilitation | Exercise Characteristics | Assessment of Physical Fitness | Assessment of PA Levels |
|---|---|---|---|---|---|---|---|---|---|---|
| Intervention studies – RCTs (n=8) | | | | | | | | | | |
| Burton et al,[30] 2013, Australia | Parallel pragmatic RCT | Restorative care + LIFE (lifestyle functional exercise program) | Restorative care + standard exercise program | 8 weeks | OTs<br>PTs<br>RNs<br>Aides | 80 (40, 40) | Include promotion of active engagement in activities of daily living. | Yes. Detailed descriptions provided (elaborated in text) | Functional reach<br>Sit-to stand<br>TUG<br>Tandem walk | Exercise diary |
| Burton et al,[45] 2014, Australia | Pragmatic RCT long-term follow-up | Restorative care + LIFE (lifestyle exercise program) | Restorative care + standard exercise program | 8 weeks | OTs<br>PTs<br>RNs<br>Aides | 80 (40, 40) | Refers to Burton 2013 | Same as Burton 2013 | Same as Burton 2013 | Exercise diary |
| Tuntland et al,[33] 2015, Norway | Parallel-group superiority RCT | Reablement | Usual care | Max 3 months (average: 10 weeks) | OT<br>PT<br>Nurses Auxiliary nurses<br>Assistants/students<br>Social educator | 61 (31,30) | Training in daily activities such as dressing, food preparation, vacuuming, bus transport, visiting friends at a club, or being able to knit | Exercise programs were recommended as individual features, such as indoor or outdoor walking with or without walking aids, climbing stairs, transferring and performing exercises to improve strength, balance, or fine motor skills | TUG<br>Grip strength | No |
| Lewin et al,[31] 2013, Australia | RCT | HIP (the home independence program).<br>A restorative home-care program | Usual home care | Max 12 weeks | RNs<br>OTs<br>PTs Support workers* | 750 (375, 375) | Promotion of active engagement in daily activities | Strength, balance, and endurance programs for improving or maintaining mobility | TUG (results for TUG not reported) | No |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Whitehead et al,[34] 2016, UK | Feasibility parallel group RCT | Reablement + OT intervention | Reablement | 6 weeks ± | Social care workers<br>Reablement team leader OT | 30 (15/15) | Practicing ADL-activities was part of the intervention | Not reported | No | No |
| Parsons et al,[32] 2018, New Zealand | RCT | Supported discharge team | Usual care | Max 6 weeks | Healthcare assistants<br>Registered nurses<br>PTs<br>OTs<br>Geriatrician | 183 (97,86) | Utilize functional rehabilitation principles to maximize recovery through incorporating exercises within ADL tasks | Exercises progressively incorporated within ADL tasks | No | No |
| Hattori et al,[35] 2019, Japan | Parallel, two-arm superiority RCT | Reablement + Usual care | Usual care | 5 months | PTs<br>OTs<br>Care managers | 375 (190/185) | Encouraged to regain physical activities and participation in ADL/IADL, based on motivational interviewing. Aimed to improve body function, activities and participation (ICF) | (See characteristics of general PA facilitation) | No | No |
| Jeon et al,[36] 2019, Australia | Parallel-group pilot RCT + interviews | I-HARP (Interdisciplinary Home-bAsed Reablement Program) | Usual care | 4 months (up to 12 visits by HCPs) | OTs<br>RNs<br>Neuropsychologist. | 18 (9/9) | Not reported | Balance and strength exercises were included as needed | No | No |
| Intervention studies – Not RCTs (n=8) | | | | | | | | | | |
| Lewin et al,[38] 2010, Australia | Non-randomized controlled trial | HIP (the home independence program).<br>A restorative home-care program | Usual care | Up to 12 weeks.<br>Average 62 days | Nurses<br>PTs<br>OTs | 200 (100/100) | Interventions included promotion of active engagement in a range of daily living activities | Interventions included strength, balance, and endurance programs for improving or maintaining mobility | TUG | No |

(*Continued*)

**Table 1** (Continued).

| Author, Year, Country | Design | Intervention | Control Intervention | Duration of Intervention | HCPs | Sample Size (Each Group) | Characteristics of General PA Facilitation | Exercise Characteristics | Assessment of Physical Fitness | Assessment of PA Levels |
|---|---|---|---|---|---|---|---|---|---|---|
| Whitney et al,[41] 2015, US | Retrospective quasi-experimental two-group design | Usual home care rehabilitation service specially trained in falls identification and prevention (Safe Strides) | Usual home care rehabilitation service | Mean duration in intervention group was 52.6 days | Nurses<br>PTs<br>OTs | 3902 (2121/1781) | Not specifically reported | Targeted exercise programs focused on improving mobility and safety in the home were mentioned in discussion section | No | No |
| Winkel et al,[43] 2015, Denmark | Non-randomized pilot study | Reablement | (No comparison) | 12 weeks | Home carer<br>OT | 91 | The role of the home carer was to verbally and physically support and motivate the participant to perform the ADL tasks | Not mentioned | No | No |
| Tinetti et al,[39] 2002, US | Controlled clinical trial | Restorative care | Usual home care | 3 months | Nurses<br>PTs<br>OTs<br>Home health staff | 1382 (691,691) | Not reported | The treatment plan included various combinations of exercises and training (not further elaborated, refers to Baker 2001) | No | No |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Tinetti et al,[40] 2012, US | Quasi-experimental; matched and unmatched | Restorative care | Usual home care | Mean duration 20.3 days ± 14.8 days | Nurses<br>PTs<br>OTs<br>Home health staff | 770 (410/360) | Treatment plans targeted physical impairments and tasks of daily living. Included training and counseling of participant, family and caregivers (content of training not specified) | Treatment plan included various combinations of exercise<br>(Refers to Baker 2001 for further description of intervention) | No | No |
| Langeland et al,[37] 2019, Norway | Clinical controlled trial in 36 municipalities | Reablement | Standard care | Maximum 10 weeks; mean 5.7 weeks | OTs<br>PTs<br>Nurses<br>Auxiliary nurses<br>Home helpers | 849 (707/121) | Intensive attention was given to encourage participation and stimulate daily training for the participants, including performing their daily tasks themselves. | Exercise programs such as performing exercises to improve strength, balance, or fine motor skills. The exercises were incorporated into daily routines and the participants were encouraged to train on their own. | SPPB | No |
| Slater et al,[42] 2018, UK | A retrospective cohort design | Reablement | No comparison | 6 weeks* | OTs<br>Healthcare assistants | 416 | Not reported | Not reported | No | No |
| Beresford et al,[44] 2019, UK | Prospective cohort study | Three different reablement services | No comparison | Planned duration was typically 6 weeks, average duration was 3.9 weeks | OTs<br>Healthcare assistants | 186 | Not reported | Not reported | No | No |

**Note:** *Information from personal contact with author.
**Abbreviations:** PA, physical activity; OT, occupational therapist; PT, physiotherapist; RN, registered nurse TUG, timed up and go; RCT, randomized controlled trial; ADL, activities of daily living; SPPB, short physical performance battery.

**Table 2** Other Studies Providing Information of PA Experiences and PA Characteristics

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Perspectives of older adults | | | | | | | |
| Burton et al,[46] 2013, Australia | To identify the motivators and barriers to being physically active for older people receiving either restorative or "usual" home care services | Cross-sectional mixed method study using questionnaire and interviews | Minimum 4 weeks, generally 6–12 weeks* | RNs<br>OTs<br>PTs Aides* | Questionnaire: 506 Older adults<br>Interviews: 20 older adults | Not reported | Facilitators/barriers for PA among previous reablement receivers are reported |
| Hjelle et al,[73] 2017, Norway | To describe older adults experience of reablement | Qualitative Interviews (part of larger research program; Tuntland 2015) | Max 3 months | OT<br>PT<br>Nurses<br>Auxiliary nurses<br>Assistants/ students<br>Social educator | 8 older adults | Same as Tuntland 2015 | Own will-power and responsibility is considered important.<br>Encouragement and motivation from HCPs<br>Home environment stimulated to activity<br>Understanding of PA-related terms |
| Wilde et al,[77] 2012, UK | Not clearly stated, but the title informs that the perceptions and experience of users of home-care reablement services are in focus | Interviews | Normally up to 6 weeks, with some flexibility* | Homecare staff with additional training.<br>OTs regarded as essential members of the team* | 34 service users<br>10 carers | Focuses on increasing service users ability to perform tasks such as getting up, washing, bathing, moving around the home and other daily living activities such as preparing drinks and light meals | Expressed frustration at lack of professional expertise to improve/ maintain outdoor mobility |
| Moe & Brinchmann,[75] 2016, Norway | To generate a grounded theory of service users' and their caregivers' experiences of reablement | Grounded theory; focus groups, interviews and observation | Average duration of 6 weeks, maximal duration of 6 months* | Nurse<br>OTs<br>PTs<br>Nurse assistants | 17 services users, 10 carers | Includes doing repetitive practice of activities of daily life at home and in the neighborhood.<br>Exercises included based on a detailed screening that identifies activity goals and functional impairments, with a focus on physical strengthening | Values/knowledge of PA are considered.<br>Physical strengthening could boost participation in other activities.<br>Experiences of insecurity for injury and overload.<br>Self-confidence for PA was build during the reablement.<br>Encouragement and motivation from HCPs was important.<br>Reducing environmental barriers (indoors/outdoors) |

(*Continued*)

**Table 2** (Continued).

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Tuntland et al,[51] 2019, Norway | To explore which occupations/ activities older people with functional decline find important to improve, which of these they prioritize as their rehabilitation goals, and what factors are associated with these priorities | A cross-sectional study based on data from a nationwide trial (Langeland 2019) | Mean 5.7 weeks (majority between 4 and 6 weeks) | OTs<br>PTs<br>Nurses<br>Auxiliary nurse<br>Home helpers | 738 reablement receivers | Same as Langeland 2019 | Goals related to functional mobility was most often prioritized, followed by goals related to personal care and household activities |
| Whitehead et al,[48] 2018, UK | To provide a detailed description of the content of the occupational therapy intervention that was provided in the OTHERS trial, and to evaluate whether the intervention was acceptable to the participants who received it | Feasibility/ evaluation study (Part of a feasibility RCT); questionnaire and interviews | Median length of reablement episode was 56 days (range: 20–126 days) | OT<br>Social care reablement workers | Interviews: 5 older adults<br>Questionnaire: 8 older adults | Practicing ADL activities was included in intervention | Outdoor mobility goals were difficult to reach due to fluctuations of health condition or weather |
| Magne et al,[78] 2020, Norway | To describe how older adults engage in daily activities within the context of receiving reablement and to explore participation in daily activities | Interviews | 6 weeks or less, with some exceptions* | OTs<br>PTs<br>Homecare workers | 10 Older adults. | Not reported | Describes and explores older adults' experiences of engaging in daily activities and exercises when receiving reablement |
| Perspectives of HCPs | | | | | | | |
| Hjelle et al,[62] 2018, Norway | To explore and describe the roles of interdisciplinary teams in reablement services in a Norwegian setting | Focus groups + interviews | Max 3 months in the rural setting, 4 weeks duration in the city | OTs<br>PTs<br>Social educators<br>Nurses<br>Auxiliary nurses<br>Assistants | 27 HCPs (PTs, OTs, Nurses, Auxiliary nurses) | Same as Tuntland 2015 | HCPs considered the reablement organization to be beneficial for reaching more users |

(*Continued*)

**Table 2** (Continued).

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Jakobsen et al,[64] 2018, Norway | To describe HCPs perspectives of next of kin in the context of reablement | Focus groups | Often 4–6 weeks | PTs<br>OTs<br>RNs<br>Social educators<br>Other employees of the home care services | 49 HCPs (RNs, Health workers, OTs, students, PTs, Social educators) | HCPs assisted the older adults with practicing everyday activities and an individual physical training program | Values/knowledge of PA are considered. Relatives as a facilitator/barrier for PA. |
| Meldgaard Hansen,[65] 2016, Denmark | To analyze and discuss how the bodywork of homecare develops and is framed as clean, non-dirty work in the context of rehabilitative homecare | Ethnographic fieldwork | Average of 8 weeks in one unit, not specified in the other unit* | PTs<br>OTs<br>Nurses Social and healthcare workers | Two homecare units; 30 interviews with homecare workers, managers and administrators, shadow observations of 20 homecare workers | Not reported | HCPs experienced transformation of roles |
| Eliassen et al,[58] 2018, Norway | To explore how physiotherapy practice is performed in reablement settings and the content of the service provided to reablement users | Field study | 4–6 weeks (with some exceptions)* | PTs<br>OTs<br>Nurses<br>Allied health personnel* | 7 PTs and 7 allied health personnel (+ 7 clients) | Daily activities were included in reablement plans and could involve getting dressed, showering, and walking to the grocery store.<br>Exercises were provided in all teams, either as mainly standardized exercises or individual adapted exercises.<br>The exercises mainly targeted balance, leg strength, and gait endurance | Experienced beneficial organization for reaching more users<br>Competencies of allied health personnel was considered an important factor.<br>Simple exercises were considered beneficial |
| Eliassen et al,[57] 2018, Norway | To explore how the allied health personnel follow-up instructions and supervision by PTs in reablement | Field study | 4–6 weeks (with some exceptions)* | PTs<br>OTs<br>Nurses<br>Allied health personnel* | 7 PTs and 7 allied health personnel (+ 7 clients) | Same as Eliassen 2018a | Competencies of allied health personnel was considered an important factor.<br>Individually targeted exercises were preferred in some teams |

(*Continued*)

**Table 2** (Continued).

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Eliassen et al,[59] 2018, Norway | To explore the content of PTs' supervision of home trainers in reablement teams | Field study | 4–6 weeks (with some exceptions) * | PTs<br>OTs<br>Nurses<br>Allied health personnel* | 7 PTs and 7 allied health personnel (+ 7 clients) | Same as Eliassen 2018a | Competencies of allied health personnel was considered an important factor |
| Eliassen et al,[70] 2020, Norway | To investigate and discuss how PTs on reablement teams plan and adapt training interventions to enhance users' functional abilities | Field study | 4–6 weeks (with some exceptions) * | PTs<br>OTs<br>Nurses<br>Allied health personnel* | 7 PTs and 7 allied health personnel (+ 7 clients) | Identified three main categories of interventions: (i) exercise-based training, (ii) activity-based training, or (iii) a combination of both exercise and activity-based training | Not reported |
| Bodker et al,[8] 2019, Denmark | To explore how transitioning from compensatory care to reablement care is not merely a practical process, but also a deeply normative one | Ethnographic field work | 8 weeks | OTs<br>RNs<br>PTs<br>Allied health personnel | One municipality, involving 31 older people (of which 8 received reablement)<br>Interviews with 13 HCPs | Individualized reablement program includes reablement training. Allied health personnel (upon instruction by health professionals) works to re-enable the older person to manage ADLs | Experienced transformation of roles and mindsets<br>Values/knowledge of PA influenced practice |
| Baker et al,[49] 2001, USA | To describe the development of a restorative model of home care designed to integrate medical treatments for acute conditions with personal care and rehabilitation for chronic disabilities in order to improve older adults' functional outcomes | Description of design and implementation of a restorative care model | Mean duration of the Restorative care was 24.8 days* | Nurses<br>PTs<br>OT<br>Allied health personnel | Model development within a branch of a homecare agency. Work group included two researchers (RN, PT), two RNs, 2 PTs, two allied health personnel. Staff and six older adults participated in focus groups | Supporting older adults to perform activities themselves. Help patients safely practice regaining function. Prevention of sedentary behavior. Allied health personnel were trained to help patients follow through on prescribed exercises and gait and transfer training | Competencies of allied health personnel was considered an important factor. Simple exercises were considered beneficial.<br>Values/knowledge of PA influenced practice |

(*Continued*)

**Table 2** (Continued).

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Burton et al,[47] 2014, Australia | To determine whether a lifestyle and functional exercise program (LiFE) was suitable for delivery in a restorative home care service | Feasibility study; Pilot intervention study, including interviews with clients and care managers | Average 7–8 weeks | RNs<br>OTs<br>PTs Aides* | 9 clients | Exercises incorporated into daily activities. An individually targeted Lifestyle exercise program as intervention, including strength and balance activities;<br>a standardized exercise program as comparative intervention. Manual delivered, including guidance on how to progress exercises | Simple exercises were considered beneficial. Beneficial with written instructions |
| Liaanen et al,[69] 2019, Norway | To provide knowledge regarding how home care service providers working with reablement in the home care setting describe their experiences | Focus groups, grounded theory approach | Time-limited within 6–8 weeks, with some exceptions* | OTs<br>PTs<br>RNs<br>Other home care staff | 25 HCPs (2 OTs, 11, RNs, 4 Health workers, 1 Specialist auxiliary nurse, 4 auxiliary nurses, 1 student nurse, 1 Trainee health worker and 1 social educator) | Not reported | HCPs experienced a shift of care focus from caring to enabling. HCPs emphasized that reablement tended to focus on activities of daily living related to personal hygiene and food preparation, but questioned a lack of focus on outdoor and social activities |
| Zingmark et al,[53] 2020, Sweden | To explore the characteristics and differences of occupational therapy and physiotherapy in terms of focus (what the intervention was aimed to improve), content (what actions were implemented) and duration within the context of reablement in Swedish municipalities | Surveys | In most cases the duration was within a period of 6 weeks | OTs<br>PTs<br>home care staff<br>Collaboration with other professionals, eg, district nurses, social workers, managers | 1393 OTs<br>1005 PTs | OTs focused mostly on activities such as walking indoors and self-care. PTs focused mainly on walking indoors and body function | Not reported |

(*Continued*)

**Table 2** (Continued).

| Author | Aim | Method | Duration of Intervention | HCPs Involved | Informants | PA Characteristics | PA Experiences |
|---|---|---|---|---|---|---|---|
| Perspectives of family members | | | | | | | |
| Hjelle et al,[47] 2017, Norway | To explore and describe how family members experience participation in the reablement process | Qualitative; Interviews (part of larger research program; Tuntland 2015) | Max 3 months | OT<br>PT<br>Nurses<br>Allied health personnel<br>Social educator | Six family members (spouse, child or other kinship) | Same as Tuntland 2015 | Wanted information about how to support for PA.<br>Some relatives missed follow-ups |
| Jakobsen et al,[51] 2019, Norway | To identify how adult children perceive the collaboration between older parents, family members, and HCPs in reablement services | In-depth interviews | 4–6 weeks | PTs<br>OTs<br>RNs<br>Allied health personnel | Eight daughters, six sons and a daughter-in-law of older adults receiving reablement | Not reported | Some family members wanted information about how to support for PA.<br>Some family members found this responsibility problematic.<br>Difficult to facilitate PA as a relative |

**Note:** *Information from personal contact with author.
**Abbreviations:** PA, physical activity; OT, occupational therapist; PT, physiotherapist; RN, registered nurses; ADL, activities of daily living.

activities, physical training, being active, or enhancing active engagement or independence in daily activities. Also, broader terms such as rehabilitation, occupational therapy, physiotherapy, or reablement intervention were used in contexts in which it was likely that some degree of PA was involved.

