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Healthcare middle managers' development of capacity and capability for leadership: the complex context experienced as a conflicting practice

Trude Anita Hartviksen

FACULTY OF NURSING AND HEALTH SCIENCES

NORD University

www.nord.no

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Nord University
N-8049 Bodø
Tel: +47 75 51 72 00
www.nord.no

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Trude Anita Hartviksen

Gravdal, December 17, 2020

List of Abbreviations

The following abbreviations are used in this dissertation:

BMC	BioMed Central
CAS	Complex Adaptive Systems
CINAHL	Cumulative Index to Nursing and Allied Health
CRP	Complex Responsive Processes
DARE	Database of Abstracts of Reviews of Effects
HMMs	Healthcare Middle Managers
JBI	Joanna Briggs Institute
JBI-QARI	Joanna Briggs Institute-Qualitative Assessment and Review Instrument
JBI-SUMARI	Joanna Briggs Institute-System for the Unified Management, Assessment and Review of Information
MeSH	Medical Subject Headings
MUNI-HEALTH-CARE	Norwegian National Research School for Municipal Healthcare
NPM	New Public Management
NSD	Norwegian Centre for Research Data
PICo	Participants, phenomena of Interest and Context
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROSPERO	International Prospective Register of Systematic Reviews
QI	Quality Improvement
REC	Regional Committees for Medical and Health Research Ethics
WHO	World Health Organisation

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Part 2

List of Original Articles

This dissertation consists of three studies (Studies I-III), a synthesis and the following four articles (Articles 1a, 1b, 2, and 3):

1a Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2017). Experiences of healthcare middle managers in developing capacity and capability to manage complexity: A systematic review protocol. *JBI Database of Systematic Reviews and Implementation reports, 15*(12), 2856-60. doi:10.11124/JBISRIR-2016-003286.

1b Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2019). Healthcare middle managers' experiences of developing capacity and capability: A systematic review and meta-synthesis. *BMC Health Services Research, 19*(1), 546. doi:10.1186/s12913-019-4345-1.

2 Hartviksen, T. A., Sjølie, B. M., Aspfors, J., & Uhrenfeldt, L. (2018). Healthcare middle managers experiences developing leadership capacity and capability in a public funded learning network. *BMC Health Services Research, 18*(1), 433. doi:10.1186/s12913-018-3259-7.

3 Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2020). Healthcare middle managers' capacity and capability to quality improvement. *Leadership in Health Services*, 33(3), 279-94. doi:10.1108/LHS-11-2019-0072.

Abstract

Healthcare in industrialised countries are influenced by a constantly changing society, whereas new knowledge is developed and the complexity increases. Although healthcare middle managers (HMMs) are typically seen as key personnel in the implementation and development of quality healthcare, and challenges are known to be associated with this position, research on how HMMs develop capacity and capability for leadership is limited. Based on a selected theoretical landscape of leadership, learning, and complexity theories, this dissertation has an overall aim to deepen knowledge and critically discuss how HMMs develop capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity.

More specifically, three subordinate aims are explored by three corresponding studies: (1) to identify the present knowledge and critically discuss how HMMs experience to develop the capacity and capability for leadership in a healthcare system characterised by high complexity (Study I); (2) to identify and discuss the facilitation of HMMs' development of capacity and capability for leadership (Study II); and (3) to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence quality improvement (QI) in nursing homes (Study III). Studies I-III are in this dissertation integrated and critically discussed in a synthesis, and they are disseminated as four articles (Articles 1a, 1b, 2, and 3).

The methodological stance is qualitative and informed by critical hermeneutics. Critical hermeneutics, as developed by Habermas, influence the three studies (Studies I-III) and the synthesis of these studies in a circular process where preunderstanding, theory and empirical results interact by critical reflection as the mean to achieve understanding. Study I is a comprehensive systematic review and meta-synthesis, with an *a priori* published protocol. Study II uses focus groups. Study

III applies a multimethod approach based on focus groups, supported by individual interview, and participative observations. All analysis are guided by an abductive critical hermeneutic approach.

The synthesised results of the three studies suggest that HMMs develop capacity and capability for leadership through supported or unsupported transformative processes interacting in a conflicting practice. This synthesis provides new knowledge about how HMMs development of capacity and capability for leadership can be facilitated. Suggested changes include both pedagogical and relational principles, as well as the organisational and structural assumptions of healthcare, specifically (a) from unsupported to supported transformative processes; (b) from lonely competitors to interactional networks; and (c) from command-and-control to a more empowering leadership.

Keywords: healthcare middle managers, leadership development, leadership capacity, leadership capability, complexity theory, qualitative, critical hermeneutics, meta-synthesis, synthesis

Norsk sammendrag

Helsetjenestene i industrialiserte land er preget av et samfunn i stadig endring, der ny kunnskap utvikles og kompleksiteten øker. Selv om mellomledere er anerkjent som nøkkelpersonell i implementering og utvikling av helsetjenester av høy kvalitet, og at det assosieres utfordringer til denne stillingen, er det begrenset forskning om hvordan mellomledere utvikler kapasitet og kapabilitet til ledelse. På grunnlag av et valgt teoretisk landskap av ledelses-, lærings-, og kompleksitetsteorier, har denne avhandlingen som overordnet mål å øke kunnskap om og kritisk diskutere hvordan mellomledere utvikler kapasitet og kapabilitet til ledelse i en offentlig finansiert helsetjeneste preget av høy kompleksitet.

Avhandlingens overordnete mål gjenfinnes i de følgende tre delmål utforsket gjennom tre tilsvarende studier: (1) å identifisere den nåværende kunnskapen og kritisk diskutere hvordan mellomledere erfarer å utvikle kapasitet og kapabilitet til ledelse i en helsetjeneste karakterisert av høy kompleksitet (Studie I); (2) å identifisere og diskutere tilrettelegging av mellomlederes utvikling av kapasitet og kapabilitet til ledelse (Studie II); og (3) å identifisere og kritisk diskutere hvordan mellomlederes utvikling av kapasitet og kapabilitet til ledelse erfares å påvirke kvalitetsforbedring (QI) i sykehjem (Studie III). Studier I-III er i denne avhandlingen integrert og kritisk diskutert i en syntese, og de er formidlet som fire artikler (Artikkel 1a, 1b, 2 og 3).

Det metodologiske ståstedet er kvalitativt og informert av kritisk hermeneutikk. Kritisk hermeneutikk, som utviklet av Habermas, påvirker de tre studiene (Studier I-III) og syntesen av disse studiene i en sirkulær prosess hvor forforståelse, teori og empiriske resultater interagerer gjennom kritisk refleksjon som verktøy for å oppnå forståelse. Studie I er en gjennomgripende systematisk review og metasyntese, med en *a priori* publisert protokoll. Studie II anvender fokusgrupper. Studie III har en multimetode tilnærming basert på fokusgrupper, støttet av individuelt intervju, og

deltakende observasjoner. All analyse er veiledet av en abduktiv kritisk hermeneutisk tilnærming.

De syntetiserte resultatene av de tre studiene antyder at mellomledere i helsetjenesten utvikler kapasitet og kapabilitet til ledelse gjennom støttede eller ikke-støttede transformative prosesser samhandlende i en motstridende praksis. Konklusjonen er at syntesen gir ny kunnskap om hvordan mellomlederes utvikling av kapasitet og kapabilitet til ledelse kan tilrettelegges. De foreslåtte endringene inkluderer både pedagogiske og relasjonelle prinsipper, samt de organisatoriske og strukturelle forutsetningene for helsevesenet, spesifikt (a) fra ikke-støttede til støttede transformative prosesser; (b) fra ensomme konkurrenter til interaksjonelle nettverk; og (c) fra kommando-og-kontroll til en mer bemyndigende ledelse.

Nøkkelord: mellomledere i helsetjenesten, ledelsesutvikling, ledelseskapasitet, ledelseskapabilitet, kompleksitetsteori, kvalitativ, kritisk hermeneutisk, meta-syntese, syntese

Dissertation Outline

This dissertation consists of two parts. Part 1 includes Studies I-III and the synthesis. Part 2 comprises four original articles (Articles 1a, 1b, 2, and 3). Part 1 is distributed by six chapters.

Chapter 1 introduces the background, aims and research questions, preunderstanding, context, and central concepts. C*hapter 2* presents the theoretical landscape, including leadership, learning, and complexity theories. *Chapter 3* describes the methodology as based on a critical hermeneutic foundation. Further, the research design and settings, and the methods for Studies I-III and the synthesis, are elaborated. This involves a comprehensive systematic review and meta-synthesis, focus groups, individual interview, participative observations, analysis, and synthesis. The chapter includes ethical considerations and trustworthiness.

Chapter 4 presents the results of the three studies and the synthesis. These results are experiences of how HMMs develop capacity and capability for leadership (Study I), how healthcare middle managers develop leadership capacity and capability in a publicly funded learning network (Study II), and experiences of how healthcare middle managers' development of capacity and capability influence quality improvement in nursing homes (Study III). Together, the results are synthesised to *healthcare middle managers develop capacity and capability for leadership through supported or unsupported transformative processes interacting in a conflicting practice,* which encompasses two main themes: transformative processes to handle complexity and interaction challenged by a conflicting practice. *Chapter 5* critically discusses the synthesis in the context of the theoretical landscape and previous research. The chapter is completed by methodological considerations.

Chapter 6 concludes part 1 of this dissertation, presenting implications and recommendations for further research.

Part 1

Healthcare middle managers' development of
capacity and capability for leadership:
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1. Introduction

This dissertation identifies and critically discusses healthcare middle managers' (HMMs) development of capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity. Although the position as HMM includes both leadership and management, the existing research has primarily focused on management (Bass & Bass, 2009). Reasoned with the complexity of healthcare, this dissertation takes its main focus on leadership. The abbreviation HMM refers to the occupational title, and the concepts of leadership and management to this particular part of the position. In international research, HMMs are denoted by various designations, including frontline nurse managers (Lee & Cummings, 2008) or first-line nurse managers (Gunawan, Aungsuroch, & Fisher, 2018). HMMs are recognised as the leadership level closest to everyday clinical practice, including patients, their network, and involved health personnel (Birken et al., 2018). Traditionally, HMMs have a clinical background, with limited leadership qualifications (Bradley, Taylor, & Cuellar, 2015). They are primarily nurses with additional education (Andrews & Gjertsen, 2014), or have other professional backgrounds, for example as physiotherapists, midwives or physicians (Hartviksen, Aspfors, & Uhrenfeldt, 2019). This dissertation considers HMMs' leadership from a cross-professional stance, that is, not limited to a specific professional background.

Placed between senior management and health personnel, HMMs have a central role in translating top-level policies, strategies, and means into practical improvement (Bradley et al., 2015; Dickson, 2016; McKimm & Till, 2015). Their work is associated with counteracting health personnel turnover and shortage, and influencing engagement, motivation, and outcomes in the workplace (Bradley et al., 2015; Dickson, 2016; Pearson et al., 2007). Healthcare middle management is known as a challenging position, with high instances of stress and burnout (Lee & Cummings, 2008). Tracing a causal path from leadership action to user outcomes is difficult, as

leadership development and its evaluation must take account of multiple stakeholder perspectives (Hartley & Hinksman, 2003).

The importance of leadership in healthcare has not been sufficiently recognised (Bradley et al., 2015). Traditionally, healthcare middle management is performed in addition to the clinical workload, and thus overshadowed by more visible, clinical tasks (Bradley et al., 2015; Briggs, Tejativaddhana, Cruickshank, Fraser & Campbell, 2010). Leadership has been expected to be self-taught and learned on the job (Darr, 2015). While broad knowledge exists about the features HMMs need to fulfil, knowledge on how to acquire these competencies in an increasingly complex and changing organisation is lacking (Briggs et al., 2010; Elliott, 2017; Ferlie, Crilly, Jashapara & Peckham, 2012). This dissertation is completed in the rural part of northern Norway. Norwegian municipalities face major leadership challenges in healthcare, related to competence and recruitment, quality deviations, and patient safety (Norwegian Ministry of Health and Care Services, 2015a).

1.1 Background

Leadership is generally described as the process of engaging with others to achieve group objectives (Alleyne & Jumaa, 2007). In the context of this dissertation, it is more specifically understood as how HMMs create a vision, enable health personnel to improve their performance, and empower their decision-makings. Management, on the other hand, is understood as the ways in which HMMs plan, organise, and structure healthcare (Bass & Bass, 2009), in a process of achieving predetermined objectives through human, financial, and technical resources (Alleyne & Jumaa, 2007). In turn, the concepts of *capacity* and *capability* refer to how HMMs' leadership development entails more than just the development of individual competence. This understanding is, among others, inspired by the leadership model developed by Mumford, Hunter, Eubanks, Bedell and Murphy (2007), in which capacity is defined as individual features such as technical expertise, creative thinking, social skills, and organisational understanding. Illeris (2015) specifies individual capacity to include

knowledge, skills, attitudes, understandings, beliefs, behaviour, and competencies, and provides a pedagogical approach to adult learning which is related in this dissertation to HMMs. Capability, meanwhile, is identified as the potential for HMMs to apply their capacity to perform concrete tasks or activities (Alleyne & Jumaa, 2007). This includes what HMMs are able to implement, be it identifying problems, handling complex contexts (Mumford et al., 2007), adapting to change, generating new knowledge or continuously improving healthcare (Fraser & Greenhalgh, 2001).

This dissertation considers healthcare in the context of high complexity. The concept of complexity is understood here as the particular dynamics or movements in healthcare, which due to human nature may at the same time be stable and unstable, predictable and unpredictable, known and unknown, and safe and uncertain (Stacey & Griffin, 2005). Davidson (2010) has highlighted examples of how this complexity is increasing, in the sense that new principles are approaching through higher levels of interaction between different actors. In the municipalities, this is exemplified by the introduction of integrated healthcare. Integrated healthcare is described as a stronger first level of care, with multidisciplinary teams, user involvement, and close interaction with specialised care. Similar changes are evident in the hospitals, where healthcare is evolving from a traditional fragmented specialist model to models organised around processes, clinical pathways, evidence-based medicine, and a focus on treating people rather than diseases or organs.

The understanding of healthcare as complex informs this research by explaining the relationships and settings in which HMMs find themselves. Complex organisations consist of human agents who are conscious, self-conscious, reflexive, spontaneous, and capable of making their own choices; in this way, healthcare is understood to be built on processes of human interaction and will thus always be complex and involve transformative movement described as development patterns formed by power relations (Stacey & Griffin, 2005). These are social action contexts in which HMMs participate through interaction (Habermas, 1987). Healthcare complexity proceeds in

a society that is changing rapidly and therefore requires up-to-date knowledge, new approaches to leadership, and new methods of quality improvement (QI). Living in the information age of rapidly advancing technological solutions, contemporary society is changing at such a pace that a healthcare management structure based on strategic planning and anticipation proves challenging (Davidson, 2010). Ultimately, continuous development of capacity and capability is essential for HMMs, and their sustainability influences that of healthcare organisations as a whole (Alleyne & Jumaa, 2007).