Encouragement of active engagement and practicing/training ADL-tasks were explicitly reported as part of the reablement intervention in 10 of 15 intervention studies.[26–31,33,34,36,39] These activities were related to the older adults' individual goals for reablement and could include activities such as indoor or outdoor mobility, dressing, bathing, kitchen activities, household activities, and social/leisure activities. However, in most studies it was not possible to capture if and to what degree/intensity the activity training involved PA. Only one (American) study mentioned sedentary behavior, and explicitly mentioned that the interventions were (among other aims) aimed at reducing sedentary behavior among participants.[45]

## Characteristics of Exercise Interventions

Exercise interventions were reported to be included in 10 of the 15 intervention studies. Of these, seven studies reported only overall aims/characteristics of the exercises, such as "exercise programs targeting strength, balance or endurance".[27,28,3234–37] One Australian intervention study,[26] two Norwegian intervention studies including referrals to their study protocols,[29,33,77,78] one Swedish quantitative study,[49] and also one Norwegian field study (including four publications)[53–55,66] reported additional characteristics of exercise interventions provided through reablement. Two different overall exercise approaches were described in these studies, including i) standardized exercise programs[26,54] and ii) individually targeted/adapted exercises.[26,29,33]

Burton et al[26] was the only study that provided detailed descriptions of PA and exercise interventions incorporated in the reablement intervention. The aim of that study was to compare a lifestyle exercise program (LiFE) with a standardized structured exercise program in an Australian reablement setting.[26,41] The LiFE program was aimed at improving balance, increasing strength, and preventing falls by embedding exercises into everyday activities. The program included 18 different exercises/tasks (eg, knee bends, stair walking, tandem stand or walking, one leg stand; these were further specified in the article) that were incorporated into daily activities.

The exercises were to be performed every day and did not require additional time. The control intervention of this study was a structured exercise program, which had been part of the restorative care services for years. The structured exercise program included eight prespecified balance and strength exercises (eg, sit to stand, stand and reach, toe taps) that the participants were asked to do in five repetitions three times a day (approximately 15–20 minutes per day).

In the two Norwegian intervention studies by Tuntland et al[29,77] and Langeland et al,[33,77,78] it was described that daily training in activities was part of the general features of reablement, while exercise programs were recommended as individual features to improve strength, balance, or fine motor skills. In the studies by Eliassen et al[53–55], they explored different perspectives of physiotherapy practice and supervision in reablement in Norwegian municipalities, and found that exercises were provided in all observed cases and that reablement plans contained elements of both exercises and daily activities. Though, while some of the teams mainly emphasized standardized exercises, other teams put more emphasis on daily activities and in some teams both exercises and practicing daily activities were integrated in their reablement approach.[53,66] In a Swedish quantitative study by Zingmark et al,[49] that investigated reablement intervention characteristics reported by 1395 OTs and 1006 PTs, they found that OTs mostly focused on activities such as walking indoors and self-care, while PTs mostly focused on walking indoors and activities aimed at improving body function (ie, strength, balance, range of motion). Activities related to walking outdoors were prioritized by OTs in 24% of reported cases, and by PTs in 38% of reported cases.[49]

The frequency for follow-up of exercises by HCPs was different between studies. Burton et al[26] described that health professionals provided an average of three visits to participants, and that the participants were instructed to do the exercises unsupervised. At the visits in that study, the health professionals described the different exercises, discussed with the participants how they could incorporate the exercises into their daily routines (for the LiFE program), and provided support and encouragement for doing the exercises as well as other areas of their reablement. Tuntland et al[29] and Langeland et al[33] reported more frequent visits and described that HCPs would be present during daily training to build confidence, relearn skills, and stimulate the participant in self-management and self-training. They also reported that the participants would be encouraged to perform exercise programs on their own.

The duration of the exercise interventions in Burton et al[26] was 8 weeks (with care manager assistance), while Langeland et al[33] reported a maximum of 10 weeks duration (average 5.7 weeks) and Tuntland et al[29] a maximum of 3 months (with an average of 10 weeks) duration of the reablement intervention. Some of the included studies reported that written and/or illustrative manuals of the exercises/training was provided.[26,29,43,54] None of the studies reported using equipment for PA/Exercise. No studies reported any intensity levels of physical activity interventions or exercises.

### Approaches Used to Target and Progress PA Interventions According to Individual Needs

In some of the studies, it was reported that exercises were provided to reablement users if they had an individual need for this.[26,29] However, there was little information about how the individual needs for exercises or PA were assessed. In the LiFE RCT study by Burton et al,[26] only older adults that had been prescribed an exercise intervention by their care manager (health professionals, including PTs, OTs, or RNs) were included in the study. Of the entire group receiving reablement, only 5.4% met the eligibility criteria of the study; one of which included that they had been referred to an exercise program. This could indicate that only a minority of reablement receivers in that setting were considered to benefit from participating in an exercise program. In a questionnaire study undertaken in the same state of Australia as the LiFE RCT, 30% of reablement clients recalled being given an activity program, and a third of them reported having been encouraged to be more physically active.[46]

Several of the studies reported that exercises were progressed and adapted during the reablement period according to the older adults' development of function.[26,28,31,43,53] In the LiFE program and the structured exercise program in the study by Burton et al,[26] progression of exercises was reported to be included, but it was not described how the need for progression was assessed. In the structured exercise program, it was reported that the participants were to progress to level two exercises on the back of the exercise sheet. In the RCT study by Hattori et al,[31] rehabilitation specialists reviewed participants' goals in every module, in order to monitor their progress, assess their physical activities and training, and encourage behavioral changes, using an assessment sheet for self-management. In the field study by Eliassen et al,[53–55] the researchers observed that the

characteristics of the targeting processes of the exercises were mainly divided into two groups; i) standardized approaches and ii) individually tailored approaches. In the standardized approaches, allied health personnel conducted training sessions based on standardized exercise programs. In these cases the reablement plan (including the exercises) was provided by the PTs, and the allied health personnel made minimal adjustments to this. In the second group, Individually tailored approaches targeting quality of movement, the exercises were individually targeted based on extended examinations and assessments by PTs, including functional analysis regarding movement and structure of muscles and joints, in addition to standardized physical performance tests. In these teams, the allied health personnel were instructed about movement quality, however it was described that only a few of them were able to pay attention to the small details of the instructions.[54] Similar to this second approach, Moe and Brinchmann[71] reported from another Norwegian field study that exercises (and other therapeutic activities) were based on a detailed screening that identified activity goals and functional impairments, as well as other factors contributing to functional loss such as pain, malnutrition, and medication use. Several of the studies described that the role of the health professionals was to be a consultant and/or advisor, including developing and adjusting a rehabilitation plan and supervising allied health personnel. The allied health personnel were then responsible for following up on the training, including, eg, encouraging, supporting, and ensuring security when the older adult performed everyday activities and/or exercises.[53,54,58,62,66]

### Compliance of PA Recommendations

Burton et al[26] was the only study that had assessed compliance with exercises during the intervention period, by using an exercise adherence diary. They found that participants undertook exercises on average 4.91-times a week (in the LiFE group) and 4.42-times a week (in the structured exercise group). In the 6-month follow-up study it was reported that the participants in both groups still undertook exercises, though a little less often (average of 3.45 times per week).[41]

## Q2: Experiences and Barriers for PA

### Older Adults' Perspectives

Seven qualitative studies explored older adults' experiences of participating in reablement,[67–73] of which four qualitative studies (three Norwegian and one from the UK)[69,71–73] and also one mixed method study[44] touched upon themes related to PA, which are summarized in the following. Additionally, one Australian mixed-method study investigated motivators and barriers to being physically active for older people (70+) that previously had received either reablement or usual home care services,[42] and one Norwegian quantitative study explored which occupations and rehabilitation goals older people prioritized in a reablement setting.[47]

In the studies by Moe and Brinchmann[71] and Magne and Vik,[73] the older adults described how they experienced physical strengthening to be essential for their progress and that physical strengthening also led to increased participation in other activities in their daily life. Some older adults reported that they felt insecure when participating in activities, due to fear of injuries or fear of falling,[71,73] and that the support from the reablement team helped them gain a sense of security and confidence when performing daily activities.[71,73] Similarly, Hjelle et al[69] found that the older adults' willpower to engage in exercises and everyday activities evolved during their recovery. The older adults' determination and willpower was considered important for their engagement in exercise and performing everyday activities.[69] However, some older adults found the exercises to be too easy and not inspiring.[73]

Encouragement, support, supervision, and a push by reablement staff was considered a motivational factor for increasing PA.[69,71] The support from the reablement staff stimulated some older adults to do exercises/activities on their own and also to continue PA after the reablement period, while others were only motivated when the staff were encouraging them.[69] Older adults reported that they preferred to plan their own day themselves, including deciding when to perform training and activities, and that being in their home environment stimulated them to be independent and take part in everyday activities.[69] Additionally, the older adults' social network was considered an important factor to enable active living and participating in daily activities.[73] Organizing the home to make it safer and easier to maneuver inside, as well as reducing barriers for outside activities were also reported as important for activity performance.[71]

Some of the older adults expressed that they considered exercising or training to be something different than practicing activities.[69] They considered training in reablement as doing physical exercises in order to improve physical strength, balance, or range of motion, but they did not consider ADL as training. In a study from the UK by

Wilde and Glendinning,[72] service users expressed frustration at the limited access to wider sources of professional expertise (social workers and OTs were involved in that setting), particularly with the aim of maintaining or improving their ability to walk outdoors and manage stairs so that they could participate in social activities. Likewise, another UK study reported that outdoor mobility goals were difficult to reach due to fluctuations in the users' health or weather conditions.[44]

Tuntland et al[29] investigated what types of activities or tasks that older adults that had participated in an Norwegian RCT reported as difficult to perform, and which activities they prioritized as rehabilitation goals.[47] Functional mobility goals, such as going for a walk, walking up stairs, transferring or outdoor mobility were most frequently prioritized (35% of prioritized sub-areas), followed by personal care activities, such as taking a shower or dress/undress (18% of prioritized sub-areas) and household activities, such as preparing food or cleaning/vacuuming the house (15% of prioritized sub-areas). They also reported that some of the responses remained unclassified (3.5%) because they were mainly impairment-based goals such as improving balance, strength, or memory, rather than activity-based goals.

Burton et al[42] found in their mixed-method study that health and fitness (reported by 56.3% of reablement receivers) and well-being (55.3%) were the top two reasons participants gave for being active, followed by enjoyment (48.4%), social/family (44.7%), transport (20%), weight loss (18.6%), walking the dog (11.6%), and competition/challenge (7%). The highest ranked barriers were ongoing injury/illness (reported by 45.6% of reablement receivers) and feeling too old (41.4%), followed by temporary injury/illness (17.7%), nobody to be physically active with (12.1%), lack of transport (11.6%), cost (7%), nowhere to be physically active (4.7%), not interested (3.7), do not know how to be physically active (1.9%), and lack of time (3.7%).

## HCPs' Perspectives

Eighteen qualitative studies, one feasibility study, and one implementation study investigated inquiries based on HCPs experiences or perspectives on reablement,[43,45,50–66] but none of these specifically aimed at investigating or exploring HCPs' experiences related to PA facilitation. However, some of the studies – of which seven were Norwegian,[53–55,58,60,65,66] two were Danish,[51,62] one Australian,[43] and one from the US,[45] brought up perspectives from HCPs related to activity training or exercises, which are presented in the following.

HCPs considered the organization of tasks between health professionals and allied health personnel to be beneficial for reaching out to a larger population and for giving more intensive training.[54,58] However, it was also reported that the competencies of the allied health personnel and the team collaboration could have an impact on the content of the training or exercises.[45,53–55] HCPs in several of the studies noted that it was advantageous to implement simple and recognizable exercises that could easily be explained to both the allied health personnel and the older adults.[43,45,54] It was considered beneficial to use written instructions for the exercises/training,[43,45] and in one study they reported lower compliance among users when, eg, giving complicated verbal instructions without leaving written instructions.[45]

In some reablement settings, the ability to target the exercises/training to the older adults' individual needs, including a focus on movement quality, was more emphasized than standardized exercise programs.[53] In these teams, a more intense collaboration between healthcare professionals (PTs in this case) and allied healthcare personnel was observed, including both formal and informal meeting-points, as well as on-going supervision and common reflection in the team. It was emphasized that allied healthcare personnel had the required competencies to follow-up individually targeted interventions, that they were capable of independent evaluations of the older adults' function and independence during the period, and also that they had sufficient competence to evaluate the need for additional therapeutic assistance.[53] The allied healthcare personnel in these teams expressed that it was difficult to point out what to look for, but that they learned along the way. Thus, this approach relied more on building the competencies of allied health personnel, which was reported as a limitation in other settings.[45,54] Some HCPs suggested reablement was not sufficiently targeted towards outdoor activities, such as going to social activities or going grocery shopping.[65]

The roles of the allied healthcare personnel were found to be transformed from being carers to becoming trainers, and implied a change of mindset of what it means to be a good carer.[51] However, this transformation of mindset could also lead to discrepancies regarding different disciplinary views and norms related to caring and rehabilitation.[51] Also, some HCPs experienced an ambivalence related to ensuring a good balance between helping and enabling the older adults to perform activities.[65] Phrases such as keeping your hands behind your back

and do not take over for the citizen were reported to be commonly repeated in a Danish reablement setting, and HCPs were reported to increasingly assume a physically passive position, including a more distanced, observational, and instructing practice.[62]

One study investigated HCPs perspectives regarding family members of older adults in a reablement setting.[60] They found that family members were sometimes considered a resource, that could facilitate the older adult to participate in additional activities. However, the family members could also be a barrier to (physical) activity, by taking over the older adults daily activities. Several studies reported that the knowledge and values related to the benefits of PA and active aging sometimes were met with skepticism or resistance from older adults themselves, family members, HCPs, or by habitual traditions of running healthcare services.[45,51,60,64]

### Family Members' Perspectives

Three Norwegian studies had investigated family members' perspectives (including relatives, adult children, and caregivers/spouses) and their experiences with reablement[71,74,75] and two of them touched upon some themes related to PA.[74,75] Family members expressed that they wanted information about how to support and motivate the older adult to engage in PA.[74,75] However, some of them expressed that taking this responsibility was problematic.[75] Some of the family members perceived that it was difficult for them, in the role as a family member, to facilitate PA, and that the older adult (their mother/father, etc.) was more likely to listen to PA advice from the reablement staff.[75] Some of the family members missed follow-ups, including motivation to train and practice to ensure that the older adults' achieved function was maintained after the reablement was finished.[74]

## Q3: Assessment of Physical Fitness and PA Levels

### Physical Fitness

Five of the 15 intervention studies that were included (three Australian studies and two Norwegian studies) reported using at least one standardized clinical measure of physical fitness.[26,27,29,33,34] Timed up and Go (TUG) was most frequently used (n=4), with the aim of measuring functional mobility.[26,27,29,34] One study used the Short Physical Performance battery (SPPB) to measure lower extremity strength, walking speed, and static balance.[33] Specific strength assessments included Sit-to-stand one repetition and five repetitions[26] and Grip Strength/Dynamometer,[29] while specific balance assessments included Functional reach/static balance[26] and Tandem walk/dynamic balance.[26] Follow-up measures of physical fitness in the intervention studies were made at 8 weeks,[26] 10 weeks,[33] 3 months,[27,29,34] 6 months,[33,41] 9 months,[29] and 12 months.[27,33,34] Eliassen et al[54] reported in their field study that SPPB was used as a standard assessment method in all of the seven included Norwegian municipalities, and that some of the municipalities also used additional tests (no further details provided) related to movement quality. Zingmark et al[49] reported variable use of standardized clinical measures of physical fitness in Swedish reablement settings, including a range of different assessment methods such as the 30s chair stand test, TUG and 10 meter walking test.

Among the included RCT-studies, the two studies that reported mobility outcomes (TUG) did not have comparable comparison interventions (one compared two different exercise interventions in reablement and the other compared reablement with standard homecare services).[26,29] Thus, a synthesis of this evidence would not be considered adequate. Among the non-RCTs, more positive results for physical fitness outcomes were reported (for TUG and SPPB), however the design of these studies meant that the risk of bias would be too high to be included in a synthesis of outcomes. No other outcome measures related to physical fitness were comparable in the RCTs. Overall, the only significant differences related to physical fitness in an RCT study were reported by Burton et al,[26] who reported significantly better outcomes in balance (tandem walk) in the reablement + LiFE program compared to reablement + structured exercise program.

### Physical Activity

None of the intervention studies assessed levels of PA or sedentary behavior. However, one Australian RCT reported using an exercise diary to assess adherence.[26] One feasibility study[43] used the physical activity scale for the elderly (PASE) to assess habitual PA among older adults receiving reablement in an Australian setting. They also used an accelerometer to assess energy expended over 7 days. It was, however, decided not to include accelerometer assessments in the following RCT because of poor compliance and potential for causing discomfort to some participants.[43]

The only study that reported PA levels among older adults (that previously had received either reablement or usual care), was an Australian questionnaire study (n=506) that used the self-reported PASE questionnaire to assess and compare PA levels between participants receiving reablement and usual care.[46] They found that 77.7% of all respondents reported that they were physically active for the recommended minimum 30 minutes of moderate exercise each day, and that there were insignificant differences between groups.[46]

## Discussion

We conducted a systematic scoping review with the aim of mapping existing evidence of how PA strategies have been integrated and explored in reablement research and to identify knowledge gaps. We identified and mapped evidence of how PA strategies have been integrated and explored in 51 studies of reablement. The review revealed that PA recommendations, such as the WHO recommendations,[79] were rarely mentioned, and that the degree and intensity of PA or inactivity/sedentary behavior among older adults' receiving reablement has been given little attention in research.

The review showed that there was little information regarding the causes of functional decline among older adults receiving reablement. Baseline measures of physical fitness in the identified intervention studies indicated that the older adults in general had reduced physical fitness, which is likely to be part of the causes of functional decline.[26,27,29,33,34] PA levels have been found to correlate with physical fitness among older adults in other settings,[12] but none of the identified intervention studies in this review included information about the PA levels among older adults in receipt of reablement.

Functional mobility, such as walking, stair walking, transferring, or outdoor mobility was reported as commonly prioritized goals among older adults receiving reablement.[47] These types of activities are premises for participating in a large range of daily activities, both indoor, outdoor, and social activities. It was reported that older adults participating in reablement perceived that improvements of functional mobility or physical strengthening lead to increased participation in other activities, increased self-confidence, and helped them to increase the freedom to plan their daily activities themselves.[69,71] This may suggest that a focus on improving basic functional mobility and physical fitness is essential both for achieving the individual goals of the older adults, as well as for increasing general activity levels and participation. However, older adults' experiences of PA in a reablement setting should be further explored.

The older adults' individual goals were reported by HCPs as crucial to their development of a reablement plan.[50,56,59,61,64] Although facilitation of activity through practicing daily activities or enhancing participation in daily activities seem to be a central component of reablement, the degree of PA involved in these activities may vary considerably, depending on the activities involved and the functional levels of the older adult. Thus, there may be large differences to the degree of PA involved in reablement. None of the studies reported any measures of intensity of PA or exercises in the reablement interventions. This prohibits the possibility for recommending effective exercise/PA intensity levels for use in reablement. Also, there is limited evidence on the progression of exercises over a period of reablement. More evidence is required to understand what level and when progressions should be applied to gain maximum effect for older people receiving reablement. An increased focus on PA behavior may be helpful in order to improve the older adults' achievement of their goals and also for maintenance of function after reablement. It should be further explored if PA recommendations such as the ones recommended by WHO are feasible and effective in a reablement setting, and also what type of support the older adults' need in order to maintain PA and function after reablement.

Several of the included studies reported that societal expectations regarding aging and activity influenced PA facilitation in this setting, both from the older adults themselves, family members, and HCPs.[45,51,60,64] HCPs should be aware of such existing assumptions when informing about PA. It was also reported that the older adults' motivation and confidence related to PA increased along with their experiences of PA and improvement of function.[69,71] This is in line with findings in other settings, where older adults perceive that the value and enjoyment of being physically active are important factors for participating in PA interventions, and that positive PA experiences increase their motivation of PA.[80] Thus, the HCPs may need to adapt their motivational strategies continually during the reablement period in order to facilitate PA as part of the reablement intervention.

Although exercises often were reported as a component of reablement, the characteristics of these interventions were in general poorly reported and it was unclear how HCPs made judgments and recommendations regarding PA and exercises.

One of the priority areas of the WHO within their physical activity strategy for 2016–2025 is to improve the quality of advice on PA by HCPs to older people.[18] Reablement may be a convenient setting for integrating and developing such recommendations, due to its features of being person-centered and intensive.[80] There is a need to further investigate how HCPs can facilitate PA in a reablement setting in an effective way. Based on the findings from this scoping review, we suggest that the following gaps of knowledge are important to address in future research.

## Gaps of Knowledge

- To what degree is reduced physical fitness part of the causes of functional decline among older adults in receipt of reablement?
- To what degree are older adults in receipt of reablement physically active?
- How do older adults' experience PA facilitation in a reablement setting?
- What type(s) of PA recommendations and exercises are feasible and effective in a reablement setting?
- How does the context of reablement influence PA facilitation?
- What knowledge and competencies are needed by HCPs in order to facilitate PA in reablement?
- How should HCPs appropriately balance and prioritize evidence-based knowledge of PA with the person-centered focus in reablement?

## Suggestions for Future Research

We suggest that future studies of reablement interventions ensure that the interventions are explicitly described, including detailed characteristics of content, intensity, duration, and delivery of the interventions. Due to the patient-centered and – to some degree – unpredictable nature of reablement interventions, we also suggest that intervention studies not only include a pre-planned description of the intervention, but also include reports or measures of the content of the interventions that was actually given throughout the intervention period. We further suggest that the research of reablement interventions pay further attention towards exploring and investigating the effectiveness of more specific components of reablement, such as PA components. This should also include exploration of older adults', HCPs', and – when appropriate – relatives' perspectives and experiences with PA in order to identify potential facilitators and barriers.

This scoping review reveals a large divergency in the delivery of reablement interventions, which is likely to be affected by many factors, such as differences in national and local healthcare policies, health professionals involved in reablement, or available resources in reablement. We suggest that – rather than seeing this divergency as a bias to reablement research – that these contextual divergencies are recognized and further explored in reablement research in order to identify facilitators and barriers for successful reablement delivery.

We also suggest that future studies include additional data of the population group related to causes of functional decline within this population, including (but not limited to) measures of physical fitness and measures of physical activity behavior. We recommend that research is aimed and designed towards identifying subgroups of people that may receive particular benefit (or lack of benefit) of reablement or of particular components of reablement. Furthermore, there is a need to point out feasible measurement instruments that are relevant to this population and can be used more consistently in order to improve comparability between studies. We suggest that specific, clinical outcome measures are used as supplementary measures in order to identify adjustable factors that may be of particular significance for improvement of function.

Finally, we suggest that further research of reablement should aim to explore what type of knowledge and competencies are needed by HCPs in order to provide effective evidence-based and person-centered reablement.

# Strengths and Limitations

A strength of this scoping review was the comprehensive systematic search strategy aiming to identify a broad range of study designs related to the topic. We also followed acknowledged method recommendations for scoping reviews and did duplicate study selection and data extraction in order to raise validity.

A limitation to the study is that the eligibility criteria that we used may not have captured all types of reablement interventions, due to the variability of reablement characteristics. However, by building on a reablement definition used by one of the latest systematic reviews in the field,[4] we aimed to capture the main essence of reablement research. Since PA in general was vaguely described and defined in the included studies, the extraction of data related to PA experiences were based on the reviewers' discretion, which can be a limitation to the reliability of the study findings. However, by pilot-

testing the data extraction forms and performing data extraction in duplicate, it was enhanced to optimize the consistency of this process. Another limitation to the study is that we did not use search strategies with other search terms than English, and we may have missed eligible studies in the other languages that we intended to include. Although the time-limitation used in the search strategy may seem a limitation to the study, our findings strengthened our anticipation that the main body of literature was published in the latest part of the last two decades. This scoping review did not consider the quality of the included studies, and thus it was not possible (or intended) to synthesize and evaluate research evidence. Rather, the intention was to identify and map the current evidence in order to identify gaps of knowledge for future research.

## Conclusion

There is limited evidence of how PA is integrated in reablement, including how PA strategies are targeted to older adults' individual needs and preferences in a reablement setting. Also, there is a lack of understanding concerning the knowledge and competencies that are required by HCPs in order to facilitate PA among older adults receiving reablement. While PA levels are known to be highly related to older adults' physical fitness and function in other settings, there is limited evidence regarding how reablement influences PA levels and physical fitness. None of the reablement studies reported measures that informed (changes of) PA levels during reablement. Although some measures of physical fitness were reported, the use of measurement instruments between studies were inconsistent and it should be further considered which instruments are most appropriate in a reablement setting. Further research is needed to explore how PA should be integrated in reablement and how it should be prioritized among other intervention components included in reablement.

## Abbreviations

PA, physical activity; HCP, healthcare providers; PT, physiotherapist; OT, occupational therapist; RN, registered nurse; TUG, timed up and go; SPPB, short physical performance battery; STS, sit-to-stand; PASE, Physical Activity Scale for the Elderly; RCT, randomized controlled trial.

## Data Sharing Statement

All data generated or analyzed during this study are included in this published article and its Supplementary Files 1 and 2.

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## Author Contributions

HLM carried out searches (in cooperation with a librarian), did study selection, data extraction, mapping of results, and made a draft of the manuscript. CFM carried out duplicate study selection and data extraction. EB and LU were involved to solve discrepancies between reviewers. All authors contributed to data analysis, drafting, or revising the article, have agreed on the journal to which the article will be submitted, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

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None of the authors participating in the review (HLM, CFM, EB, and LU) have any competing interests.

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ORIGINAL RESEARCH

# Promotion of Physical Activity Through Reablement for Older Adults: Exploring Healthcare Professionals' Clinical Reasoning

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**Introduction:** Reablement is an interdisciplinary, multifactorial, and individualized intervention aimed at improving function and maintaining the independence of community-dwelling older adults who receive home care services. Physical activity (PA) is important for functional ability in older adults, but it is unclear how PA is promoted through reablement. Healthcare professionals' (HCPs) clinical reasoning and decision-making are essential and determine how reablement is delivered to individuals. Exploring how HCPs integrate PA into their clinical reasoning is critical to understanding how PA is integrated within reablement. To gain knowledge of how PA is integrated within reablement, there is a need to explore how HCPs integrate PA into their clinical reasoning.

**Purpose:** The study aimed to explore how PA is integrated into HCPs' clinical reasoning in a Norwegian reablement setting.

**Methods:** Sixteen HCPs, including occupational and physical therapists, registered nurses, and other home care staff, were recruited from four Norwegian municipalities. They participated in semi-structured interviews that were transcribed verbatim, and an interpretive content analysis approach was used.

**Results:** PA was integrated into multifaceted clinical reasoning captured by the main theme: "Improving the person's ability to participate in meaningful activities." Within this overall theme, two sub-themes emerged with a primary focus on either i) increasing physical capacity or ii) improving activity performance. Each subtheme encompassed different aspects of clinical reasoning and diverse perspectives on how to integrate PA in reablement.

**Conclusion:** HCPs' decision-making in reablement builds upon complex clinical reasoning and incorporates diverse perspectives on integrating PA in the delivery of reablement. This broad approach may be useful in targeting different needs, preferences, and contexts. There is a need to further investigate how PA is appropriately promoted through reablement, how it meets the needs and preferences of participants, and which contextual factors influence PA promotion through reablement.

**Keywords:** health services of the aged, interdisciplinary research, exercise therapy, health knowledge, patient-centered care, activities of daily living

## Introduction

Emerging in several industrialized countries over the last two decades, reablement is an interdisciplinary home care approach that aims to improve function and maintain independence among people receiving home care services.[1] There has been high political interest in reablement due to its promising expectations for

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reducing healthcare spending and solving some of the sustainability challenges found within an aging population.[2]

Internationally, reablement is provided either through social care services or healthcare services and involves various interventions that builds upon goal-oriented support plans.[1] Reablement is not specific to particular diseases, and those receiving reablement are typically a heterogenic group comprised of older adults with a mean age of 80 years[3] and no severe cognitive problems[4–6] who are experiencing challenges with managing their daily life independently.[1] In Norway, where this study was conducted, reablement is provided as part of the publicly-funded municipal healthcare service. It may be organized differently between municipalities, but is typically handled by the pre-existing home care service or a specialized reablement team.[7] Within the reablement team, occupational therapists (OTs) and physical therapists (PTs) often are described as consultants and/or advisors who are responsible for developing, supervising, and adjusting a reablement plan, while home care staff (with or without formal education) are responsible for delivering reablement.[8,9] In the following study, the term healthcare professionals (HCPs) is used as a common term for all personnel delivering reablement, regardless of educational background.

Despite its emerging popularity, the scientific evidence of the effect of reablement for improving function and independence remains limited,[10–12] and there is insufficient knowledge about which components are critical for successful outcomes.[10] The international classification of functioning (ICF) outlines three levels of functioning, including body functions and structures (eg strength or balance), activity (ie the execution of a task) and participation (ie involvement in a life situation).[13] In a recent definition of reablement developed through a Delphi study with reablement experts, it suggests that reablement consists of training in daily activities, home modifications, assistive devices and involvement of a social network.[1] While these intervention components may target the levels of activity and participation, none of them specifically targets body functions, which may influence the effectiveness of reablement.

Physical activity (PA) is important for improving and maintaining body functions and structures in older adults and influences their ability to manage activities of daily living (ADL),[14] reducing the risk of falling,[15] and decreasing frailty.[16] A recent scoping review showed that the integration of PA in reablement varies and that it is unclear how the promotion of PA is prioritized among other reablement interventions.[3] While the majority of studies published over the last two decades included exercises as a component of reablement, as well as a focus on practicing and participating in ADLs,[3] there is no consensus that exercises or motivation for PA should be included in reablement.[1]

Global and nation-specific health policy strategies recommend that older adults be physically active with moderate intensity for at least 150 minutes a week in addition to completing activities that target strength and balance and reduce sedentary behavior.[17,18] PA may consist of a range of different activities, such as structured and timely planned exercise, leisure time activities, transportation, household tasks, and other everyday activities. Importantly, PA should be adjusted to functional levels, with the understanding that doing some PA is better than doing none.[18] Strategies from the World Health Organization (WHO) emphasize the importance of implementing evidence-based actions and ensuring that HCPs provide simple and timely advice about PA and sedentary behavior tailored to individual health needs, capacity, and preferences.[19]

However, the task of promoting PA among older adults is complex and challenging, and PA levels generally decrease with age, particularly among people who require assistance from others.[20] Older adults receiving home care report several barriers that prevent them from being physically active, such as injury or illness, a feeling of being too old, or a lack of social support.[21] Older adults receiving PA interventions report that HCPs play an important role in their experiences related to PA. They find that the HCPs' delivery of PA interventions is as important as the content of these interventions,[18] emphasizing the importance of being able to see the value of PA as well as experiencing it as enjoyable.[22]

In the context of reablement, decision-making should be person-centered (here, the term "participant" will be used for people receiving reablement) and targeted toward individual goals set by the participants themselves.[1,23–25] To develop an evidence-based approach, the HCPs need to integrate different types of knowledge including research evidence, information from their own experiences and expertise, and awareness of the individual participant, including contextual factors to ensure feasibility, appropriateness, meaningfulness and effectiveness.[26] Thus, promoting PA not only depends on HCPs knowing the

benefits of PA but also on how they utilize, collate, and prioritize what they know in their clinical reasoning and decisions.[27] For this study, we consider clinical reasoning to be

> the thinking and decision-making processes associated with clinical practice […] that allows practitioners to make difficult decisions in the conditions of complexity and uncertainty that often occur in health care.[27] p. 3

Although clinical reasoning is often associated with the thinking processes based on knowledge within a particular profession (typically those requiring a bachelor's degree), in this study, we hold that clinical reasoning involves the thinking and decision-making of all HCPs involved in reablement.

The interdisciplinary nature of reablement makes it possible to combine knowledge from several disciplinary fields, such as theories of occupational performance,[4] motor learning theory,[28] and caring science.[29] This interdisciplinarity presents opportunities to bring together complementary perspectives and knowledge, relying on interdisciplinary collaboration with respectful negotiation and shared decision-making between HCPs.[23,30,31] To gain a better understanding of how HCPs promote PA in reablement, research needs to explore how PA is integrated into HCPs' reasoning processes in a reablement setting. This study aimed, therefore, to explore how PA is integrated into HCPs' clinical reasoning in a Norwegian reablement context.

## Design and Methods

Inspired by a realist perspective, the study aims to foster an understanding of patterns and mechanisms that may explain how and why reality unfolds as it does in a particular context.[32] The study uses a qualitative exploratory design based on individual interviews. The consolidated criteria for reporting qualitative research (COREQ) was used to ensure that the relevant study information was reported.[33]

### Sampling Strategy and Recruitment

A purposive sampling strategy was used based on the principles of variation sampling, which is targeted toward gaining variation in small samples based on pre-defined selection criteria.[34] We included HCPs with diverse professional backgrounds who were central in reablement delivery in their municipality. The HCPs were recruited from municipalities that differed in size and organizational model because these factors could involve different premises for practice.[7,35] By including this heterogeneity in the study sample, we aimed to learn the central themes that cut across the existing variation and capture diverging perspectives related to the phenomena being explored.[34]

We selected eligible municipalities and asked the leaders of the reablement teams in these municipalities for permission to contact potential candidates from their teams. We encouraged the leaders to suggest potential candidates whom they considered to be reflective about their practice, who had at least one year of experience with reablement, and who represented diverse professional groups. We contacted each potential candidate either by phone or e-mail, provided oral and written information about the study, and then asked if they were willing to participate. All the reablement leaders we contacted reacted positively, and all the HCPs who were recommended and contacted agreed to participate.

### Study Sample and Setting

Sixteen HCPs from four municipalities were included in this study, including four OTs, four PTs, four home care assistants, two registered nurses (RNs), and two HCPs with other educational backgrounds. The HCPs' median age was 46.5 (ranging from 29 to 57), and two of them were male. On average, they had 19 years of professional experience (ranging from four to 33) and four years of experience working with reablement (ranging from one to six years). Most HCPs (n = 15) had additional education/courses beyond their basic education, eg, reablement, rehabilitation and habilitation, geriatrics, supervision, and motivational interviews, and two of them had master's degrees. Further characteristics of the participants are presented in Table 1. The HCPs were recruited from four Norwegian municipalities ranging in size from ~4000 to ~200,000 people. Two of the municipalities had organized reablement into specialized teams, while two municipalities provided reablement as an integrated part of the existing home care services. The duration of the reablement interventions in all municipalities was approximately six weeks with exceptions if needed. Visit frequency and duration varied between municipalities, ranging between 2–5 visits per week and 20–60 minutes per visit. Additional characteristics of the reablement organization in each municipality are presented in Table 2.