While the scientific evidence of medical treatment and care has grown significantly the last decades, much of this knowledge does not affect clinical practice (Brown, 2014). In 1999 and 2001, the American National Academy of Medicine (then the Institute of Medicine) published, *To Err is Human: Building a Safer Health System* (Donaldson, Corrigan, & Kohn, 2000) and *Crossing the Quality Chasm: A New Health System for the 21st Century* (Baker, 2001), respectively. These reports are considered landmark documentation that show how quality failures in healthcare occur in response to increasing complexity. The reports underline the critical gap between scientific evidence and application in practice, described as the "quality chasm" (Berwick, 2008). This dissertation has its starting point the perceived need to limit this gap. It seeks to strengthen the quality of knowledge-based professional practice in healthcare, both theoretically and empirically, by developing research close to practice (Nord University, 2016). This practical knowledge is understood as a critical awareness of one's own professional practice (Halås, Steinsvik, & Kymre, 2017).

Previous Research

Given their front line position in healthcare delivery, HMMs are integral to closing the quality chasm (Bradley et al., 2015). However, HMMs face a number of significant challenges in their day-to-day practice. First, multiple studies have outlined how HMMs require knowledge to act in changing complex contexts (Briggs et al., 2010; Davidson, 2010; McKimm & Till, 2015); this knowledge may be technological (Alleyne

& Jumaa, 2007; Bradley et al., 2015; Davidson, 2010; McKimm & Till, 2015), socio-cultural (Alleyne & Jumaa, 2007; McKimm & Till, 2015), economical (Bradley et al., 2015; Holder & Ramagem, 2012; McKimm & Till, 2015) or political (McKimm & Till, 2015). Second, research has shown how HMMs need skills in communication, negotiation, implementation of knowledge-based practice, analysis (Kattan et al., 2014), strategy development (Alleyne & Jumaa, 2007), problem-solving, leadership (Bradley et al., 2015; Holder & Ramagem, 2012), risk management, and networking (Briggs et al., 2010). Critics have also flagged a need for a reorientation in leadership, whereby modern healthcare leadership is exercised through modern methods (Shapiro, Miller & White, 2006).

Previous research describe how HMMs' development of capacity and capability for leadership has necessitated teaching specific competencies relating to specific tasks, such as creating time sheets or economic reports. However, the practical application of HMMs' competence within complex and changing organisations has not received adequate attention (Briggs et al., 2010). Developing capacity and capability for leadership takes time, as it entails changing integrated cultures, attitudes, and habits (Bradley et al., 2015). Healthcare middle management also implies strategies that require system thinking, personal coping mechanisms and models, and team learning in the forwarding of a shared vision. These are understood as cognitive, social and technical processes, which include interpretation, internalisation, integration, and institutionalisation (Schilling et al., 2011). Equally, HMMs learn at varying speeds and need a learning environment that is psychologically safe and stimulates active involvement (Kattan et al., 2014; Schilling et al., 2011).

Although self-cultivating is suggested to develop leadership capacity (Davidson, 2010), individual learning is insufficient in isolation and should be complemented with group working, which facilitates trust, creative thinking, and constructive challenge of commonly held approaches (Alleyne & Jumaa, 2007). The World Health Organisation (WHO) actively encourages resource networks and knowledge centres,

"bottom-up" approaches and collaborations (De Savigny & Adam, 2010). Collaborative approaches are described as action-oriented, using face-to-face workshops, site visits, and video conferencing (Briggs et al., 2010; Rycroft-Malone et al., 2013). Previous research describes several such approaches to capacity building, including: site-based training and mentoring programmes (Belrhiti, Booth, Marchal, & Verstraeten, 2016); different management systems, such as the Lean concept (Goodridge, Westhorp, Rotter, Dobson, & Bath, 2015); periodical meetings (Dean, Myles, Spears-Jones, Bishop-Cline, & Fenton, 2014; Kattan et al., 2014; Stover et al., 2014); online portals (Parry, Calarco, Hensinger, Kearly, & Shakarjian, 2012); and coaching (Alleyne & Jumaa, 2007).

Existing knowledge describes how HMMs are facilitated by processes of continuous collaboration, targeting systemic, structural, or policy changes, built on best practice (Sapag, Herrera, Trainor, Caldera, & Khenti, 2013). Senge (2006) describes a learning organisation in his work with leadership and organisational development. Here, the benefits of visionary and realistic thinking and collaboration are emphasised, in which employees continuously increase their capacity to create desired results, learning to see the organisational whole together.

Motives

The *research motive* in this dissertation is based on a lack of knowledge of how HMMs develop capacity and capability for leadership in a complex context. A need for further research is noted in several studies (Cummings et al., 2018; Davidson, 2010; Hanson & Ford, 2011). In response, this dissertation is designed to contribute practical knowledge that strengthens knowledge-based professional practice in the research field (Nord University, 2016). The *organisational motive* relates to how the sustainability of healthcare organisations is suggested to be dependent on that of the individual HMM (Alleyne & Jumaa, 2007). Healthcare middle management is traditionally characterised by strategic planning in a traditional leadership structure based on hierarchical and linear models. This suggests that current healthcare middle

management is not adapted to the increasing complexity in healthcare organisations (Davidson, 2010; Rycroft-Malone et al., 2013).

The *societal motive* centres on the critical healthcare leadership challenges faced by Norwegian municipalities (Norwegian Ministry of Health and Care Services, 2015a). The pressing need for HMMs' development of capacity and capability for leadership is confirmed in the Norwegian Ministry of Education and Research White Paper no. 13, 2011-2012 (2013), which stresses the need for education and research to improve the quality of healthcare and social services. This need is also evident in the Norwegian National Strategy for Quality Improvement in Health and Social Services 2005-2015 (Norwegian Directorate of Health, 2005), and in the Leadership in Norway's Civil Services, an initiative from the Norwegian Ministry of Government Administration and Reform to improve leadership (Norwegian Ministry of Government Administration and Reform, 2008). Finally, as a researcher, I have a *personal motive* based on my previous work experience as an HMM. I search to contribute to the existing practical knowledge base in recognition of the need for change in how the opportunities within this position are leveraged.

1.2 Aims and Research Questions

This dissertation searches to establish a scientific understanding of practical knowledge regarding how HMMs develop capacity and capability for leadership. This is explored in a critical stance, considering how healthcare complexity affects leadership development, and how this development can be facilitated in order to improve healthcare quality for the users of healthcare.

The overall aim is:

To deepen knowledge and critically discuss how HMMs develop capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity.

This overall aim is supported by three subordinate aims, which are explored in three corresponding studies: (1) to identify the present knowledge and critically discuss how HMMs experience to develop the capacity and capability for leadership in a healthcare system characterised by high complexity (Study I); (2) to identify and discuss the facilitation of HMMs' development of capacity and capability for leadership (Study II); and (3) to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence QI in nursing homes (Study III).

The main research question is:

How do healthcare middle managers experience development of capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity?

The following research questions have guided Studies I-III:

Study I	*How do healthcare middle managers experience to develop the capacity and capability for leadership in a healthcare system characterised by high complexity?*
Study II	*How do healthcare middle managers, who participate in a learning network, experience that this participation contribute to the development of capacity and capability for leadership, in a public funded healthcare system characterised by high complexity?*
Study III	*How are healthcare middle managers' development of capacity and capability for leadership experienced to influence quality improvement in nursing homes?*

The dissertation has a critical hermeneutic foundation that adds new knowledge to these questions through the three studies (Studies I-III) and an integrated synthesis. The synthesis is guided by a further research question:

Studies I-III *How can the experiences of HMMs' development of capacity and capability for leadership be synthesised from the theoretical perspectives of leadership, learning, and complexity theories?*

1.3 Preunderstanding

My preunderstanding of this research field is based on 15 years of experience as an HMM in a hospital in rural northern Norway. This includes a recognition of healthcare as increasingly complex and challenging, but with only incremental changes to traditional linear management structures. My professional preunderstanding builds on my education as an occupational therapist, further education in pedagogy, and a Master's degree in rehabilitation. Together, these education programmes greatly emphasise the active, independent role of patients, and the facilitative role of healthcare personnel.