**Table 1** Main Characteristics of HCPs

| Healthcare Personnel | N | Gender (Male/ Female) | Age, Mean (Range) | Years of Professional Experience, Mean (Range) | Years of Experience with Reablement, Mean (Range) |
|---|---|---|---|---|---|
| OTs | 4 | 1/3 | 36 (29–43) | 11.5 (6–17) | 4.5 (4–5) |
| PTs | 4 | 1/3 | 51 (40–56) | 24 (17–31) | 4 (1–6) |
| RNs | 2 | 0/2 | 51 (44–57) | 17.5 (4–31) | 3.5 (3–4) |
| Home care assistants | 4 | 0/4 | 54 (49–56) | 30.7 (29–33) | 4.5 (4–6) |
| Other | 2 | 0/2 | 33 (30–35) | 9.5 (7–12) | 3.5 (3–4) |

**Abbreviations:** OT, occupational therapist; PT, physical therapist; RN, registered nurse.

## Data Collection

We developed a semi-structured interview guide and piloted it with HCPs working with reablement in a municipality not included in the study (see Supplementary file 1). The questions in the guide were designed to encourage the HCPs to provide rich descriptions of their experiences and clinical reasoning related to PA and to provide information about how they integrated PA into their general clinical reasoning in reablement. The guide included guidance for conversational topics and interview directions, but the order of questions was not followed strictly.

Face-to-face individual interviews were conducted and audio-recorded between May and October 2019 in a quiet office or meeting room at the HCP's workplace. Each interview lasted 70–90 minutes and was undertaken by the first author, who had completed interviewing classes, practice and supervision prior to interviewing. Field notes were made after each interview to note first impressions and experiences in the interviews. The interviewer had no relationship to the HCPs prior to study commencement, but introduced her own professional background and aim of the research prior to the interviews. After analyzing 16 interviews, we found the data to be sufficiently saturated to tell a rich, complex, and coherent story addressing our research question, so there was no need to recruit additional informants or undertake follow-up interviews.[36]

## Data Analysis

We used an inductive qualitative content analysis approach to interpret the meaning of the data.[37] All interviews were transcribed verbatim and read several times to gain a better understanding of the meaning of the text. We searched each transcript for meaningful units of text that showed the HCPs' clinical reasoning about PA, which were then extracted and condensed, using NVivo software©. The condensed text units were organized into codes, categories, two sub-themes, and one main theme, following the hierarchy presented by Erlingsson and Brysiewicz[37] and illustrated by the conceptual map in Figure 1. While the organization of the codes and categories was mainly based on the manifest content of the data, the development of sub-themes and the main theme was an interpretational process, elaborated on by reflective thinking and by critical questioning of how the themes developed in accordance with the data. The research team critically discussed the interpretations, questioning and reflecting

**Table 2** General Characteristics of Reablement Organization in Each Municipality

| | Municipality 1 | Municipality 2 | Municipality 3 | Municipality 4 |
|---|---|---|---|---|
| Duration of reablement interventions | 3–10 weeks, average 6 weeks | Mainly 6 weeks | 6–8 weeks | Most often <6 weeks |
| Visits per week | 2 | 2–5 | 2–3 | 5 |
| Duration per visit | 30–60 min | 20 min | 60 min (often more in the beginning) | 60 min |
| Organizational model | Integrated | Integrated | Specialized team | Specialized team |

**Note:** Information based on the HCPs' descriptions.

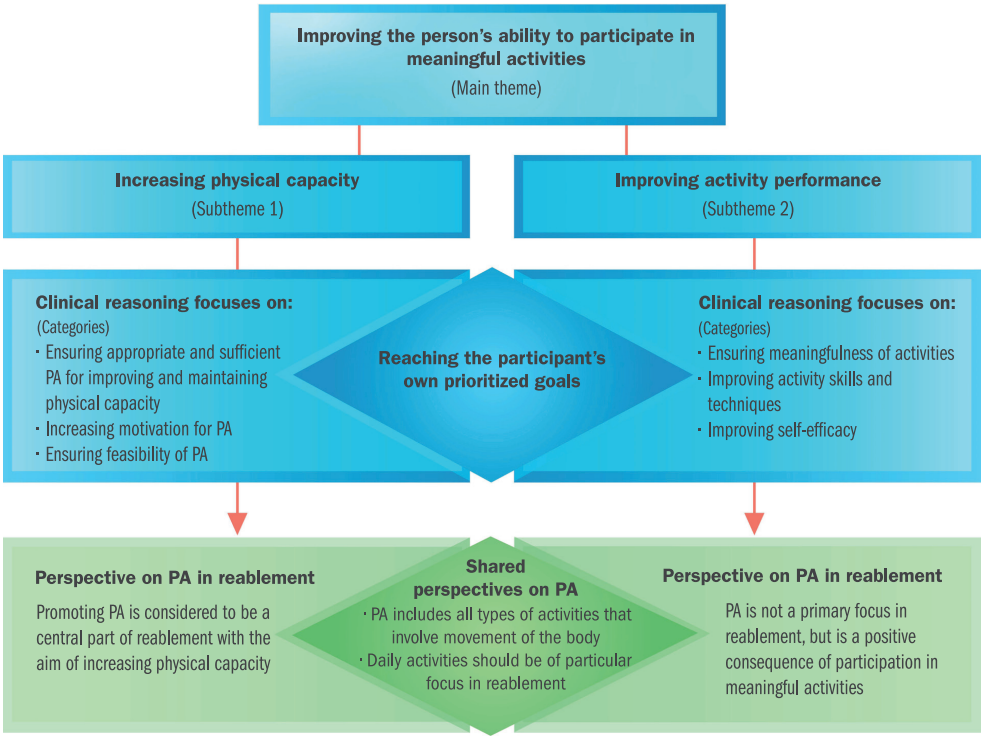


**Figure 1** Conceptual map illustrating the healthcare professionals' clinical reasoning and perspectives on PA.
**Abbreviation:** PA, physical activity.

on the coherence of the analysis and how the researchers' pre-understandings influenced it. The analysis was not linear but followed a continuous and flexible reflective process that compared content in parts of the data with interpretations of the whole data.[37]

We enhanced the trustworthiness of the study methods by carefully considering questions raised in the checklist by Elo et al.[38] To enhance the transparency of the findings, we selected quotes from the participants that exemplified the connections between the empirical data and the results.[38]

## Results

The HCPs' clinical reasoning was multifaceted and reflected in the overarching theme "improving the person's ability to participate in meaningful activities," in which the participants' own prioritized goals were central to the HCP's reablement strategy. There was agreement among HCPs that PA involved all types of bodily movement and participation in daily activities was a particular focus in reablement. Within this overarching theme, two subthemes arose, with a primary focus on either 1) increasing physical capacity or 2) improving activity performance. Each of the subthemes involved different aspects of clinical reasoning as well as diverse perspectives on how PA should be integrated into reablement. Within the first subtheme, the HCPs believed that promoting PA to increase physical capacity was a central part of reablement and their clinical reasoning had a primary focus on i) ensuring appropriate and sufficient PA to improve and maintain physical capacity, ii) increasing motivation for PA, and iii) ensuring the feasibility of PA. Within the second subtheme, the HCPs did not consider PA to be a primary focus in reablement, but rather, they saw it as a positive consequence of participating in meaningful activities. Within this subtheme, the HCPs'

clinical reasoning was primarily focused on i) ensuring the meaningfulness of activities, ii) improving activity skills and techniques, and iii) improving self-efficacy. A conceptual map illustrating the themes, subthemes, and categories, as well as the different perspectives on how PA should be integrated into reablement, is provided in Figure 1.

## Subtheme 1: Increasing Physical Capacity

Within subtheme one, the HCPs considered reduced physical capacity, such as diminished strength, balance, and endurance, to be a central cause of the participants' functional challenges. They perceived that the participants' lack of physical capacity made them feel unsafe, which become a barrier to their taking part in daily life activities. Another perception was that participants lacked energy, which could lead to increased sedentary behavior and further reduced their physical capacity and function. Thus, HCPs believed that increasing the participants' PA levels was critical for improving their physical capacity and reaching their reablement goals.

> When we exercise […], it is exercises in order to be able to do another activity, right? It is like the brick wall, which enables you to come out from your house, down to the bus, and down to your target. […] So the exercises themselves are not the goal. The exercises are part of the way towards the goal. (PT 2)

### Ensuring Appropriate and Sufficient PA for Improving and Maintaining Physical Capacity

The HCPs considered the types, intensities, and amount of PA needed to improve and maintain physical capacity, though in careful balance with the participants' motivation, goals, and contextual premises. They believed participation in daily activities to be an important type of PA and encouraged the participants to complete tasks such as cleaning the house, going to social events, or walking stairs.

> We really emphasize the everyday activities. […] Perhaps we see that continuing to vacuum, doing the laundry and things like that is so important for your physical health. (PT 1)

In most cases, the HCPs found it necessary to also introduce specific exercises to help the participants improve physical capacity. The HCPs emphasized that the exercises they used in reablement were evidence-based and would typically include a set of four simple exercises that they knew, through research, to be beneficial for older adults, and sometimes adding a few other simple exercises tailored to the participant's individual needs.

> First of all, it needs to be some exercises that I know have a documented effect on what we aim for. If you want to become stronger in your legs, then it needs to be some exercises that have been researched and show that you do actually become stronger in your legs by doing this. (PT 2)

The HCPs focused on facilitating the sufficient amount, intensity, and quality of PA. This could involve pushing the participants to give an extra effort in the exercise activities or encouraging them to do additional exercises on their own time. It also meant ensuring that the participants performed the exercises or PA with a good technique to improve the perceived effect. For example, this might include teaching the participants to rise from a chair correctly (working toward not using their hands) or walking stairs with an upright posture.

> When you are going to sit down, many people just let themselves fall down. Then we need to be attentive that you … need to sit down slowly because it strengthens the musculature in your thighs better. (RN 1)

### Increasing Motivation for PA

Motivating the participants to be physically active was identified by HCPs as a crucial part of reablement. They emphasized helping participants to understand and experience the benefits of PA in managing their daily life. When promoting PA, the HCPs found it important to initially build trust with the participants and to ensure that they felt seen and heard. The HCPs also considered it crucial that the participants felt that PA was meaningful and related to their reablement goals and they described how they would try to influence the participants' views on PA, ensuring that they understood the connection between their PA behavior and their physical capacity and function.

> My experience is that when you have some exercises that you are going to do with them, then it is important that … you need to understand why you are doing this. […] You need to give an explanation … what happens with your body when you do this and this, and why is this important. (Home care assistant 2)

The HCPs perceived that insecurity and the fear of falling often were barriers for being physically active among the participants. Thus, they considered how they could make participants feel safe during PA and assure them that it was not hazardous for their health condition. Informing and reassuring participants that it was normal to experience

muscular soreness, pain, increased heart rate, or breathlessness was important.

> And it is a lot about explaining this to the participants, so that … it is not dangerous to walk, to have a high pulse […]. One may think it is a bit scary to increase the pulse […]. Many also become sore, that have not been sore in many, many years, right. […] Then it is about explaining to them in a professional, reasonable way. (OT 4)

A priority for HCPs was balancing the intensity and degree of exercise challenge, so that participants experienced a feeling of success and self-efficacy while still being challenged sufficiently to make progress. They described how they motivated the participants to give an extra effort by doing the exercises with them, making the exercises fun and enjoyable, challenging them to improve their physical test results, counting repetitions along the way, and pushing them to give a little bit more. The HCPs perceived that a rapid improvement at the beginning of reablement often led to improved energy and motivation to re-engage in activities that they had previously discontinued: "To get them over the hill where they feel it, that it does good, that it is helpful for them" (PT 1). The HCPs believed it is important to point out and explain any improvements and found that reassessments of physical tests were useful in visualizing improvements and reinforcing both the participants' and the HCPs' beliefs that their efforts were worthwhile.

> When they are to take a new test, then you can see how much faster they can walk or how much stronger they have become. That motivation is really good. (RN 1)

### Ensuring the Feasibility of PA

The HCPs emphasized that the PA and exercises they recommended were feasible within the context of reablement and the participants' daily life. The PTs typically were responsible for planning the exercise interventions. They described how they recommended exercises that were familiar to the home trainers and easy to perform and supervise, rather than suggesting more individually targeted exercises, which would have been preferred if they were able to follow up on the exercises themselves. When following up on the exercises, the home trainers would focus on observing the participants' day-to-day function and health status, considering if any adaptations were needed.

> It needs to be feasible for the home care staff […] it needs to be a bit easy and easily understood, so that everyone from the home care service that visits are able to instruct on these exercises […] because if you make a program […] that, per definition, should be the most optimal program in the world. But if it just ends up in a drawer or among the newspapers because it is hopeless to carry it out, both for the participant and for those who shall instruct it, then it's a waste. The best then becomes the enemy of the good. (PT 2)

Adapting PA to the participants' daily environments, interests, and habits was key for the HCPs, and they focused on how to foster the participants' desire to maintain their PA habits after reablement. Activities such as stair walking or outdoor walking were considered particularly suitable because these activities were easier for the participants to undertake and related to their everyday living, yet were considered effective for increasing physical capacity.

> How can we help them establish good habits so they can maintain their function when we are done? To make ourselves redundant, that is the most important part. (PT 4)

## Subtheme 2: Improving Activity Performance

Within the second subtheme, the HCPs emphasized that the reablement interventions should consist of practicing the participants' goal activities, believing that the limitations in skills and self-efficacy were the core reasons for activity challenges among the participants. Within this subtheme, the activity performance was the central consideration, rather than the amount of PA involved in activities. The HCPs considered PA to be a positive consequence of participating in daily activities, rather than a primary focus in reablement.

> They [the participants] may expect that they are going to exercise, in the old-fashioned way […]. You need to work a bit with the part that … it is actually the activity you want to do, that's where we need to practice. So if you are going to the town with your wheeled walker, that's what we need to practice. (OT 2)

### Ensuring Meaningfulness of Activities

According to the HCPs, it was essential that the participants' reablement activities be important and meaningful in their daily life. The HCPs considered the initial process of mapping the participant's daily life, interests, and

challenges to be key in developing meaningful goals and identifying the activities they wanted to practice through reablement. Goal-setting and motivational interviews were considered helpful for the participants in identifying meaningful goals that they were motivated to work on.

> We use quite a lot of time on the mapping process, we may likely have 2–3 visits. We see that it is very valuable because it is about getting to know them and give them time. This is also a process for them in order to identify a goal. (OT 3)

The HCPs wanted to ensure that the participants can prioritize the activities they found most meaningful in their everyday life, and they would supervise the participants in how to preserve energy to participate in the activities they valued most. This could involve suggesting that activities be spread over the week or showing how they could engage in activities in new ways that did not demand as much energy.

> A lot of it is about supervising about how to use your energy well. […] If you are going to a social activity in the afternoon, then that may not be the day to take a shower because then you become so exhausted that it affects the quality of the social activity you are to do later, which is important for you. (OT 2)

### Improving Activity Skills and Techniques

The HCPs described how they would carefully observe the participants performing an activity to analyze and identify challenging subtasks of the activity. They would supervise and suggest alternative techniques that could improve the participants' ability to accomplish the activity and also their feeling of safety when doing so. This could also involve introducing aids or equipment or re-arranging the furniture to alter the demands of the activity.

> If someone is afraid of falling in the shower and wants to shower safely, then you need to consider what is needed for the person to shower safely. […] You observe and let the person do it. Then you start analyzing. What did the person do and what could the person have done differently to make it more safe? Then you practice the small elements that you see. The clothes need to be within range. A shower mat may be needed. Handles. A safety alarm close by perhaps. Take your time. Perhaps sit on a stool in the shower. May need some helping aids. […] So it is very much about technique in order to accomplish stuff. (PT 3)

It was common for HCPs to split the goal activity into subtasks or subgoals and work toward improving one part at a time. In the reablement sessions, they would emphasize practicing each subtask repeatedly until the participant felt confident performing it by themselves. When the participants were able to do the subtasks themselves, the HCPs would help the participant begin working on the next subtask, while continuing with the previous subtasks they mastered.

> When a goal is accomplished, that you, as an example, manage to walk down the stairs alone, then we may agree to meet the participant down by the stairs. Then they have accomplished one of their subgoals. (Home care assistant, 2)

### Improving Self-Efficacy

According to the HCPs, the participants' lack of self-efficacy is an essential barrier to taking part in daily activities. During the reablement intervention, the HCPs focused on assisting the participants in gaining feelings of success when performing activities, considering this essential to their motivation for engaging in meaningful daily activities. They emphasized that noting and commenting on any small improvements helped the participants see they were progressing.

> We had one participant that was not so motivated for exercises, […] but he had been painting. […] And he had not done that since he had a stroke five years ago. […] That is kind of like a physical activity as well. It did something with his self-efficacy. I think that is the strongest … moment I have had these years. I sat behind him, and then I saw that he was completely in his own world. […] It is about finding something that is positive. The small things they can do, that they may not have been able to before. (Home care assistant 1)

Repeated practice and gradual exposure to the activity were considered important for improving the participants' self-efficacy and confidence in undertaking activities. The HCPs perceived that insecurity, anxiety, and other psychological issues were common barriers to engaging in activities and considered it important to support the participants by being present, enabling them to try the activity, one part at a time. They emphasized that it was key that the participants felt confident in performing the entire activity in its correct environment for them to be motivated to continue doing the activities alone.

> If you are bringing your wheeled walker to the bus, then it is good to have someone along with you the first time. Because there is so much insecurity about it, there is a lot [of] […] what should I do and how. Then we have accompanied them on the bus with their wheeled walker […]. To see that, yes, you walk in here, then sit down there, you pay here, then sit down there, and then out again. And if you have done that once together with someone, then you have a lower threshold for doing it yourself the next time. And the chance that the goal is accomplished is higher. (OT 2)

## Discussion

This study aimed to explore how HCPs integrate PA into their clinical reasoning in reablement. The findings show that although the HCPs shared common overall perspectives on reablement and PA, their clinical reasoning was diverse, with a primary focus on either increasing physical capacity or improving activity performance. The findings of this study exemplify the complex and multifactorial interdisciplinary clinical reasoning processes related to promoting PA in a real-life healthcare setting and, additionally, provides evidence that different perspectives may influence how HCPs prioritize PA promotion in their reablement delivery.

The diverging perspectives on PA found in this study share similarities with the conflicting perspectives about PA described in the Delphi study by Metzelthin and colleagues.[1] Likewise, Eliassen and Lahelle found diverse practices in Norwegian municipalities, with an emphasis on either exercise-based training, activity-based training, or a combination of both.[28] The findings of our study confirm these diverging perspectives and add to the present evidence by elaborating and clarifying how diversity in HCPs' clinical reasoning may lead to different decision-making in reablement.

In the first subtheme, a core concern was to improve physical capacity, which was considered essential for the participants' function in everyday living. Within this subtheme, research evidence about PA and its impact on physical capacity and function played an important role, which is consistent with other research evidence supporting this relationship.[14–16] To overcome barriers to PA, HCPs not only found it valuable to use research-based exercise strategies but also to consider contextual premises and individual motivational factors that influence PA habits.[22] These findings support the recently updated guidelines of PA presented by the WHO[18] and exemplify how promoting PA can be integrated in a person-centered way through a publicly financed healthcare setting. However, the organizational circumstances of reablement were central in the HCPs' clinical reasoning, suggesting that different organizational premises influence their decision-making. Also, the HCPs suggested that establishing continued PA habits after reablement was a core challenge, particularly if the participants did not find PA and exercise activities sufficiently meaningful in their everyday living.

In the second subtheme, the participant's performance of the particular goal activities was a core focus of the HCPs' clinical reasoning. This subtheme shares similarities with the theory presented through the Canadian Model of Occupational Performance and Engagement (CMOP-E)[39] and its associated measurement tool, the Canadian Occupational Performance Measure (COPM), which has been included in previous reablement studies.[4,5] In the CMOP-E, a person's occupational performance and engagement are central and understood as the dynamic interplay between the person, the activity, and the environment.[39] Consistent with the CMOP-E, the HCPs emphasize the need to ensure that the reablement activities are meaningful, and they found it essential to analyze and practice the activity in its rightful environment as key to improving the participant's self-efficacy and motivation to engage in activities. Within this subtheme, the HCPs did not refer to research evidence in their clinical reasoning, but, rather, they emphasized the importance of gaining comprehensive knowledge about the individual participants and their daily life, challenges, and interests, using the COPM as a tool to facilitate this process. Concerning how to increase PA among older adults, as recommended by the WHO,[18] this perspective does not focus on the promotion of PA but offers a valuable approach to ensure meaningfulness and self-efficacy in daily activities. This may improve participants' general activity levels and reduce sedentary behavior, which is a recently added component of the PA recommendations from the WHO[18] and an emphasized field of further research.[40] However, a sole emphasis on the perspectives in subtheme two may neglect considerations related to the participants' body functions and structures and overlook the benefits that can be reached by promoting PA or addressing the risks of not being sufficiently physically active in older age.

The overall clinical reasoning described in this study embraces all three levels of the ICF-model, involving considerations of body functions and structures, activity, and participation, and also considers interrelationships

between health condition, environmental factors and personal factors, as outlined in the ICF-framework.[13] The first subtheme identified in our study is particularly focused on body functions and structures, while the second subtheme is particularly targeted toward participation. However, both share a common focus in their emphasis on function in (everyday) activities as central in reablement. The findings of this study further suggest that to meet these different levels of functioning, HCPs have different priorities in their clinical reasoning, while building upon different types of knowledge.

Although it could be obvious to consider that the two subthemes may relate to the different disciplinary backgrounds of the HCPs, we did not find this association in our study. Rather, the HCPs seemed to have developed mutually agreed upon concepts within each reablement team, predominately emphasizing one of the two subthemes when deciding upon the primary content of reablement interventions. This joint agreement within the teams aligns with findings by Gabbay and LeMay, suggesting that HCPs, rather than working directly from theories or scientific evidence, develop "mindlines" of reasoning based on collectively reinforced, internalized, and tacit knowledge.[41] However, if such mindlines and perspectives remain unspoken in daily practice, there is a risk of inadequate integration of different professional perspectives in the decision-making. In all of the municipalities included in this study, PTs and OTs were considered the "motors" of reablement and had the primary responsibility of developing the reablement plan. Although the competencies of healthcare assistants and RNs were considered highly valuable in reablement, this organization may have prevented the integration of theoretical perspectives from other disciplines in reablement delivery. Valuable perspectives and knowledge added by different disciplinary groups involved in reablement should therefore be further explored in future research.

This study was conducted in a Norwegian reablement setting, which likely has similarities as well as differences from other reablement settings around the world. Both PTs and OTs, home care staff, and, to some extent, RNs were included in the reablement settings included in our study, similar to reablement studies from other countries including Australia,[42] Sweden,[43] Denmark,[44] and Japan.[45] In the United Kingdom, however, reablement is provided through social services, and mainly social workers, and, to a lesser degree, OTs are reported to be involved in reablement.[46–48] Contextual differences related to disciplinary groups involved, organization of reablement, and available resources may introduce different priorities and competencies in reablement practice and should be further explored.

## Strengths and Limitations

A strength of this study was that we included a heterogenic sample of HCPs recruited from municipalities of different sizes and organization models. This allowed us to explore essential components of the HCPs' clinical reasoning despite some variations in reablement settings. However, as we found little evidence in the literature of which contextual factors influence reablement provision, there may be other influencing characteristics that we did not consider in our sampling strategy, which potentially could have introduced other perspectives.

The study was further strengthened by a thorough data analysis, which was critically discussed by a team of researchers with different educational backgrounds and expertise. Also, we believe the use of the COREQ checklist[33] and Elo et al's reflection questions for increasing trustworthiness[38] improved the methodological stringency and trustworthiness of this study. Study limitations were that we did not gain feedback on the findings from the HCPs we interviewed, which could have further strengthened the trustworthiness of the findings. Although we encouraged the HCPs to share and elaborate on specific examples from their practice, we are aware that the core clinical reasoning in their everyday practice is contextually dependent and may withhold nuances and dynamics that are not captured in this study.

## Implications for Practice

By exploring HCPs' clinical reasoning and perspectives regarding PA, this study may explain some of the underlying and unspoken assumptions that may remain in interdisciplinary reablement collaborations. The findings can be used to facilitate critical discussions and assist HCPs in expressing and critically reviewing underlying perspectives regarding PA in their practice. They also point out the need for close interdisciplinary collaborations that enable an appropriate integration of different knowledge to ensure a broad foundation for evidence-based practice and the ability to meet different needs of the participants.

The findings contribute to an improved understanding of the knowledge used to promote PA in a person-centered way in a community healthcare setting, thus informing policymakers, leaders, and clinicians. By making the HCPs clinical reasoning more explicit, the findings may

also elucidate types of knowledge that should be included in training of HCPs in reablement.

### Implications for Research

The findings of this study demonstrate that PA can be a part of reablement delivery. This may add to the previous understanding and perspectives on the concept of reablement, proposing strategies for how reablement can target body functions and structures, in addition to activity and participation, in order to improve older adults' function. Future studies should further explore how PA is integrated in an appropriate, feasible, effective and meaningful way to improve and maintain participants functional ability. We suggest that future research also explore how the context and organizational setting enables or hinders the facilitation of PA in reablement.

Our findings suggest that there are different theoretical perspectives influencing reablement strategies. We recommend more focus be placed on elaborating and clarifying such perspectives, in order to make a stronger theoretical foundation of reablement, and also informing how these perspectives and components can complement each other and contribute to reaching the goals of reablement. This may also inform which professions are beneficial to include, and what knowledge is required for home care assistants to deliver reablement at a high level. By gaining better insight into HCPs clinical reasoning processes, researchers have an improved understanding of how PA is being used in practice, which may better inform about the type of future research needed to further develop reablement.

## Conclusion

The findings of this study suggest that HCPs build their clinical reasoning from different knowledge and perspectives, leading to diverse priorities on how to integrate PA in reablement. Such underlying theoretical perspectives may lead to conflicting decision-making in reablement, but they also may integrate different perspectives in a complementary and dynamic way that adequately meets the individual preferences and needs of participants. The potential of promoting PA through reablement, based on health policy recommendations, seems to be influenced by theoretical perspectives and interdisciplinary collaboration and negotiation between HCPs. There is a need to further investigate how the promotion of PA can be efficiently integrated into the context of reablement, how it meets the needs and preferences of participants, and which contextual factors influence PA promotion in reablement.

## Abbreviations

PA, physical activity; HCP, health care professional; PT, physiotherapist; OT, occupational therapist; RN, registered nurse; COPM, Canadian Occupational Performance Measure.

## Data Sharing Statement

The data of this study will not be shared due to the risk of reducing the confidentiality of the participants of the study.

## Ethics Approval and Informed Consent

The study was not considered by the Regional Ethics Committee to be within their field of medical and health research ethics approval, since no health data was collected. The study received approval from the Norwegian Centre for Research Data (Ref. nr. 405436). All participants signed an informed consent before participating in the study, in which they accepted that their information would be used in scientific publications, but would remain anonymized.

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## Author Contributions

All authors contributed to the development and planning of the study and made a significant contribution to the work reported. HLM carried out interviews, transcribed interview data, and was the main contributor in the analysis of data. All authors contributed to data analysis, drafted, substantially revised and critically reviewed the article. All authors agreed on the journal to which the article was submitted; gave final approval on all versions of the article prior to publication; and agree to take responsibility and be accountable for the contents of the article.

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## Disclosure

None of the authors participating in the study (HLM, CFM, EB, and LU) have any competing interests.

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**III** Mjøsund HL, Uhrenfeldt L, Burton E, Moe CF. Promotion of physical activity in older adults: facilitators and barriers experienced by healthcare personnel in the context of reablement. BMC Health Services Research. 2022 (In review)

# *Promotion of physical activity in older adults: facilitators and barriers experienced by healthcare personnel in the context of reablement*

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## Abstract

**Background:** Being physically active is important for maintaining function and independence in older age. However, there is insufficient knowledge about how to successfully promote physical activity (PA) among home-dwelling older adults with functional challenges in real-life healthcare settings. Reablement is an interdisciplinary, person-centered approach to restoring function and independence among older adults receiving home care services; it also may be an opportunity to promote PA. However, reablement occurs in many different contexts that influence how PA can be integrated within reablement. This study aimed to identify facilitators and barriers experienced by healthcare professionals (HCPs) that influence the promotion of PA within the context of reablement.

**Methods:** This exploratory qualitative study is guided by a realist perspective and analyzed through inductive content analysis. Sixteen HCPs, including occupational therapists, physical therapists, registered nurses, and home care workers, participated in semi-structured interviews. The HCPs were recruited from four Norwegian municipalities with diverse sizes and different organizational models of reablement.

**Results:** The HCPs experienced several facilitators and barriers at the participant, professional, organizational, and system levels that influenced how they promoted PA through reablement. Factors related to the individual person and their goals were considered key to how the HCPs promoted PA. However, there were substantial differences among reablement settings regarding the degree to which facilitators and barriers at other levels influenced how HCPs targeted individual factors. These facilitators and barriers influenced how the HCPs reached out to people who could benefit from being more physically active; targeted individual needs, desires and progression; and promoted continued PA habits after reablement.

**Conclusions:** These findings exemplify the complexity of facilitators and barriers that influence the promotion of PA within the reablement context. These factors are important to identify and consider to develop and organize healthcare services that facilitate older adults to be active. We recommend

that future practice and research in reablement acknowledge the variations between settings and consider mechanisms on a participant and professional level and within an integrated care perspective.

**Keywords:** health services of the aged, interdisciplinary research, exercise, physical activity, patient-centered care, activities of daily living, reablement, sedentary behavior

## Background

The population is rapidly ageing (1), which has led to increased needs for assistance in daily living (2). Global strategies call for innovative initiatives to ensure the sustainability of healthcare provision and promote healthy aging i.e., enhancing and maintaining the functional ability that enables well-being in older age (3).

Being physically active is important for maintaining functional ability and health in older age. Physical activity (PA) is commonly defined as "any bodily movement produced by skeletal muscles that requires energy expenditure" (4), and PA may be included within different types of activities, such as transportation, activities of daily living (ADLs), household activities, leisure activities, or specific exercises. The World Health Organization (WHO) recommends that older adults participate in moderate-intensity PA at least 150 minutes a week, in addition to completing activities targeting strength and balance and reducing sedentary time (4).

Despite strong evidence of the relationship between PA and function in older adults, PA levels are seen to decrease with age, particularly among people who depend on help from others to manage their ADLs (5). Older adults who receive home care services report several barriers to being physically active, such as injury/illness, a feeling of being too old, and a fear of falling (6). Although it is emphasized that healthcare professionals (HCPs) should provide evidence-based, simple, and timely advice about PA and sedentary behavior that is adapted to individual needs, capacity, and preferences (7), challenges remain about how this can be done in a meaningful and sustainable way in real-life healthcare contexts (8). There is a need to develop approaches to promote PA that are effective both in the short and long

term, meaningful for older adults, and reach people who need them (9). More attention should be placed on developing interdisciplinary approaches and investigating how contextual factors influence PA promotion among individual older people, HCPs, and their practice and organizational systems (10).

*Reablement* is a person-centered concept of care that has been implemented in several countries over the last two decades. It may be a convenient arena for promoting PA among home-dwelling older adults experiencing functional problems. Reablement aims to improve function and independence for people receiving home care (11-13). Participants recruited to reablement are typically older adults with a mean age of 80 years (14), though there is largely consensus that reablement should be an inclusive approach, irrespective of people's age, capacity, diagnosis or setting (13). By addressing goals prioritized by the individual, it builds on personalized plans involving the practice of daily activities, home modifications, use of assistive devices (13), and, to some degree, exercise components (14). Reablement is typically delivered by an interdisciplinary team, with the involvement of different combinations of disciplinary groups, including occupational therapists (OTs), physical therapists (PTs), and registered nurses (RNs), in addition to home care assistants or other staff from the home care service (14). OTs, PTs, and RNs typically have the primary responsibility for conducting assessments and developing and adjusting the reablement plan, while the responsibility for delivering reablement on a day-to-day basis is delegated to staff from the home care services (15, 16). However, the context of reablement differs, often involving different disciplinary groups, task allocations, and collaborative approaches (14, 17, 18). In the following, HCPs will be used as a common term for all healthcare professionals working with reablement, while the term home care staff will be used for the staff from the home care organizations working with the participant, which may include home care assistants, RNs, or other professionals. The term 'participant' will be used for older people who receive reablement.

Although PA is an essential factor for improving and maintaining function in older age, there is little evidence of how reablement influences older adults' PA levels (14). A recent Delphi study among

international reablement experts found diverse perspectives on whether or not exercise or motivation to increase PA should be included in reablement, and fewer than half of the experts agreed that exercise and motivation to increase PA should be part of the reablement concept (13). Similarly, a recent study by our research team, that built upon the same interviews as the current study, found that HCPs working in reablement in a Norwegian context had diverse perspectives on *how* PA should be integrated within reablement (19). The HCPs had a shared overall perspective that PA involved all types of physical activities, and that daily activities were a core type of PA in reablement. However, while some HCPs considered PA a central part of reablement to improve the participants' physical function, other HCPs did not focus on PA particularly; they rather saw it as a positive consequence of participating in meaningful activities in daily living (19). To embrace the HCPs' differing perspectives on PA, we will in the following consider promotion of PA to include general facilitation of activity in daily living, including both everyday activities and PA/exercises particularly targeted physical capacity. Although the HCPs' differing perspectives on PA may complement each other in the delivery of interdisciplinary and person-centered reablement, several studies have found that the approaches and activities prioritized in reablement differ between settings (19-21). It has been suggested that contextual differences between or within countries may explain the different perspectives and priorities in reablement (12-14, 19, 21).

The context of reablement can relate to different aspects of professional practice and may involve factors on micro (i.e., factors related to individual participants), meso (i.e., factors related to HCPs professional practice and organization of that practice), and system (i.e., factors related to healthcare system/policies) levels (22). These levels may include different facilitators and barriers influencing how reablement is delivered, from specific factors influencing an individual in a particular situation to more generic factors influencing several aspects of reablement delivery. To deliver person-centered care, services need to be delivered in an integrated way, requiring continuity and collaboration between the different levels and sites within the healthcare system (22-24). In the context of reablement, no studies have identified the factors that influence how HCPs can support participants to become more

physically active in daily living. Therefore, this study aimed to identify facilitators and barriers experienced by HCPs that influence the promotion of PA in the context of reablement.

# Methods

This study is a qualitative exploratory study based on individual interviews, from which one study has been published previously describing some of its methods (19). The study design is inspired by a realist perspective, focusing on gaining an increased understanding of mechanisms that may explain why reality unfolds as it does in a particular context (25). To ensure that the relevant study information is reported, we followed the consolidated criteria for reporting qualitative research (COREQ) (26).

## Study context

In Norway, where this study was conducted, reablement is delivered free to participants through publicly funded healthcare services. Municipalities are obligated to deliver care that meets national laws and overall policy. However, they have the authority to organize and deliver the services in whatever way they choose. Reablement has been rapidly and extensively implemented in Norway over the last decade, though with significant differences in its organization and delivery (21, 27). Two main organizational models have been identified, in which reablement is either provided as an integrated part of home care services or through a specialized reablement team (27). The implementation of reablement has been supported by national healthcare policies (27), and it is suggested as one of several strategies within a national quality reform currently being implemented in Norwegian municipalities to provide services that help older adults maintain their independence in daily life and encourage a safe and active older age (28).