My personal interest and engagement in research starts with the process of re-organisation at the aforementioned hospital. Having become a part of a large hospital trust, the hospital ends local common leadership, and senior management are located in a larger hospital at geographical distance. As local leaders, we are accustomed to close cooperation, both in patient pathways and in QI work across organisational boundaries. One of my fellow HMMs describes the resulting situation as a *"vacuum"*, understood as a feeling of both emptiness and pressure - a situation we do not know how to handle. This is the year 2009, a year in which interdisciplinary and interdepartmental cooperation are foregrounded in Norway, as exemplified by the Coordination Reform (Norwegian Ministry of Health and Care Services, 2009); the changed organisational structure in this hospital is experienced to contradict these intentions.

In 2012, the local group of HMMs in the hospital initiate a learning network across the organisation to compensate for the experience of an absent leadership community. HMMs from the local municipalities, lecturers from the local University Department, and the leader of the Homecare Development Centre are invited to join

this network, together with representatives of the residents of the municipalities. 2012 is also the year when I change my job situation. My participation in the learning network continues alongside my new position as a University Lecturer. When the participating HMMs evaluate this network as something they do not experience elsewhere (several of them state that *"something special happens here"*), a fellow lecturer and I become curious, asking each other, *"what is this something that happens?"* This curiosity initiates my research interest, and ultimately this dissertation.

1.4 Context of the Dissertation

Related to Norwegian geography and population patterns,[1] this dissertation is completed in a rural context. The exception is Study I, which is a comprehensive systematic review with an international context, including studies from public healthcare in both rural and urban hospitals and municipalities. Norwegian Healthcare is an example of what is known as the Scandinavian (or Nordic) welfare state model, particularly developed after World War II. This includes comprehensive social policy, universal rights, and legislation.[2] Norwegian Healthcare is organised into four levels: state, regions, counties, and municipalities (Hood, 1995), and into primary and specialist healthcare. The municipalities' responsibilities are increasing and encompass all primary healthcare (including nursing homes and home-based services). Specialist healthcare (hospitals) is governed by the state and administered by four Regional Health Trusts (Ringard, Sagan, Sperre Saunes, & Lindahl, 2013). Since the 1980s, several different internationally influenced reforms are implemented in Norwegian Healthcare,[3] often referred to collectively as New Public Management (NPM) (Hood, 1995). Drawing on principles from the private sector, these reforms

[1] Norway has a population of 5.4 million people (Statistics Norway, 2020), distributed widely throughout a country divided into eleven counties and 356 municipalities (Norwegian Mapping Authority, 2020). The median number of inhabitants per municipality is 5 000 (Statistics Norway, 2020). The municipalities that are the setting for Study II have 1 100-11 000 inhabitants, while the municipality in Study III has 11 000 inhabitants.
[2] Healthcare is a universal benefit, mainly funded through general taxation (Hood, 1995).
[3] Under the 2002 Norwegian Hospital Reform, for example, hospitals transitioned from being governed by the counties to become state health trusts (Jacobsen & Mekki, 2012).

entail decentralisation of healthcare, organisation into result units, standardisation of practice, and performance monitoring. NPM reflects a change from predominantly rule-oriented to target- and result-oriented management (Jacobsen & Mekki, 2012).

Central governance of Norwegian Healthcare is overseen by the Ministry of Health and Care Services. The ministry has direct responsibility for specialist healthcare through the hospital trusts and annual letters of instructions. There is no direct command-and-control line from the central authorities to the municipalities: the latter primarily make independent decisions on the organisation of primary healthcare (Ringard et al., 2013). Both municipality healthcare (Norwegian Ministry of Health and Care Services, 2015b) and specialist healthcare have a strong hierarchical structure based on the legislation of one leader at each level, combining professional and administrative responsibilities (Norwegian Specialised Health Services Act, 2019).

There are no specified national competence requirements to become a leader in Norwegian Healthcare (Andrews & Gjertsen, 2014). Various initiatives have addressed leadership challenges related to a context of increasing complexity, and a need to increase capacity and capability in this regard (Norwegian Directorate of Health, 2005; Norwegian Ministry of Education and Research, 2013; Norwegian Ministry of Government Administration and Reform, 2008): examples include the National Management Development Programme in specialist healthcare and the Directorate of Health's establishment of a national leadership education programme for municipal and county healthcare (Norwegian Ministry of Health and Care Services, 2015b). In addition, the Competence Lift 2020 is the government's strategy for recruitment and professional development in municipal healthcare. This plan also targets competence development for leaders (Norwegian Directorate of Health, 2017), offering conferences, networking opportunities, and training programs, as exemplified by the pilot project "Patient- and User-Safe Municipalities (Norwegian Directorate of Health, 2019).

Healthcare in industrialised countries is characterised by an increasing number of older people, younger users, increasing chronic and compound illnesses, and a lack of healthcare personnel (Norwegian Institute of Public Health, 2010). The Norwegian government states that these growing demands cannot be addressed through an increase of healthcare expenditure. Sustainable development of healthcare, it is argued, depends on new ways to deliver and organise services, as well as the integration of new technology. Central priorities in health policy are inter-sectoral cooperation, resource allocation, involvement of patients and relatives, QI and patient safety (Ringard et al., 2013). Norwegian Healthcare is currently guided by a common set of regulations for leadership and QI (Norwegian Regulations on Management and Quality Improvement in the Health and Care Service, 2002), according to which user participation in service development is required by law since 2001 (Norwegian Patient and User Rights Act, 2019).

2. Theoretical Landscape

This dissertation includes a combined theoretical landscape to bring a broader basis to the understanding of the complexity in the research field. Leadership theories are applied to understand healthcare middle management, learning theories to understand HMMs' development of capacity and capability, and complexity theories to understand healthcare as complex contexts.

2.1 Leadership Theories

Leadership is understood in this dissertation as a process that gives others the opportunity to understand, agree, and work towards common aims. This process spans both involvement and facilitation (Yukl, 2009). Based on this understanding, the purpose of leadership is self-leadership among health personnel in response to particular situations. Whereas self-management is about what needs to be done, and is often externally motivated, self-leadership includes why and how it is done, is integrated as individual standards, and facilitated by training, empowering, shared leadership and cultural influence (Stewart, Courtright, & Manz, 2011).

Different leadership styles have been seen to influence organisational commitment, work satisfaction, and trust among employees (Sharma, Aryan, Singh, & Kaur, 2019). As an overarching framework to leadership theory, the Full Range Leadership Model has contributed to this dissertation with its explanation of three different leadership styles: transactional, transformative, and laissez-faire (Bass & Bass, 2009). Healthcare middle management is traditionally characterised by strategic planning and implementing concrete tasks in a leadership structure based on hierarchical and linear models (Davidson, 2010). This corresponds to a transactional leadership (Bass & Bass, 2009), which is exemplified in all three studies (Studies I-III). A transactional leadership style relates to external motivators: specifically, contingent reinforcement, guidelines, and control (Bass & Bass, 2009). Research show transactional leadership to have both a negative (Sharma et al., 2019) and positive impact on job satisfaction, and a negative impact on staff empowerment, health, and wellbeing (Cummings et

al., 2018). A transactional leadership style is criticised for being reductive as it omits the ability to account for current highly complex, interrelated, and relationship-driven organisations (Davidson, 2010; Ferlie et al., 2012; McKimm & Till, 2015). It does not lend itself to facilitating development, but is more suitable to situations that are time-pressured, where personnel are untrained, or when it is a lack of response to other leadership styles. Similar leadership styles are referred to as autocratic (power-based), or authoritative (related to orders, reward and punishment, distrust, and the rejection of input) (Khan et al., 2015).