## Sampling strategy and recruitment

A purposive sampling strategy was used based on principles of variation sampling, in which the intention is to reach variation in small samples based on pre-defined selection criteria (29). To gain variation at the municipal level, we selected four municipalities that provided reablement, and that

differed in size and organizational model because this may involve different premises for practice (21, 27). To gain variation at the HCPs' level, we included HCPs (n = 16) with diverse professional backgrounds who were central in delivering reablement in their respective municipality. The HCPs had to have at least one year of experience with reablement. By including this heterogeneity in the study sample, we aimed to gain knowledge of central factors that cut across the existing variation and also captured diverging factors influencing how HCPs promoted PA within their context.

Eligible municipalities were selected, and the leaders of the reablement teams in these municipalities were initially asked for permission to contact potential candidates on their team. The leaders were encouraged to suggest potential candidates who were reflective of their practice, and represented diverse professional groups. Each potential candidate was contacted in person by phone or e-mail, given verbal and written participant information, and signed a consent form before any data collection. All the reablement leaders contacted were positive about participation, and all the HCPs who were recommended and contacted agreed to participate.

## Data collection

The research team developed a semi-structured interview guide and discussed it with HCPs working with reablement in a municipality not included in the study (see online additional file 1). The interview guide served as a guide for conversational topics and direction throughout the interviews, but the question order was not followed strictly.

Each HCP participated in one interview. Each interview lasted 70–90 minutes and was conducted by the first author (HLM), who had no prior relationship with the HCPs. Before the interviews, the interviewer gave brief information about her professional background and the aim of the study. The interviews were undertaken as individual face-to-face interviews between May and October 2019 in a quiet office or meeting room at the participants' workplace and were audio-recorded.

## Data analysis

We used an inductive qualitative content analysis, informed by Erlingsson and Brysiewicz (30). Interviews were transcribed verbatim and read several times, noting reflections and main impressions accordingly. Each transcript was then systematically searched for units of text about facilitators and barriers that influence how HCPs promote PA and given codes using NVivo software©. The text units were condensed and organized into categories. This initial stage of the analysis demonstrated great variability and complexity of different factors influencing how the HCPs promoted PA in reablement. To better structure the continued analysis, we divided the categories we had identified into a participant,- professional,- organizational,- and system level, inspired by the integrated care mechanisms framework by Valentijn et al. (22). Followingly, we continued organizing and questioning the content and coherence between the categories, as well as clarifying facilitators and barriers within each category. An overview of the categories, organized within each level is illustrated in Figure 1. This was an interpretative, non-linear process involving careful consideration of the consistency between parts of the data and the interpretations achieved through the analysis. The analysis was undertaken by one researcher (HLM) and was critically discussed among the research team to analyze the coherence of the findings and how the researchers' preunderstandings influenced the analysis. After analyzing 16 interviews, we found the data to be sufficiently saturated for this study. We found that the HCPs reported factors within the same overall topics yet described variations in how these factors influenced their practice. This approach followed the principles of data saturation within a reflexive content/thematic analysis approach (31). We used the questions raised in the checklist developed by Elo et al. (32) to critically reflect upon the trustworthiness of the study's methodology. Quotes from the interviews are presented to exemplify the main findings. The quotes have been translated to English and edited slightly to improve grammar and flow, but their meaning and intent have not been altered.

# Results

## Study participants

Sixteen HCPs participated in this study, including four OTs, four PTs, four home care assistants, two RNs, and two HCPs with other health and/or social educational backgrounds (their particular education is not specified to avoid compromising their confidentiality). The HCPs' median age was 46.5 (range 29–57), and two of them were male. On average, they had 19 years of professional experience (range 4–33) and four years of experience working with reablement (range 1–6 years). An overview of the characteristics of the participants is presented in Table 1.

Table 1 Characteristics of healthcare personnel

| Healthcare personnel | Number | Gender (male/female) | Age, Mean (range) | Years of professional experience, Mean (range) | Years of experience with reablement, Mean (range) |
|---|---|---|---|---|---|
| OTs | 4 | 1/3 | 36 (29–43) | 11.5 (6–17) | 4.5 (4–5) |
| PTs | 4 | 1/3 | 51 (40–56) | 24 (17–31) | 4 (1–6) |
| RNs | 2 | 0/2 | 51 (44–57) | 17.5 (4–31) | 3.5 (3–4) |
| Home care assistants | 4 | 0/4 | 54 (49–56) | 30.7 (29–33) | 4.5 (4–6) |
| Other | 2 | 0/2 | 33 (30–35) | 9.5 (7–12) | 3.5 (3–4) |

Abbreviations: OT= occupational therapist, PT= physical therapist, RN = registered nurse

## Reablement settings

The HCPs were employed in four different Norwegian municipalities varying in population (4,000–200,000). Two of the municipalities had organized reablement as an integrated part of the home care services, in which OTs and PTs from the rehabilitation section collaborated with staff from the home care services. According to their shift schedules, the home care staff could either be a few selected HCPs from the home care services trained in reablement or any staff from the home care service. In the other two municipalities, reablement was delivered by specialized reablement teams involving

HCPs employed on the team. One of these specialized teams consisted of a PT, an OT, and two home care assistants. The other specialized team consisted of only PTs and OTs and involved HCPs from the home care services when deemed appropriate. The duration of the reablement interventions in all municipalities was approximately six weeks, but if needed, these could increase. The frequency and duration of visits were variable between municipalities, ranging between 2–5 visits per week and 20–60 minutes per visit. General characteristics of reablement in each municipality are presented in Table 2.

*Table 2 General characteristics of reablement organization in each municipality*

| | **Municipality 1** | **Municipality 2** | **Municipality 3** | **Municipality 4** |
|---|---|---|---|---|
| Organizational model | Integrated | Integrated | Specialized team | Specialized team/integrated |
| Duration of reablement intervention | ~6 weeks | ~6 weeks | ~6–8 weeks | <6 weeks |
| Visits per week | 2 | 2–5 | 2–3 | 5 |
| Duration per visit | ~30–60 min | ~20 min | ~60 min | ~60 min |
| HCPs involved | PT, OT, and selected home care staff with reablement training/experience (RNs and home care assistants) | OTs, PTs, and general home care staff (RNs, home care assistants, others) | PT, OT, and home care assistants | PTs, OTs, and home care staff involved occasionally |
| Eligibility for receiving reablement | Discretionary judgments by HCPs<br>- Motivation<br>- Goal of improving daily activities<br>- No need for specialized rehabilitation | Standardized criteria<br>- ADL and cognitive score within set limits<br>- Motivated for reablement<br>- Excluding people in the palliative phase or with extended drug or psychiatric problems | Discretionary judgments by HCPs | Standardized criteria<br>- Motivation and ability to participate in reablement five times a week<br>- Being able to set goals for themselves |
| Referral procedure to reablement | Participants apply themselves | Only home care staff can refer people to reablement | Anyone can refer/apply | Anyone can refer/apply |

*Abbreviations: HCP = Health care professional, OT = occupational therapist, PT = physical therapist, RN = registered nurse, HT = home trainer, ADL = activities of daily living*

## Facilitators and barriers for promoting PA

The HCPs experienced several factors at a participant, professional, organizational, and system level that influenced how they promoted PA in the reablement context, as illustrated in Figure 1. The degree to which these factors were experienced as facilitators or barriers differed between reablement settings and depended on the interrelationship between factors on different levels. An interdependent coherence between facilitators and barriers on all levels influenced how the HCPs recruited people who could benefit from being more physically active; targeted PA to the individual participants' desires, needs, and progress; and facilitated continued long-term PA habits. Some facilitators and barriers experienced by the HCPs influenced their ability to promote PA as well as their reablement delivery in general.

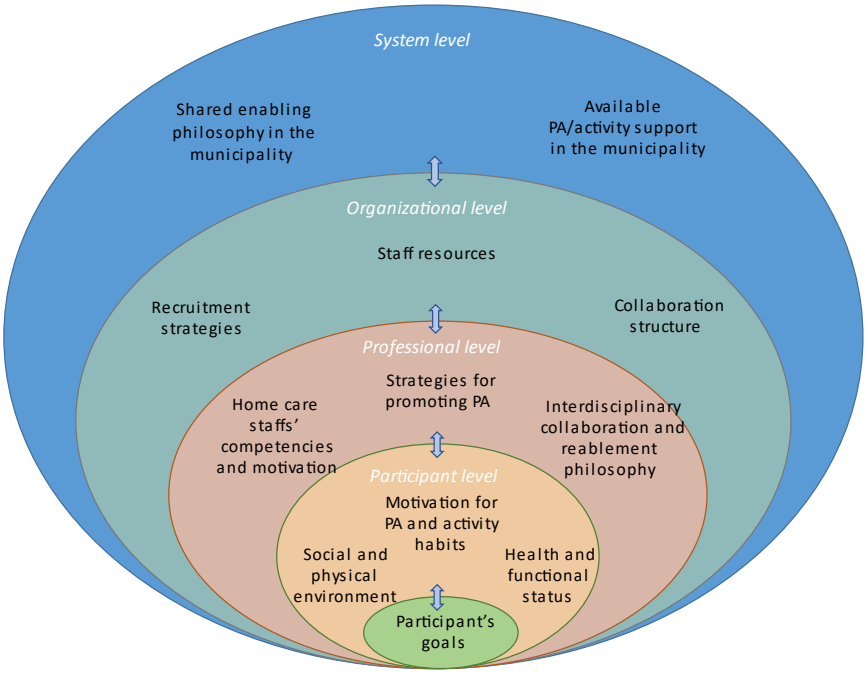


Figure 1 Factors experienced by HCPs to influence PA promotion through reablement

*The Figure illustrates factors experienced by HCPs that could fall out as either facilitators or barriers for promoting PA through reablement. This involved an interdependent coherence between factors on different levels, including a participant, professional, organizational-, and system level.*

Abbreviations: HCP = Healthcare professional, PA= Physical activity

## Facilitators and barriers at a participant level

The participant level included factors related to the individual participant that influenced how the HCPs promoted PA, including the participants' goals, motivation for PA and activity habits, health and functional status, and physical and social environment.

***Participant level: Participants' goals***

The HCPs emphasized that promoting PA should be closely related to the participants' goals. Having clear and meaningful goals was considered facilitative for introducing PA in a meaningful way. As one HCP noted, "*The participant needs to be determined that this is something they want. […] This is something they want to achieve" (PT, 11).* While some participants had clear goals, the HCPs also encountered participants who found it difficult to set specific activity-related goals: "*Many are like...yes, I just want to become…stronger in the legs, right? […] But what do you want to USE that for then?" (PT, 15).*

***Participant level: Motivation for PA and activity habits***

The participants' motivation for PA was considered key to how the HCPs promoted PA. As one HCP noted, "*What it takes to succeed [to promote activity]? They need to be motivated, simply. And then they need to be motivated to do some self-efforts [...] in order to be able to continue after we have finished the period" (home care assistant, 3).* Having previous positive PA experiences and PA habits in daily living was considered a facilitator, along with the participants understanding how PA habits influenced their function. As noted by an HCP, "*If a participant has been taking walks every day or every second day and has been going to some kind of exercises and […] has a SOCIAL activity away from home, we often succeed VERY well with those kinds of participants" (OT, 14).*

The HCPs further believed they had more success in re-establishing PA through meaningful activities that the participants had recently engaged in, rather than activities they had not partaken in for a long time: "*Often, it is a bit about how long they have been passive. The longer they have been passive, the more difficult it may be to get them going again" (Other, 4).*

***Participant level: Health and functional status***

The HCPs suggested that the participants' health and functional status, such as medical conditions, hospitalization, falls, pain and cognitive function, could be barriers to promoting PA. One PT observed, "*It is essential for their progress that the participants remain healthy, that they do not experience new falls, and that they start eating and drinking what they need to engage in reablement in a good way" (PT 1.)* They also noted that anxiety and fear of falling were common barriers to being active: "*We have more and more participants that are anxious. […] They are afraid of going outside and afraid of falling. They often remain at home, and then they become inactive and passive, which again make them weak and fragile" (OT, 14).*

***Participant level: Social and physical environment***

The participants' social environment could facilitate and impede promoting PA, and existing beliefs from people in their social environment regarding function and activity in older age were considered an essential factor. People in the participants' social networks could be important supports for motivating and enabling the participants to be physically active. "*His wife was involved and supportive. […] He had begun to walk the stairs a lot and took the stairs rather than the elevator when he visited his daughter. And they [wife and daughter] were involved and motivated him to do these things" (OT, 8).* However, family members could also restrict the participants from being active by constraining them from participating in activities they considered harmful or by doing the activities for them, rather than letting them do things themselves. One HCP noted, "*What we often see, unfortunately, is that the family members want to help their parents, so they take some of their tasks." (PT, 15)*.

The participants' physical environment could also be a facilitator or barrier to promoting PA. Some challenges within their current physical environment were considered important for maintaining meaningful PA. The HCPs were therefore skeptical about a trend of rearranging for easy living in older age: "*They may move to a block apartment because they believe that when they become old, they will stop walking stairs because it becomes too exhausting […] And then they become sedentary in that*

*apartment." (PT 15).* However, challenges in the physical environment, such as steep stairs, long distances or climate, could also be barriers to being physically active and prevent the participants from participating in the activities they preferred: "*There are many [participants] that cannot get out. […] When it is about walking outside or…walking to the trashcan, mailbox and those things, then it can easily become unsafe with ice and slippery [ground]" (OT, 2).*

## Facilitators and barriers at a professional level

The professional level included factors related to the HCPs' practice, such as the HCPs' PA promotion strategies, their reablement philosophy and interdisciplinary collaboration, and the home trainers' competencies and motivation.

***Professional level: Strategies for promoting PA***

The HCPs believed that their strategies for promoting PA were essential in supporting the participants in developing new PA habits. The HCPs emphasized different strategies for promoting PA through reablement, including physical exercises or PA through daily activities and more or less standardized approaches. Some HCPs described how they often preferred standardized exercises that they knew improved function: "*The 'Hellbostad exercises' are often used because they are well documented" (PT, 5).* Some of the HCPs pointed out that the exercises had to be simple and easy to understand for those who were to follow up, and they, therefore, preferred standardized exercises "*because it should […] [involve] easy exercises that do not require particular competencies" (Other, 4).* However, the HCPs were not always confident that such exercises were sufficiently targeted to the participants' individual needs. A nurse noted, "*Sometimes it has occurred to me that this is a person that is as light as a feather and jumps off the chair… and here they do 20 knee bends and get up and down from their chair. Perhaps we should have included some weights […] or heavier exercises" (RN, 6).*

The HCPs noted that many participants could be motivated to do exercises when HCPs supervised them, but they were doubtful that such exercises were continued after reablement ceased. An OT stated,

"*And that is what they succeed with the most when they are to continue over time, that they have something that is important and meaningful for them. […] There are not that many of them that bother doing exercises day in and day out." (OT, 14).* To promote continued PA habits for the participants, they had the most success with encouraging them to add PA through daily and familiar activities, such as walks, stair walking, housework, and other meaningful physical activities that the participants were motivated to do: "*It is about motivating them to do something between the [reablement] visits. And [I] continuously talk about how important it is [...] to try walking the stairs, vacuuming, those things they should have done" (PT, 1).*

***Professional level: Interdisciplinary collaboration and reablement philosophy***

The HCPs suggested that their interdisciplinary collaboration was essential to improve facilitators and remove barriers for PA among the participants, according to their individual needs and desires. The HCPs strongly emphasized the advantages of having HCPs with different competencies involved in reablement to see things from different perspectives and involve those with the necessary expertise: "*That's what's so good when you do such an assessment with different disciplinary groups all together because we are wearing different glasses when we go in. But when we sit together, I feel that we are quite in tune about the goals that we have with the participant." (PT, 1).* Although embracing different professional approaches, some HCPs acknowledged that they lacked a shared reablement philosophy in their team, which was a barrier to working collaboratively toward the participants' goals. The HCPs indicated how there were different perspectives with regards to how PA should be integrated in reablement; whether or not it should only be included if it was part of the participants' goal activities; include particular exercises or how PA should be progressed. An OT observed, "*We have very different backgrounds. […] It is not that we haven't tried creating a common basis, but there is something about UNDERSTANDING that basis, that everyone understands it in the same way. […] We need to be in unison on the BASIS, and that's what's so complicated with teamwork." (OT, 12).*

A close and respectful interdisciplinary collaboration between the HCPs was considered important to learning from each other, developing a shared reablement philosophy, and sharing tasks adequately between them. Also, the HCPs found it important to communicate the progression or adaptation of activities between them to adequately meet the needs of the participants: "*It is important to have good documentation of the exercises so we can see if there is any progression or increased pain or something like that in order to follow up" (Other, 7).*

***Professional level: Home care staffs' competencies and motivation***

The home care staff's competencies involved in reablement were viewed as essential for promoting PA. It was considered a facilitator if the home care staff knew the particular participant, had additional training in reablement or rehabilitation, and had significant experience with reablement: "*It is a huge advantage to have the home care services so close with us because they have known them [the participants] over a long time, perhaps before their balance started to weaken. They know what they could do before and what they liked doing before. That's what's so very good with our home trainers [home care staff involved in reablement]—that they are the same that have been involved all the time. Then they have become good at this" (PT, 1).*

However, some HCPs suggested that the home care staff who delivered reablement did not always have the necessary competencies or motivation, which could be a barrier to promoting PA: "*Many assistants have three days of training […]. They do not have this background to see the entirety: that it is very important that this person gets to do things themselves" (home care assistant, 16).* Also, "*there are many here [in the home care service] that find reablement boring" (RN, 6).* Having previous successful experiences with promoting PA was believed to facilitate home care staff to become motivated to continue promoting PA.

## Facilitators and barriers at an organizational level

The organizational level involved factors related to how reablement was organized, including recruitment strategies, staff resources, and collaboration structures, which had influence on how the HCPs were able to promote PA.

***Organizational level: Recruitment strategies***

The recruitment strategies for reablement were essential for how the HCPs believed they could reach out to people who could benefit from being more physically active. The HCPs emphasized the importance of reaching out to people with early signs of functional decline or recently reduced activity levels. One PT stated, "*We should be able to get in touch with those who just start deteriorating a bit functionally—those who have stopped walking outside, stopped walking to the grocery shop, started receiving domestic help." (PT, 15).*

Having reablement organized as an integrated part of the home care services was believed to improve the ability to recruit eligible participants by improving the home care staff's knowledge about reablement and their awareness and ability to identify people early who had started to become more passive in daily living activities: "*There are quite a few from the home care staff that have become experts in observing and identifying potential participants" (PT, 5).* However, when reablement was organized as a specialized team, the HCPs found it challenging to reach out to the people they believed could benefit the most from reablement: "*I don't feel that we reach out to that many. A few people in the municipality receive a really good service when we visit them, but I believe that there are more people out there that could have needed [reablement]" (home care assistant, 13).*

The HCPs emphasized that the availability of reablement needed to be known in other healthcare services and society, in general, to reach out to eligible participants who may benefit from it. Also, having a clear conceptualization of reablement and well-defined eligibility criteria was considered important to ensure that suitable candidates were recruited to reablement. Some of the HCPs emphasized that it was important to clarify that reablement was not only an exercise program, but

involved a broader activity approach. One HCP noted, "*We need to be able to better communicate who we are and what reablement is to the leadership in the municipality, collaborative HCPs, and the community population […] so we can be used in a more constructive way" (PT, 11).*

***Organizational level: Staff resources***

The available staff resources were closely related to how reablement was organized and was considered important to how the HCPs could meet the participants' needs and support them to become more active. The HCPs emphasized that staff stability was important in developing the competencies required to promote activity. However, when reablement was organized as an integrated part of the home care services, some HCPs experienced a high turnover of home care staff and suggested it could be a barrier for developing the home care staffs' competencies: "*There is a high turnover of staff in the home care service. And then it is also a challenge to, among other things, give all of the staff good training in what reablement is because not everyone knows" (Other, 7.)*

Also, the time available for reablement differed between the municipalities, influencing how PA could be promoted. Some of the HCPs found time restrictions within the home care services limited their abilities to do the activities they believed were important for the participants: "*The time can be a barrier [if] the home care service can allocate 15, maximum 20 minutes, right, in every visit. […] If the goal is to become more confident when walking outdoors, and this is in the winter season and…from the [time] from the home care service meet up until the person [the participant] has put on clothes and shoes, then it has been 8 minutes, right" [PT, 5].*

***Organizational level: Collaboration structure***

To motivate the participants to be active and progress their activities appropriately, it was considered important to have a collaborative structure that enabled regular interdisciplinary meeting points in which the HCPs could learn from each other and discuss how to approach each participant. However, some HCPs experienced insufficient opportunities for such meetings, which was a barrier to collaboration: "*There is no time for us to meet, only us home trainers and perhaps with OT and PT" [home trainer, 3].* Some HCPs emphasized how informal conversations and being located in the same building facilitated interdisciplinary collaboration. A PT observed, "*It is very favorable for us that we are located in the same building. […] We meet each other almost every day, and then it is easy to think that…perhaps we should have had reablement for her" (PT, 1).* When reablement was organized as an integrated part of the home care services, some HCPs found it challenging to establish times to meet that were suitable for all: "*The logistics are difficult, really difficult. […] First of all, we are limited to using the time after lunch for meetings with the participants and the home care service. […] The aim is to have all three professional groups [OT, PT, primary contact from the home care service] involved all the time, but it is difficult" (OT, 8).*

While the HCPs emphasized the importance of getting to know the participants to promote PA in a meaningful way, the organization of reablement influenced how the HCPs were able to continuously follow up the participant during reablement. Some HCPs found it useful to involve a few different home care staff because they had different approaches to how to motivate the participants: "*It is beneficial that we have several [home] trainers because we see things differently, right? And we communicate a bit differently. Then you are a bit more tuned in each time. If you are the same, you can become a bit tired of repeating yourself" (home care assistant, 3).* However, some HCPs experienced a low continuation of staff. It often involved different home care staff delivering reablement from day to day, which made it difficult to build a relationship with the participant and support them in progressing their activities in a meaningful way. A nurse noted, "*I think it could have been beneficial to have a defined group visiting each participant. Not a person that never has been to the participant before and*

*[says], 'Yes, let us do some exercises'" (RN, 6).* When different home care staff were involved, the HCPs found it essential to communicate what was done at each visit, to ensure appropriate progression of activities. However, this was often challenging: "*It demands quite a lot from us and the collaboration with the home care service […] And if the one [home care staff] coming in does not know what was done yesterday, it becomes difficult to progress that" (OT, 8).*

## Facilitators and barriers at a system level

The HCPs also experienced factors on a municipal system level that influenced promoting PA with participants through reablement. The degree to which the municipality was working from a shared enabling philosophy was considered essential, along with having available and varied activity support in the community.

***System level: Shared enabling philosophy in the municipality***

The HCPs suggested that having a shared enabling philosophy implemented into the municipal health and home care services facilitated their ability to adequately support participants to be active: "*Enablement is the overarching umbrella for everything that goes on in this municipality. […] [Enablement is]…the philosophy…that whatever you are able to do in an activity, you should be allowed to do" (PT, 5).* Integrating an enabling philosophy was considered important for identifying and recruiting people in the community who could benefit from becoming more active, facilitating the collaboration between reablement and other healthcare services, and providing the necessary activity support after reablement. An HCP stated, "*It is important that we [the home care service] follow up on what they have trained [in] and that we do not return to helping [doing for] so much" (home care assistant, 16).*

Most HCPs experienced that an enabling philosophy was not sufficiently implemented in their municipalities, which they believed was a barrier to promoting PA: "*We do actually have a role out in society regarding implementing enablement [an enablement philosophy], right? But…we are not there yet. […]" (home care assistant, 10).* The HCPs believed that the existing organization—available

resources, leadership, and mindset within the healthcare system—was a barrier to successfully implementing this philosophy: "*Reablement was supposed to be a little [method]…to drift the home care services in another way. That rather than receiving services, they should receive exercise. […] We [reablement] were supposed to change the entire home care services, change their attitudes. […] But then they need to… First of all, they need to have the time for that. And secondly, they need to understand that this is for the best for the participant" (PT, 15).*

***System level: Available PA/activity support in the municipality***

Having available PA support and other activity offers in the municipality was considered critical to facilitating continued PA among the participants: "*They [some of the participants] need follow up over a longer period of time. We are short and intensive, right, so they do get a boost. But then they need to have someone to continue following them up" (OT, 14).* It was considered a facilitator for promoting PA if the municipality had varied and easily accessible activity offers that could meet different needs and desires among the participants. Also, the HCPs found it important to introduce such activities to the participants during or immediately after reablement to support the participants' confidence to engage in the activities: "*Sometimes we have chosen to do some of the exercises we do here [in the exercise groups] at home with them. So they know what kind of exercises they will do when they come here. […] We aim to make them confident and show that they are capable enough, strong enough, and fit enough and such. […] So it is actually the same person [PT] that continues the exercises" (PT, 1*).

However, some HCPs experienced a lack of available activity opportunities that targeted different needs and desires of the participants: *"There are not enough activity offers in the local community to all older adults. There are more groups now, exercise groups [...]. But there should also be other things...social things" (PT, 15).* Also, the HCPs stressed a need to provide continued individual PA support in the participant's home: "*If they cannot get out from their home […], then they cannot attend to group exercises and such. Then they often remain sedentary in their home and keep deteriorating" (OT, 14).*

## Discussion

This study aimed to identify facilitators and barriers experienced by HCPs that influence the promotion of PA in older adults in the reablement context. The findings demonstrate that reablement is a heterogenic practice, influenced by several contextual factors and facilitators and barriers for promoting PA can be found at the participant, professional, organizational, and system level, as demonstrated in Figure 1. The interrelationship between factors on all these levels influences HCPs' abilities to promote PA by affecting their abilities to recruit appropriate participants, target the participants' individual needs and goals, and support them in developing continued PA habits. The study findings add to the gap in knowledge regarding how PA can be appropriately integrated within real-life healthcare contexts (8). They further identify several facilitators and barriers on different healthcare system levels, providing knowledge requested to inform the development of effective, meaningful, and integrated PA promotion strategies (8, 9).

The HCPs point out that the key facilitators and barriers for promoting PA are found within the individual participants and their environment. Similar to HCPs' experiences in other reablement contexts (33), those in our study found that reablement participants constitute a heterogenic group with different values, motivations, and expectations. The HCPs find it important to consider these factors to promote PA in a meaningful and sustainable way to individual participants, which is in line with the WHO's recommendation of individualizing PA promotion according to the individual's healthcare needs, capacity, and preferences (7). It has been emphasized that reablement should be person-centered (13, 34-40). Our findings demonstrate that individual participant factors are central to the HCPs' approaches and that the participants' individual goals represent an important and shared direction when developing reablement strategies with the participant. This is in line with principles of person-centered care, building upon therapeutic relationships between professionals, patients, and their significant others, which are built on mutual trust, understanding, and sharing collective knowledge (41). Different individual factors on a participant level can explain why different strategies

and approaches to PA promotion is used in reablement but do not explain the systematic differences between reablement settings, such as contextual differences in the emphasis on daily activities vs. exercises (19, 20) or individualized or standardized approaches (21), or differences in the degree to which promotion of PA is emphasized in reablement (13, 14, 19).

The study findings provide several potential explanations for the above mentioned differences. Firstly, at a participant level, our findings suggest that participants' general characteristics may differ between reablement settings due to different recruitment strategies, the conceptualization of reablement, and needs in the particular municipality. As an example, the participants recruited may be more motivated to make an effort and engage in PA if they applied themselves, rather than if they were referred based on HCPs' evaluation of their needs. Such differences in participant groups have previously been considered a challenge for developing a clear conceptualization of reablement (12, 13, 42) and may withhold important aspects to consider when discussing the appropriate conceptualization(s) of reablement. For example, one municipality in our study only included participants with a certain level of physical function, in which standardized exercise programs may be preferred by HCPs to meet similar needs between participants. Exercise programs were commonly included in reablement, though often requiring motivational support from HCPs. Emphasizing a meaningful introduction to why exercises are useful and external motivation to keep the participants' motivation up has been recommended for promoting exercise (19), and reablement participants' have indicated that they appreciate the physical strengthening and the 'push' they received in reablement (43) to be more physically active. However, the HCPs in our study emphasized that the incorporation of PA in daily life activities and building habits was essential to facilitate ongoing PA. PA incorporated in daily activities has been found equally effective as standardized exercise programs to improve function in reablement participants(44), and may enable a more person-centered approach to PA. This may enhance the participants' perceived value of PA, by relating it to factors emphasized by older adults, such as social connections, meaningful activities, joy and fun (45).

Secondly, at a professional level, differences in the HCPs' competencies, reablement philosophy, and interdisciplinary collaboration may lead to a different emphasis on PA promoting strategies. We found that some HCPs considered reablement to largely be equal to the promotion of PA, while other HCPs considered the promotion of PA to potentially be one of several approaches within reablement. Our findings suggest that the philosophies underpinning reablement differs between municipalities, drawing the reablement practice towards particular values, beliefs and priorities that may influence how PA is conceptualized and promoted in different settings. Ensuring sufficient competencies and motivation among home care staff has been considered essential in reablement (18, 33, 46, 47). Our findings suggest that the reablement competencies of home care staff differ substantially between the municipalities, which requires HCPs to adapt their approaches to the home care staffs' competency levels. The HCPs point out how simple, standardized PA programs may be required to ensure that home care staff can adequately follow up on the program, while more individually adapted approaches can be utilized by home care staff with reablement competencies and experience. However, while the emphasis on well-known exercises in some settings may enhance the home care staffs' confidence, competencies and motivation to promote PA, it may also risk to devalue the reablement activities to instrumental, standardized tasks, that do not require the home care staffs' professional competencies, and thus become uninspiring and demotivational. Unless such standardized exercises are introduced in a meaningful way, it may be contradictory to the goal-oriented and person-centered philosophy of reablement (13).

Thirdly, at an organizational level, we find that different ways of organizing reablement influence the degree to which the HCPs can adapt PA promotion strategies to the individual participant needs. In line with our findings, the available time for reablement delivery and interdisciplinary collaboration has been considered central to ensuring the quality of reablement (18, 21, 34, 36, 38, 48). We found that there were substantial differences in the time available for reablement visits, which means that some HCPs need to rely on activities that can be efficiently performed in the participants' home environment, while HCPs in other settings have the flexibility to also promote PA through outdoor and

social activities. A lack of focus on outdoor and social activities in reablement has previously been demonstrated (49-51) and may be explained by such organizational differences. We do not believe that the findings of our study can inform any particular organizational model to be better suited to promote PA. Rather, we find that a number of organizational factors within each of the models have different influence on how PA is promoted and how it is targeted at individuals in a person-centered manner. The findings indicate that there is substantial variation within each of these organizational models and that attention need to be placed on how the interrelationship between these factors influences the HCPs judgements and practice.

Lastly, the HCPs also point out key mechanisms at a system level that influence how they can promote PA in a sustainable way. Having available and varied activity support in the community is considered important to support the participants to continue their activity habits after reablement, and the HCPs adapt their PA strategies accordingly. Also, having an overarching enablement philosophy in the municipal healthcare services is believed to be the key to reaching out to suitable people and delivering appropriate and continuous support for PA even beyond the period of reablement. Such changes in healthcare philosophy involving person-centered, integrated approaches that support people to maintain activity in older age are warranted through health policy (28, 52). However, our findings suggest that the current organization of healthcare services creates central barriers for realizing this.

Our findings show that reablement is a multifaceted practice, highly dependent on the community context into which it is integrated. Previous research has shown a need to more clearly identify the characteristics of reablement and the appropriate target group of reablement, and further investigate critical components of reablement interventions (12, 13, 42). However, based on our findings, we suggest that practical and research development of reablement should focus on it as an intervention at a participant level and consider it as an integrated care approach, involving multiple factors on a micro, meso, and macro level. Such a whole-system perspective is compatible with recent conceptualizations of evidence-based healthcare, showing the need to focus on the relationships

between systems, individuals, and contextual factors across different settings to enable policy-makers and practitioners to make evidence-based decisions that are feasible, appropriate, meaningful, and effective (53).

### Strengths and weaknesses

A strength of this study is the purposeful sampling strategy used to ensure that we included HCPs from municipalities that differed from each other in the organization of reablement. This strategy enabled us to explore both similarities and differences in how the reablement context is experienced and how it influences HCPs' practice across municipalities. Although the study findings relate to a Norwegian reablement setting, our study provides a potential frame of reference that can be used to explore contextual factors in other reablement settings, both nationally and internationally.

Also, we consider the interview guide and the semi-structured interview approach useful for capturing both the HCPs' experiences with reablement in general and their experiences with PA promotion specifically. This approach enabled us to combine these experiences to gain a broad conceptual understanding of the facilitators and barriers in the reablement context, as seen through a micro, meso, and macro perspective of healthcare. A weakness of this study is that our recruitment strategy may have led to the inclusion of HCPs who are particularly enthusiastic about reablement, and we may not have addressed important facilitators and barriers experienced by HCPs who do not share this enthusiasm.

### Practical implications

These findings illustrate how different factors in an integrated healthcare system influence reablement delivery and can be a useful tool to further identify and evaluate factors that may influence reablement delivery in different contextual settings. This can inform clinicians, leaders, and politicians of the potentially successful factors and pitfalls that may enable or hinder successful implementation and delivery of reablement and/or strategies for promoting PA among older adults relative to the particular context.

## Research implications

The findings contribute to an increased understanding of factors influencing evidence-based healthcare in reablement from the HCPs' perspective. The findings contribute to a greater understanding of mechanisms influencing reablement delivery in different contexts and demonstrate how the context withholds important mechanisms influencing how PA is promoted in reablement. There is a need to further explore how HCPs utilize and negotiate their professional competencies and perspectives within different reablement settings and how this influences how PA is promoted. Such different contextual mechanisms are important to acknowledge in future research of reablement and studies targeting PA promotion in older adults to develop evidence-based and person-centered real-life practice.

## Conclusion

The study findings demonstrate how several facilitators and barriers influence how HCPs can promote PA within the reablement context. We found that HCPs' abilities to promote PA depended on an integrated coherence between factors at a participant, professional, organizational, and system level. These findings illustrate evidence from an HCP's perspective and add to the understanding of how contextual factors influence reablement delivery, as well as facilitators and barriers for promoting PA in real-life healthcare settings. Our findings suggest that reablement may be a potentially suitable setting for promoting PA with older adults in an integrated and person-centered way, but that contextual factors on different levels need to be considered to meet needs and desires both on an individual and group level of older adults.

**Abbreviations**

PA: physical activity

HCP: health care professional

PT: physiotherapist

OT: occupational therapist

RN: registered nurse

HT: home trainer

ADL: activities of daily living

## Declarations

**Ethics approval and consent to participate**

All methods were carried out in a accordance with relevant guidelines and regulations, in line with the Declaration of Helsinki. The study received approval from the Norwegian Centre for Research Data (Ref. nr. 405436). The Regional Ethics Committee did not consider this study to be within their field of medical and health research ethics approval since no health data were collected. All participants signed informed consent before participating in the study, in which they accepted that their information would be used in scientific publications but would remain anonymized.

**Consent for publication**

Not applicable

**Availability of data and materials**

The datasets generated and analyzed during the current study are not publicly available due to the risk of reducing the confidentiality of the study participants, but are available from the corresponding author on reasonable request.

**Competing interests**

None of the authors participating in the study (HLM, CFM, EB, and LU) have any competing interests.

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**Authors' contributions**

All authors contributed to the development and planning of the study. HLM carried out interviews, transcribed interview data, and was the main contributor in data analysis. All authors contributed to discussing the data and drafting or revising the article; they have agreed on the journal to which the article will be submitted, gave final approval of the version to be published, and agreed to be accountable for all aspects of the work.