Transformative leadership is central to Study II and the synthesis, and relates to internal motivation, creativity, and an open and trustworthy culture. A transformative leadership style is described as influential and innovative (Bass & Bass, 2009), and includes bottom-up initiatives that enable organisations to be more flexible and adaptable (Yukl, 2009). Studies on transformative leadership highlight the positive impact on job satisfaction (Sharma et al., 2019). An authentic leadership style is described by similar qualities, as it facilitates high-quality relationships and active engagement and increases patient and staff outcomes in healthcare settings (Alilyyani, Wong, & Cummings, 2018). Transformative and authentic leadership styles are examples of relational leadership styles (Cummings et al., 2018); similar approaches are defined as servant (Eva, Robin, Sendjaya, van Dierendonck, & Liden, 2019), trust-based (Okello & Gilson, 2015), participative, and democratic (Khan et al., 2015). Nursing theory suggests a caring perspective on leadership as a responsible leadership model (Foss, Nåden, & Eriksson, 2014). In this dissertation, the complexity model of leadership contributes to the understanding of leadership development as it relates to both the individual HMM and the relevant context, in particular its structures and cultures (Clarke, 2013). The essential difference from transformative leadership is an acceptance of a lack of control (Marion & Uhl-Bien, 2002).

Laissez-faire leadership is the third overarching style as described by Bass & Bass (2009). It refers to an absent, or passive, leadership (Bass & Bass, 2009). It is also

known as the “hands-off” style, whereby leaders provide little or no direction and give as much freedom as possible. All authority or power are provided the employees to set their own aims, make their own decisions and resolve their own problems. A laissez-faire leadership style is considered to function well when the personnel are highly skilled, experienced, and educated (Khan et al., 2015). However, this leadership style is not recognised in the results of the three studies or the synthesis in this dissertation.

It has been suggested that HMMs should incorporate different leadership styles and adapt their response to specific situations accordingly; this is known as situational or contextual leadership. Such flexibility in leadership style means that leadership is understood as something that occurs in specific relationships with other people and in different contexts (Oc, 2018).

2.2 Learning Theories

Illeris’s (2014) comprehensive framework of transformative learning contributes to the understanding of HMMs’ development of capacity and capability for leadership by explaining learning as individually constructed on the basis of earlier knowledge and social interaction within the relevant context. This perspective is particularly evident in Study II and the synthesis. Transformative learning theory originates from Mezirow (1991) and is influenced by Jürgen Habermas and his theory of communicative action (Jacobs, 2019). According to Habermas (1987), knowledge is dependent on subjective conditions of possibility and made visible by critical reflection, communication, and interaction. Illeris (2014) redefines Mezirow’s theory by addressing changes in identity, arguing that people do not transform identity without internal or external reasons. Illeris’s (2002) identifies learning by addition (cumulative or assimilative) and reconstruction (accommodative or transformative). Cumulative learning entails new mental schemes, while assimilative learning adds elements to existing schemes. Accommodative learning involves changing elements of schemes, while transformative learning changes elements in the identities (Illeris,

2002). Illeris (2015) refers to a variety of other learning theories. It is common to distinguish between five main learning theories: behaviourist, cognitivist, constructivist, humanist, and social (Straus, Tetroe, & Graham, 2013)

The *behaviourist* perspective explains learning as causal: if a person receives a stimulus, the relevant response will follow (Straus et al., 2013). This learning theory may thus be relevant for HMMs when concrete competencies and tasks are the learning issue. The *cognitivist* perspective describes how the perception, interpretation, storing and use of information develop awareness, understanding, and meaning. Meaning and understanding are based on critical reflection and the evaluation of earlier experiences. This perspective posits HMM's clinical practical experience as essential to critical thinking and reflective practice. Mesirow's theory of transformative learning is an example of the *constructivist* perspective, focusing on how critical reflection can transform a person's perspective (Straus et al., 2013). Illeris's (2015) comprehensive framework is, however, aligned to adult learning, which is a central part of the *humanist* perspective. This perspective explains learning as growth, emphasises learning by experience, and stresses autonomy and individual responsibility (Straus et al., 2013). This is relevant to HMMs' development as it addresses adults' life experiences, their need to see relevance to become motivated, and their ability to be self-directed (Illeris, 2002; Straus et al., 2013). The *social* perspective takes elements from the other learning perspectives, arguing that learning is a result of social and environmental interaction, with an emphasis on experience, motivation, and self-direction (Straus et al., 2013).

Transformative learning, as described by Illeris (2002), contributes knowledge to this dissertation by outlining how changes in HMMs' perspectives on meaning develop as a result of critical reflection, open discourse, and implementing new understandings in practice. This is apparent, for example, when the individual receives impulses through social interaction and incorporates them by internal interpretation and acquisition. The principle of acquisition entails that new impulses add to existing

schemes: this explains why different participants in a group will develop differently, and how HMMs' development of capacity and capability for leadership may be supported by active, individual and constructive processes in three interrelated dimensions: content, incentive, and interaction. In what is known as the Learning Triangle, content refers to the human capacity (knowledge, skills, attitudes, understandings, beliefs, behaviours, or competencies), incentive refers to the mental energy that drives the learning process (motivation, emotion, and volition), and interaction facilitates the process (Illeris, 2015).

2.3 Complexity Theories

There are several understandings and variations designated as complexity theories. These are increasingly used in healthcare research, although there is no common or recommended application (Thompson, Fazio, Kustra, Patrick, & Stanley, 2016). Oc (2018) describes complexity theories as useful to leadership research as they provide an understanding of how organisational performance and the leader's cognition and behaviour are influenced by contextual differences. This dissertation relates to how healthcare organisations are described as Complex Adaptive Systems (CAS) (De Savigny & Adam, 2010), from which Nelson, Batalden, Godfrey and Lazar (2011) presents a theory based on microsystems as the core of healthcare. This theory draws on Habermas (1987), and his reference to Luhmann's systems theory, describing three levels of integration: "the level of simple interactions between present actors; the level of organisations constituted through voluntary and disposable memberships; and finally the level of society in general" (Habermas, 1987, p. 154). Nelson et al. (2011) recasts this as micro, meso and macro level perspectives. This knowledge influences the structure of this dissertation through the three studies (Studies I-III). The patients are considered the centre of different microsystems, health personnel, relatives and other relevant persons are participants, and HMM's are the closest leadership level. The microsystems are supported by mesosystems (for example, municipal healthcare) and macro systems (for example, national and international healthcare).

CAS describes healthcare as social systems with individual interconnected agents that often act in unpredictable ways (Baker, 2001). These systems are dynamic and adapt constantly to new contexts and continuous learning. CAS constitutes the core of complexity science (Begun, Zimmerman, & Dooley, 2003), which represents an alternative to earlier rational and mechanistic views of organisational life (Davidson, 2010), which, for example, viewed knowledge translation as a stepwise linear process (Braithwaite, Churruca, Long, Ellis, & Herkes, 2018). The theory of Complex Responsive Processes (CRP) is a further development of CAS, refuting the objectifying connection to systems on which both the precedent mechanical view of organisations and CAS are criticised for (Davidson, 2010). Rather, CRP describes acts of communication, power relations, and the interplay between people's choices based on evaluation, specifically around how people in organisations deal with the unknown and create organisational futures together. Organisations are understood in terms of temporal, relational, processes (Stacey & Griffin, 2007). Such processes are difficult to construct or predetermine (Davidson, 2010): interaction produces nothing more than further interaction (Stacey & Griffin, 2007).