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# Appendix 1 - Search strategy for scoping review (PubMed)

1.Aged (MESH)
2.Aged, 80 and over (MESH)
3.Frail elderly (MESH)
4.“Older adults” [tw]
5.“Older adult” [tw]
6.“Old adult” [tw]
7.“Old adults” [tw]
8.“Older people” [tw]
9.“Old people” [tw]
10.“Older persons” [tw]
11.“Older person” [tw]
12.“Old person” [tw]
13.“Old persons” [tw]
14.Senior [tw]
15.seniors[tw]
16.Elder[tw]
17.elderly [tw]
18. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17
19. Reablement [tw]
20. re-ablement [tw]
21.“restorative care” [tw]
22.“restorative home care” [tw]
23.“restorative home support” [tw] - - “restorative interventions” [tw]
24.“restorative intervention” [tw]
25.“active service model” [tw]
26.“home independence program” [tw]
27.“everyday rehabilitation” [tw] “home rehabilitation” [tw]
28.“home care rehabilitation” [tw]
29.“home-based rehabilitation” [tw]
30.home rehabilitation [ti, ab]
31. 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30
32. 18 AND 31
Filters: publication date between 1996 and June 2020.

PubMed was searched on September 24th, 2018, with updated searches on July 30th, 2019, and June 20th, 2020.

# Appendix 2 – Application to the Norwegian Center of Research Data (NSD)

NSD NORSK SENTER FOR FORSKNINGSDATA

**Meldeskjema 405436**

**Sist oppdatert**

18.01.2019

**Hvilke personopplysninger skal du behandle?**

---

- Navn (også ved signatur/samtykke)
- E-postadresse, IP-adresse eller annen nettidentifikator
- Lydopptak av personer
- Bakgrunnsopplysninger som vil kunne identifisere en person

**Type opplysninger**

---

**Du har svart ja til at du skal behandle bakgrunnsopplysninger, beskriv hvilke**

Utdannelsesbakgrunn, alder, kjønn, arbeidserfaring,
informasjon om arbeidssted

**Skal du behandle særlige eller strafferettslige personopplysninger?**

Nei

**Prosjektinformasjon**

---

**Prosjekttittel**

Fysisk aktivitet i hverdagsrehabilitering for hjemmeboende
eldre

**Prosjektbeskrivelse**

Formålet med prosjektet er å få kunnskap om hvordan fysisk aktivitet fasiliteres gjennom hverdagsrehabilitering til hjemmeboende eldre, samt hvilke faktorer som har innvirkning på dette. To forskningsspørsmål ligger til grunn for studiet: 1) Hvordan beskriver fagpersoner som jobber med tverrfaglig hverdagsrehabilitering deres resonneringsprosesser og praksis knyttet til fysisk aktivitet blant eldre deltagere? 2) Hvilke fasiliterende og begrensende faktorer opplever fagpersonene knyttet til fysisk aktivitet blant eldre deltagere? Forskningsspørsmålene skal belyses gjennom individuelle

intervjuer. Fysioterapeuter, ergoterapeuter, sykepleiere og assistenter vil bli rekruttert fra 5-7 forskjellige kommuner (samlet 20-25 informanter). Intervjuene utføres på bakgrunn av en semistrukturert intervjuguide med utgangspunkt i forskningsspørsmålene.

**Fagfelt**

Andre fagfelt

**Begrunn behovet for å behandle personopplysningene**

For å forstå hvilke faktorer som kan ha innvirkning på fagpersonenes praksis knyttet til fysisk aktivitet, er det nødvendig å innhente informasjon om fagpersonenes alder, kjønn, utdannelse, yrkeserfaring og arbeidssted. Disse opplysningene er viktige for å besvare studiets hensikt. Dessuten er det nødvendig med kontaktinformasjon på deltagerne og navnene vil inngå i samtykkerklæringen.

**Ekstern finansiering**

**Type prosjekt**

Forskerprosjekt

**Behandlingsansvar**

---

**Behandlingsansvarlig institusjon**

Nord universitet / Fakultet for sykepleie og helsevitenskap / Helsevitenskap

**Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)**

Hanne Leirbekk Mjøsund, hanne.l.mjosund@nord.no, tlf: 74212379

**Skal behandlingsansvaret deles med andre institusjoner (felles behandlingsansvarlige)?**

Nei

**Utvalg 1**

---

**Beskriv utvalget**

Fagpersoner som jobber med kommunal hverdagsrehabilitering

**Rekruttering eller trekking av utvalget**

Kommunene utvelges strategisk med henblikk på å skape et variert utvalg i forhold til kommunestørrelse. Det velges både kommuner hvor

hverdagsrehabilitering er organisert som en integrert del av hjemmetjenesten og hvor det er organisert som et eget hverdagsrehabiliteringsteam. I hver utvalgte kommune bestrebes det å rekruttere en fysioterapeut, en ergoterapeut, en sykepleier og en person med annen yrkesbakgrunn (assistent e.l.). Førstegangskontakt rettes mot leder eller sentral nøkkelperson i hverdagsrehabiliteringsteamet/hjemmetjenesten. Første kontakt foregår ved e-post (eventuelt fulgt opp telefonisk) hvor det informeres om prosjektet og hvor det samtidig bes om tillatelse til å ta kontakt til aktuelle fagpersoner i hverdagsrehabiliteringsteamet. Leder/nøkkelperson vil samtidig oppfordres til å velge ut aktuelle fagpersoner fra sitt team som kan ha interesse av å delta i prosjektet, samt gi kontaktinformasjon (mail-adresse) til disse. Hver aktuell deltager vil deretter få tilsendt skriftlig informasjon om prosjektet samt forespørsel om å delta.

**Alder**

18 - 65

**Inngår det voksne (18 år +) i utvalget som ikke kan samtykke selv?**

Nei

**Personopplysninger for utvalg 1**

- Navn (også ved signatur/samtykke)
- E-postadresse, IP-adresse eller annen nettidentifikator
- Lydopptak av personer
- Bakgrunnsopplysninger som vil kunne identifisere en person

**Hvordan samler du inn data fra utvalg 1**

**Personlig intervju**

**Grunnlag for å behandle alminnelige kategorier av personopplysninger**

Samtykke (art. 6 nr. 1 bokstav a)

**Informasjon for utvalg 1**

**Informerer du utvalget om behandlingen av opplysningene?**

Ja

**Hvordan?**

Skriftlig informasjon (papir eller elektronisk)

**Tredjepersoner**

---

**Skal du behandle personopplysninger om tredjepersoner?**

Nei

## Dokumentasjon

**Hvordan dokumenteres samtykkene?**

- Manuelt (papir)

**Hvordan kan samtykket trekkes tilbake?**

Samtykket kan trekkes tilbake ved å gi beskjed til meg, via e-post eller telefon, som beskrevet i infoskrivet.

**Hvordan kan de registrerte få innsyn, rettet eller slettet opplysninger om seg selv?**

De kan få utskrift av intervju, rette eller slette opplysninger om seg selv ved å ta kontakt med meg.

**Totalt antall registrerte i prosjektet**

1-99

## Tillatelser

**Skal du innhente følgende godkjenninger eller tillatelser for prosjektet?**

## Behandling

**Hvor behandles opplysningene?**

- Maskinvare tilhørende behandlingsansvarlig institusjon
- Mobile enheter tilhørende behandlingsansvarlig institusjon

**Hvem behandler/har tilgang til opplysningene?**

- Prosjektansvarlig
- Andre med tilgang til opplysningene

**Hvilken andre har tilgang til opplysningene?**

Veiledere i doktorgradsprosjektet: Professor Lisbeth Uhrenfeldt, Nord Universitet og Førsteamansuensis Cathrine Fredriksen Moe, Nord Universitet

**Tilgjengeliggjøres opplysningene utenfor EU/EØS til en tredjestat eller internasjonal organisasjon?**

Nei

## Sikkerhet

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**Oppbevares personopplysningene atskilt fra øvrige data (kodenøkkel)?**

Ja

**Hvilke tekniske og fysiske tiltak sikrer personopplysningene?**

- Opplysningene krypteres under forsendelse
- Opplysningene anonymiseres
- Opplysningen krypteres under lagring
- Adgangsbegrensning
- Andre sikkerhetstiltak
- Endringslogg
- Adgangslogg

**Hvilke andre sikringstiltak**

Notater som er tatt under intervjuet vil oppbevares på avlåst kontor på Nord Universitet. Notatene vil etter intervjuet overføres til computer og oppbevares kryptert sammen med øvrig data. Originale notater vil deretter makuleres.

## Varighet

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**Prosjektperiode**

01.03.2019 - 01.07.2021

**Skal data med personopplysninger oppbevares utover prosjektperioden?**

Nei, data vil bli oppbevart uten personopplysninger

**Vil de registrerte kunne identifiseres (direkte eller indirekte) i oppgave/avhandling/øvrige publikasjoner fra prosjektet?**

Nei

## Tilleggsopplysninger

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# Appendix 3 – Participant information and consent form

## VIL DU DELTA I FORSKNINGSPROSJEKTET «FYSISK AKTIVITET I HVERDAGSREHABILITERING FOR HJEMMEBOENDE ELDRE»?

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke hvordan fysisk aktivitet inngår i hverdagsrehabilitering i forskjellige kommuner i Norge.

Hverdagsrehabilitering er innført i mange norske kommuner de siste årene. Vi trenger mer kunnskap om hvordan hverdagsrehabilitering praktiseres og hvilke faktorer som er av særlig betydning. Fagpersoner som jobber med hverdagsrehabilitering har viktig kunnskap og erfaring som vi ønsker å trekke frem gjennom dette forskningsprosjektet.

Prosjektet omhandler hverdagsrehabilitering rettet mot hjemmeboende eldre. Vi ønsker å få frem overveielser dere opplever er viktige i hverdagsrehabilitering. Prosjektet har et særlig fokus på de overveielser og erfaringer dere som fagpersoner har i tilknytning til fysisk aktivitet i hverdagsrehabilitering.

Prosjektet utføres som en del av et doktorgradsprosjekt ved Fakultet for sykepleie og helsevitenskap i Nord Universitet. Resultater fra studien vil bli publisert i vitenskapelige tidsskrifter og vil bli brukt i undervisning og annen kunnskapsformidling.

### HVEM ER ANSVARLIG FOR FORSKNINGSPROSJEKTET?

Nord Universitet er ansvarlig for prosjektet.

### HVORFOR FÅR DU SPØRSMÅL OM Å DELTA?

Vi har planlagt å utføre 20-25 intervjuer i 5-7 forskjellige kommuner i Trøndelag og Nordland. Vi har valgt å henvende oss til kommunen du jobber i, fordi dere tilbyr hverdagsrehabilitering og har en sammensetning av befolkning i kommunen som er interessant for denne undersøkelsen. Vi ønsker å rekruttere en sykepleier, en ergoterapeut, en fysioterapeut og en person med annen yrkesbakgrunn fra hver kommune– såfremt alle disse gruppene er representert i hverdagsrehabiliteringen. Vi håper derfor at nettopp *du* har mulighet for å delta i prosjektet. Navnet ditt har vi fått fra din leder eller en annen person i ditt team.

### HVA INNEBÆRER DET FOR DEG Å DELTA?

Hvis du takker ja til å delta i prosjektet, innebærer det at du deltar i et intervju. Intervjuet vil bli gjennomført i et egnet lokale ved ditt arbeidssted og vil vare 1- 1,5 time. Vi vil ta lydopptak under intervjuet. Under intervjuet vil du bli spurt om hvilke overveielser og erfaringer du har knyttet til hverdagsrehabilitering generelt samt knyttet til fysisk aktivitet.

Vi vil også registrere personopplysninger om deg i form av navn, kontaktinformasjon, alder, kjønn, utdannelse, yrkeserfaring og arbeidssted. Det vil bli tatt notater under intervjuet.

### MULIGE FORDELER OG ULEMPER

Ved å delta i prosjektet får du mulighet til å bidra med informasjon som er viktig for forskning på det feltet du jobber med. Du får mulighet for å fremme dine synspunkter og erfaringer og å bidra til at det skapes økt kunnskap om hvordan hverdagsrehabilitering praktiseres og kan forbedres. Vi vil finne et tidspunkt som passer

deg for å utføre intervjuet. Din arbeidsgiver vil avgjøre om du kan delta i undersøkelsen i arbeidstiden eller om deltagelse må skje etter arbeidstid.

## DET ER FRIVILLIG Å DELTA

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Alle opplysninger om deg vil da bli anonymisert. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

## DITT PERSONVERN – HVORDAN VI OPPBEVARER OG BRUKER DINE OPPLYSNINGER

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Det er kun prosjektleder (undertegnede) og veiledere ved Nord Universitet (Cathrine Fredriksen Moe og Lisbeth Uhrenfeldt) som vil ha tilgang til data. Navnet og kontaktopplysningene dine vil vi erstatte med en kode som lagres på egen navneliste adskilt fra øvrige data. Alt datamateriale vil bli lagret på en kryptert server som er godkjent av Nord Universitet til oppbevaring av forskningsdata samt innelåst ved forskningskontor.

Data fra prosjektet vil analyseres og inngå i to eller flere vitenskapelige artikler. Artiklene vil bli skrevet slik at opplysningene ikke kan knyttes til enkeltpersoner. Dette gjelder også for formidling av resultatene i undervisning eller annen kunnskapsformidling.

## HVA SKJER MED OPPLYSNINGENE DINE NÅR VI AVSLUTTER FORSKNINGSPROSJEKTET?

Prosjektet skal etter planen avsluttes Juni 2021. Vi vil da anonymisere all data og slette persondata inkludert lydopptak.

## DINE RETTIGHETER

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg,
- å få rettet personopplysninger om deg,
- få slettet personopplysninger om deg,
- få utlevert en kopi av dine personopplysninger (dataportabilitet), og
- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

## HVA GIR OSS RETT TIL Å BEHANDLE PERSONOPPLYSNINGER OM DEG?

Vi behandler opplysninger om deg basert på ditt samtykke. På oppdrag fra Nord Universitet har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket (referansenummer 405436).

## HVOR KAN JEG FINNE UT MER?

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Nord Universitet ved Hanne Leirbekk Mjøsund (prosjektleder) på e-post: hanne.l.mjosund@nord.no eller telefon: 74 21 23 79/ 45 96 86 97
- Vårt personvernombud på e-post: personvernombud@nord.no eller telefon: 74 02 27 50
- NSD – Norsk senter for forskningsdata AS, på epost: personvernombudet@nsd.no eller telefon: 55 58 21 17

Med vennlig hilsen

**Hanne Leirbekk Mjøsund**
*Prosjektleder og stipendiat*
*Nord Universitet, fakultet for sykepleie og helsevitenskap*

## SAMTYKKEERKLÆRING

Jeg har mottatt og forstått informasjon om prosjektet *fysisk aktivitet i hverdagsrehabilitering for hjemmeboende eldre* og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐ å delta i intervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. juni 2021.

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(Signert av prosjektdeltaker, dato)

# Appendix 4 – Interview guide

## PART 1 – General information about context and user group

1. Can you describe—in overall terms—how you provide reablement in this municipality?
2. What is the typical content of the reablement intervention you provide?
3. What is your role in the reablement team?
4. Can you describe the group of people that receive reablement here?
5. What do you consider important to emphasize in reablement? Why?

## PART 2 – Physical activity

6. Can you describe what you understand by the term physical activity?

7. Can you describe a situation where physical activity was part of the reablement? (*What did you do? What did the rest of the team do? Why did you do this?*
   *Can you give some other examples? What did you do in those cases and why?)*
8. Can you describe a case, in which you think the physical activity was an important component of the reablement? *(Why was it important for this participant? What do you think, in general, influences the degree to which physical activity is important or not for the participants you meet in reablement? Why? If they answer that physical activity is not important, ask why this is.)*
9. Can you describe a case where physical activity contributed to the success of reablement? (*Why was it successful? Can you think of other cases where physical activity has been integrated in a successful way? Are there other factors than those you have mentioned by now that you find important for your ability to facilitate physical activity among the participants?*
10. Can you describe a situation in which it was difficult to facilitate physical activity? (Why was it difficult? Can you mention other situations in which it was difficult to facilitate physical activity? Are there other factors than those you have mentioned by now that can make it difficult to facilitate physical activity?)

11. The national health department recommends that older adults are physically active 150 minutes a week (+ repeat the rest of the recommendations). What do you think about these recommendations in the context of reablement?

## CLOSING QUESTIONS

12. If you should point at anything that should be different for you to provide even better reablement than you do today, what could that be?
13. Repeat the aim of the interview. Ask if there is anything the interviewed person wants to add.

**Background:** Person-centered, integrated, and evidence-based healthcare (EBHC) is needed to sustainably support people to maintain their function and health in older age. Physical activity (PA) is important for older adults' function; however, the implementation of PA strategies in healthcare remains challenging. The aim of this thesis was to explore how PA is integrated into reablement, an interdisciplinary approach aiming to promote function and independence in home-dwelling older adults.

**Method:** This thesis includes three studies and a final synthesis. Study I is a systematic scoping review exploring how PA has been integrated into reablement research. Studies II and III are based on qualitative content analysis of individual interviews with 16 healthcare personnel (HCPs). Study II explores how PA is integrated into HCPs' clinical reasoning, and Study III explores facilitators and barriers influencing their judgments regarding PA in reablement. Finally, abductive analysis is used to synthesize the findings based on a framework of EBHC, supplemented by theories of person-centered care, integrated care, and clinical reasoning.

**Results:** There were substantial differences in how PA was emphasized in reablement, and strategies to promote PA varied. A complex relationship between several factors was found to influence HCPs' judgments regarding PA, including i) different ontological, epistemological, and normative perspectives influencing the use of evidence, ii) different interpretations of participants' preferences, i.e., their needs, goals, and values, and iii) different contextual opportunities and restrictions, depending on normative and functional integration between participant, professional, organizational, and system levels.

**Conclusion:** The integration of PA into reablement varies depending on several factors. This thesis contributes with knowledge of how these factors influence HCPs' judgments, adding to the understanding of the gap between research and practice.

NORD University

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