In the context of HMMs' leadership, CRP is significant in its facilitation of natural creativity and generative relationships, its positive use of attractors for change, and its constructive approach to variation (Davidson, 2010). It also provides knowledge on how development of capacity and capability involves supporting reflection among HMMs (Flinn, 2018). CRP as a theory is situated in the broader epistemology of Habermas's theory of communicative action in respect of how contradictory or contentious positions coexist as validating claims to truth, how sameness neutralises creativity, and how social contexts legitimise what constitutes true beliefs. CRP involves process thinking, in which emergence, transformative teleology, and power relations are central methodological concepts (Stacey & Griffin, 2005). Communication is explained as the result of human consciousness and self-consciousness. Despite conflicting and competing communication, this is what makes humans able to cooperate and reach consensus. Both consciousness and self-

consciousness are understood as social processes, developed by gestures, responses, and the ability to reflect subjectively on oneself. Power is described as an enabling/constraining relationship balanced by human need for one another. In this sense, power is what constitutes communicative interaction in healthcare organisations, and it is in this communicative interaction (and its constituent power relations) that HMMs continuously make conscious and unconscious choices of action. These choices are made and evaluated by ideological values and norms, making them feel natural and self-evident. Interaction evolves self-organising by emergence in a non-linear nature (Stacey & Griffin, 2007).

3. Methodology and Methods

This chapter elaborates the methodological foundation, design and settings, methods, ethical considerations and trustworthiness of the research. This dissertation is informed by critical hermeneutics as developed by the German philosopher and sociologist Jürgen Habermas (1929-). The rationale for critical hermeneutics is twofold. First, it is linked to my preunderstanding of the inconsistencies in how healthcare is structured and managed. Second, it emerges from an understanding of the amount of published research that is purely descriptive and how this problematizes the utility of science (Kincheloe & McLaren, 2005). Research with a critical hermeneutic foundation relates to practice and serves a practical purpose (Habermas, 1999).

3.1 Methodological Foundation

The aims and research questions in this dissertation are informed by Habermas's attention to the contradictions in society. Ontologically, the social reality is understood as diverse, experienced and interpreted, and connected to the development of human competence and variable historical and social conditions (Habermas, 1999). Habermas (1987) describes ontological assumptions as a threefold actor-world relation: (a) the objective world, where true statements are possible; (b) the social world, where interpersonal relationships legitimise; and (c) the subjective world, where the individual has privileged access. He clarifies that, "It is the actors themselves who seek consensus and measure it against truth, rightness, and sincerity (…)" (Habermas, 1987, p. 100). In this dissertation, it can thus be inferred that the participants' actions are perceived as rational in the given situation based on facts, norms and/or experiences (Habermas, 1987). The participants' statements are pre-understood as a combined perspective of objective descriptions, in a given clinical context, and as the subjective experiences of the individual.

Supported by Habermas's theory of communicative action, actual contextual society is recognised here as an ongoing struggle between different rationalities in the

lifeworld and system-world (Habermas, 1987). The lifeworld is understood as horizons of knowledge, norms, and expectations that are often taken for granted. This culturally formed preunderstanding provides the basis for every communicative act. The system-world is explained as organised action systems that safeguard economics and politics. Whereas the system-world structures society through a result-oriented rationality that is regulated by laws, rules, and markets, the lifeworld is guided by interaction: Habermas (1987) describes how the lifeworld and system-world become separated from each other as a result of increased formalisation of communication and interaction, money and power. This may lead to the system-world's colonisation of the lifeworld, in which:

> (…) the mediatisation of the lifeworld by system imperatives, assumes the sociopathological form of an internal colonisation when critical disequilibria in material reproduction - that is, systemic crises amenable to systems-theoretical reproduction of the lifeworld - that is, of "subjectively" experienced, identity-threatening crises or pathologies. (Habermas, 1987, p. 305).

This dissertation searches to identify and critically discuss how participants experience interaction in their lifeworld and system-world. This includes critically discussing if HMMs' lifeworld is experienced to be mediated by system imperatives, and whether this threatens their identity.

The epistemological basis for this dissertation implies that knowledge is justified through several subjectivities and through intersubjectivity. The process of gaining understanding relates to how participants' intersubjective interaction provides access to their culturally embedded preunderstanding (Habermas, 1987), including cultural, social, and personal traditions (Habermas, 1999). Habermas refers to the German philosopher Hans Georg Gadamer (1900-2002) and his theory of *Verstehen* when he explains that the hermeneutic problem is based on how it involves language as the medium of understanding (Habermas, 2001). In this dissertation, the concept of

understanding entails more than just the transfer of information; rather, what Habermas (1987) describes as *Werständigung* is an intersubjective process:

> Coming to an understanding [Werständigung] means that participants in communication reach an agreement [Einigung] concerning the validity of an utterance; agreement [Einverständnis] is the intersubjective recognition of the validity claim the speaker raises for it. (Habermas, 1987, p. 120)

This dissertation makes use of Habermas's (2001) focus on critical reflection as part of the hermeneutic circle, including the historical significance of the individual situation, the influence of politics, structural relations, and power, and the uncovering of misunderstandings. Habermas (1990) refers to Gadamer's descriptions of the hermeneutic circle when he depicts the interlacing of horizons as a condition of hermeneutic work:

> This becomes evident in the circular relation of prior understanding [Vorverständnis] to the explication of what is understood. We can decipher the parts of a text only if we anticipate an understanding – however diffuse – of the whole; and conversely, we can correct this anticipation [Vorgriff] only to the extent to which we explicate individual parts. (Habermas, 1990, p. 221)

Critical reflection has a central epistemological significance to this research, then; Habermas (1990) considers it more important to achieving understanding than Gadamer's beliefs in tradition and authority:

> However, the substantiality of what is historically pregiven does not remain unaffected when it is taken up in reflection. A structure of preunderstanding or prejudgement that has been rendered transparent can no longer function as a prejudice. But this is precisely what Gadamer seems to imply. That authority converges with knowledge means that the tradition that is effectively behind the educator legitimates the prejudices inculcated in the rising generation; they could then only be confirmed in this generation's reflection. (Habermas, 1990, p. 237)

Critical reflection, as explained by Habermas (2015), implies how participants can uncover ideological veils and systematically distorted communication related to historical or social contexts in order to become aware of what limits their potential as well as the prerequisite for human competence: “Self-reflection brings to consciousness those determinants of a self-formative process of cultivation and spiritual formation [Bildung] which ideologically determine a contemporary praxis of action and the conception of the world” (Habermas, 2015, p. 25). Facilitating self-formative processes on the basis of critical reflection is thus central to all research phases in this dissertation, personally as a researcher and in interactions with the supervisors and participants. Critical reflection includes how the results of the three studies are considered in relation to their settings, to the researcher’s and the participants’ respective preunderstanding. It is also the basis when the three studies interact with each other and are combined to a whole through the synthesis.

3.2 Design and Settings

The research process in this dissertation involves the search to understand when theoretical statements represent changeable dependent relationships that are often taken for granted (Habermas, 1999). Habermas (2015) describes this as “a kind of methodological inner view”:

> From the circumstance that theories of the critical type themselves reflect on their (structural) constitutive context and their (potential) context of application, results a changed relation to empirical practice, as a kind of methodological inner view of the relation of theory to practice. (Habermas, 2015, p. 14)

Critical hermeneutics influence the aims and research questions in this dissertation when a search for and critically discussion of participants’ experiences are asked. As a result, the studies are designed with qualitative methods (Kvale & Brinkmann, 2015). Habermas’s (1999) central concept of communicative action - understood as interaction coordinated by speech actions - informs the data gathering and an

abductive critical hermeneutic approach. Abduction is a suggested approach when studying complex situations. It includes observing what we do not understand and critically reflecting on data to suggest what occurs, and whether other data supports this assumption (Kvale & Brinkmann, 2015). The abductive approach indicates a dialogical design that searches for contrasts between HMMs' lifeworld and system-world, and which facilitates critical reflection in a participatory and interacting dialogue around the participants' experiences (Habermas, 2015). This dissertation can therefore be understood in the context of triple hermeneutics: while simple hermeneutics is based on the individual's own interpretation and double hermeneutics is based on the researcher's interpretation, triple hermeneutics consider unconscious processes, ideologies, and power dimensions (Alvesson & Sköldberg, 2008). The research design comprises a comprehensive systematic review and meta-synthesis (Study I), two primary studies (Studies II and III), and a synthesis of the results from Studies I-III.

As a part of the PhD program in Professional Praxis at Nord University, it is pre-required to raise awareness and further develop professional practice and experience-based knowledge. Research should contribute to the theoretical and empirical development of professions and provide a scientific understanding of action-based knowledge (Nord University, 2016). This is consistent with the practical purpose of critical hermeneutics (Habermas, 1999). From its starting point in professional practice, the experience-based data gathered as part of Study II delivers valuable critical insights, before pursuing a more international scientific understanding from the systematic review and meta-synthesis in Study I. Study I ensures a scientific overview to Studies II and III. Study II contributes empirical results to Study I, and critical reflection to Study III. Study III influences Studies I and II by contributing contrasting experiences from HMMs' professional practice.

As a result of the critical hermeneutic process, the timeline of this dissertation is non-linear. Study II begins in December 2014 with data gathering from the critical reflection of experience-based knowledge in a learning network. This data is

transcribed in 2015 and inspires the project outline of the dissertation. A protocol for the systematic review and meta-synthesis in Study I is developed in 2016, when Study II reaches the analysis phase. Studies I and II then inform the design of Study III in the same year. The protocol for Study I is published in 2017; hence it's numbering in this dissertation. Study II is published in 2018. The search strategy for Study I is completed between October 2017 and February 2019, and the article is published in 2019. Data for Study III is gathered in April-May 2019, and the study is published in 2020. The three studies and the synthesis form a continuous critical whole, where the results from each study inform and influence each other. As a result of this process, themes that emerge in one study are highlighted and elaborated in another. This back-and-forth process includes the writing of this dissertation, completed in 2020.

Studies I-III are interconnected as they aim to identify and critically discuss experiences of HMMs' development of capacity and capability for leadership from different perspectives. Study I has a macro-level perspective, summarising and synthesising knowledge of HMMs' experiences of development of capacity and capability for leadership in public hospitals and municipal healthcare in an international context. This comprehensive systematic review and meta-synthesis is planned and completed in close cooperation with a university librarian and an experienced research team (my supervisors), as suggested by Ludvigsen et al. (2016) and Sandelowski & Barroso (2006).

Study II has a meso-level perspective, based on focus groups with HMMs and a user representative from a learning network spanning organisational and structural levels. This learning network is located in rural northern Norway and concern the participants' development of capacity and capability for quality improvement (QI). The network is supervised by the Norwegian Institute of Public Health and meets three to four times a year in sessions supported by a transformative learning model (Illeris, 2014). It has 54 participants from public healthcare across four municipalities and one local hospital (41 HMMs, one user representative, and 12 healthcare

professionals with a special interest in QI). Four different perspectives are represented from this network. HMMs working in: (a) hospital, (b) municipal long-term care, and (c) municipal homecare, and (d) user representative. It is important to note that this recruitment is about increasing breadth and depth of representation and not to compare perspectives.

Study III has a micro-level perspective, designed as a multimethod study of how HMMs' development of capacity and capability for leadership influences QI (as a central part of HMMs' leadership) in nursing homes (as a specific complex context). A study is considered multimethod when data gathering is completed using two or more methods, and the results are triangulated into a whole (Morse, 2015). The main method used here is focus groups, supported by one individual interview and participative observations. These methods are considered complementary (Alvesson & Kärreman, 2012). Study III is designed in collaboration with a senior manager in a rural northern municipality of Norway. The HMMs in this municipality participate in the learning network in Study II and in workshops and process guidance connected to this municipality's commitment to systematic QI based on PDSA (Plan-Do-Study-Act) (Taylor et al., 2014) and Lean (refers to slim) (Mason, Nicolay, & Darzi, 2015) working structures. Systematic QI is introduced to the HMMs in 2014-16 and implemented as a mandatory part of their leadership in 2016. The setting in this study is the two nursing homes located in this municipality. The multimethod study includes focus groups with HMMs and volunteer relatives, an individual interview with one HMM, and participative observations of HMMs during their regular workdays.

Data is analysed separately for each study. The results from Studies I-III are then synthesised to constitute part 1 of this dissertation, along with previous research and the theoretical landscape. The synthesis is multimethod in that the three studies use different methods separately, and the results are synthesised into a whole. The synthesis is an analysis of how the two primary studies (Studies II and III) inform and add knowledge to Study I, the comprehensive systematic review and meta-synthesis,

and vice versa. Figure 1 illustrates the interconnection of the three studies and synthesis, the rationale and overall design.

Figure 1. Rationale and Overall Design

3.3 Methods

This dissertation employs qualitative methods to understand how individuals and groups interpret, experience, and give meaning to contexts (Kvale & Brinkmann, 2015). The following section presents the different methods selected for Studies I-III and the synthesis.

Comprehensive Systematic Review and Meta-Synthesis

Study I is based on principles taken from the Joanna Briggs Institute (2014) and supported by Sandelowski & Barroso (2006), with the intention of giving a deeper interpretation of the included studies as a whole, while remaining true to the interpretations given in the primary studies (Sandelowski & Barroso, 2006). The meta-synthesis is prepared using an *a priori* peer-reviewed protocol as Article 1a

(Hartviksen et al., 2017). While searching for studies that explores HMMs experiences, studies with qualitative data are considered. PICo, the acronym for Population, phenomena of Interest and Context (Joanna Briggs Institute, 2014), is constructed to prepare the search at the basis of the research question. In this case, the Population is HMMs, the phenomena of Interest is development of capacity and capability, and the Context is healthcare complexity.

A three-step search strategy is used. The first step comprises an initial limited search of the JBI Database of Systematic Reviews and Implementation Reports, the Cochrane Database of Systematic Reviews, the Database of Abstracts of Reviews of Effects (DARE), the International Prospective Register of Systematic Reviews (PROSPERO), PubMed and the Cumulative Index to Nursing and Allied Health (CINAHL), to identify previously published systematic reviews targeting similar research questions or aims. Such reviews are not identified. The initial search is followed by an analysis of how these databases use text-words contained in the title and abstract, and how index terms are used to describe relevant studies with PICo elements similar to those in this meta-synthesis (Joanna Briggs Institute, 2014). This includes searching thesauruses (lists of standardised search terms) and finding relevant Medical Subject Headings (MeSH) (Sandelowski & Barroso, 2006; Joanna Briggs Institute, 2014) in a collaboration (led by first author) between the authors and a university librarian. The PICo question and identified search terms are shown in Table 1 in Article 1b (Hartviksen et al., 2019).

The second step is a comprehensive search across three databases and three search engines using all the search terms identified in the first step (Joanna Briggs Institute, 2014). This strategy is designed to uncover both published and unpublished studies (grey literature). Sandelowski and Barroso (2006) and the Joanna Briggs Institute (2014) both emphasise searching grey literature as a means of ensuring an exhaustive search as being of higher value than the risk of including low quality studies that is not peer reviewed. Various types of research, such as dissertations or theses, are

often not published through traditional journals or databases. The search for unpublished studies is completed using the search engine's Google Scholar, MedNar and ProQuest Dissertations & Theses Global. The databases PubMed, CINAHL and Scopus are searched for published studies. Studies published in English, German or Scandinavian languages between January 2005 and February 2019 are considered. The language limitation is based on the reviewers' common linguistic platform. The time limitation is set due to the increasing complexity of healthcare in industrialised countries, as exemplified by the shifts towards user involvement and interdisciplinary and interdepartmental cooperation (Davidson, 2010). Leadership challenges related to healthcare quality are gradually raised due to this complexity. In 2005, these challenges are made visible in Norway through a combination of reports (Norwegian Ministry of Health and Care Services, 2005) and a national strategy (Norwegian Directorate of Health, 2005). 2005 is thus identified as a year that stands out when it comes to the Context of this study's PICo, namely healthcare complexity.

The third step is completed by searching cited citations and reference lists in all the identified studies. The inclusion of relevant studies is visualised in a PRISMA flow diagram in Article 1b, Figure 1 (Hartviksen et al., 2019), including identification, screening by title and abstract, and full-text assessment for eligibility. My main supervisor and I methodologically assess the 23 included studies as two independent reviewers using the Qualitative Assessment and Review Instrument (JBI-QARI) (Joanna Briggs Institute, 2014). Despite varying methodological quality, no studies are excluded. The results of this assessment are shown in Article 1b, Table 2 (Hartviksen et al., 2019). Qualitative data from the 23 included studies is then systematically extracted into a table inspired by the Joanna Briggs Institute's: System for the Unified Management, Assessment, and Review of Information (JBI-SUMARI). This table depicts aims, participants, methods, contexts, and results (Joanna Briggs Institute, 2014), and is presented in Article 1b, Table 3 (Hartviksen et al., 2019). Finally, the results are summarised and synthesised into a meta-synthesis. This process is described in detail in the Analysis section of this chapter.

Focus Groups

Focus groups is the main method in Studies II and III, understood as collaborative processes led by a moderator, where data are contextually and mutually created as a result of interaction among participants (Morgan, 1996; Frey & Fontana, 2005). Focus groups provide the opportunity to study different perspectives, attitudes, and meaning in a social interactive environment (Kvale & Brinkmann, 2015). The focus groups in this dissertation follow a semi-structured approach. This includes prepared interview guides with open questions starting with "what", "how" and "why" (Frey & Fontana, 2005) and building on the participants' experiences as they reveal. As part of a dialogical approach, follow-up questions are asked to open up for contrasts in the participants' lifeworld and system-world (Habermas, 1969). The interview guides for the focus groups with participating HMMs in Studies II and III are written in a professional language, while the interview guide for participating relatives in Study III are adapted to a more colloquial language. All interview guides are enclosed (Appendices 1-4).

Study II is based on three focus groups with 17 participants in total (16 HMMs and the user representative from aforementioned learning network). Three of the participating HMMs and the user representative are men; the remaining 13 HMMs are women. To address healthcare complexity, all HMMs from three different groups in the learning network are invited to participate; this grouping is retained in the makeup of the focus groups. The HMMs thus represent municipal homecare (focus group 1), a local hospital (focus group 2), and municipal long-term care (focus group 3). All HMMs are nurses with no formal leadership education. The user representative represents the user committee in the local hospital's health trust: he is specially invited since user participation is highlighted by the participating HMMs to promote critical reflection in the learning network. The user representative participates together with the HMMs in all three focus groups and contributes to the critical reflection, questioning what is taken for granted and bringing questions and experiences from the user perspective. Both the participating HMMs and the user

representative state that this come naturally since they know each other as equal participants in the learning network. Participants' characteristics are given in Article 2, Table 1 (Hartviksen et al., 2018).

Study III features seven focus groups (four before the participative observations and three afterwards) with a total of 25 participants, including all seven HMMs (all women) and 18 volunteer relatives (11 women, seven men) from the two aforementioned nursing homes. Five HMMs are nurses, one is a healthcare assistant, and one a social educator. To strengthen the critical reflections, a broader approach to data gathering is added to HMMs' participation in focus groups (Kinsella, 2006). This applies to participatory observations and focus groups with residents and their relatives since they are considered close to the professional practice in the nursing homes. Only one resident volunteer participate, but fall ill before the focus group takes place. Others decline to participate or are excluded by health personnel and/or their closest relative for health reasons. No further inclusion criteria are set for the relatives, creating a disparate group with divergent experiences of HMMs, leadership development, and the nursing homes. Some knowledge is however expected, since HMMs at these nursing homes are responsible for contact and cooperation with relatives, and the municipality's strategy to QI is highly debated in the local media (related to nutrition). All participating relatives except two that live out of town visit the nursing home on a daily or weekly basis. Their visits vary from a few minutes to several hours. Participants' characteristics are given in Article 3, Table 1 (Hartviksen et al., 2020).

HMMs participate in two focus groups in Study III, while relatives participate in the remaining five. In contrast to Study II, the expectation is that both HMMs and relatives would speak more freely when separated than if they participate together. HMMs are considered to be in a power relationship to relatives when they regulate which services are offered to residents (Haesler, Bauer, and Nay, 2007). Such unequally distributed power in a joint focus group can result in what Habermas

(1987) calls systematically distorted communication. The distribution of the focus groups is clarified in Article 3, Figure 1 (Hartviksen et al., 2020). All focus groups in Studies II and III are conducted in shielded meeting rooms, with simple catering to support a convivial atmosphere. Each focus group lasts 1.5 hours. As the first author in Study II, I moderate two of the focus groups; the third is moderated by the second author and both authors act as assistant moderators for each other. As the first author in Study III, I moderate all seven focus groups, with two fellow colleagues alternating as assistant moderators. In both Studies II and III, the assistant moderators are responsible for audio recordings and taking notes describing body language, other visual cues, and group dynamics. This role is further developed in Study III to include drawing communication lines among the participants to visualise patterns of communication (Morgan, 1996).

Participants in both Studies II and III are all invited to an additional focus group as part of the critical interaction to contribute to data in greater depth. The location and duration are similar to those of the initial focus groups. The participants from the three focus groups in Study II are invited to a new focus group in the final phase of the analysis. This focus group consists of 10 randomly distributed volunteer participants from all three initial focus groups. Four of the participants in this group are HMMs from the hospital, five come from different parts of municipal healthcare, and the tenth member is the user representative. This supplementary focus group has no interview guide: participants are instead presented with the preliminary results, and critical reflection is facilitated with questions such as: *How do these results represent what was important in the discussions in the initial focus groups? What has been mistaken? What is lacking?* In Study III, this is improved using an interview guide for the focus groups after the participative observations (Appendix 4), designed to be elaborative and explanatory for data already gathered (Alvesson & Sköldberg, 2008). The number of supplementary focus groups in Study III are reduced from four to three, since fewer relatives have the time to participate: one focus group consist of seven HMMs, one of six relatives, and one of four relatives.

Individual Interview

A single individual interview is completed in Study III with the purpose of capturing the perspectives of one HMM who, due to vacation leave, do not participate in the focus groups before the participative observations. This HMM is also present in the participative observations and the repeated focus groups. Although this individual interview is not planned initially, it provides an opportunity to gather data in greater depth around the individual participant's experiences than what is possible via focus groups alone (Morgan, 1996). The interview itself is understood as a situated interaction between the participant and the researcher. It is completed according to the same principles and interview guide (including question formulations) as the focus groups, searching to stimulate critical reflection and problematize that which is typically taken for granted (Habermas, 1987). The interview guide, question formulations and follow-up questions are thus already described in this chapter's elaboration of focus groups. The individual interview lasts one hour and take place at the participating HMM's office at the respective nursing home. The office door is marked "Do Not Disturb", the phone is switched off, and coffee is served.

As methods of qualitative research, individual interviews differ significantly from focus groups. For example, the dialogue in an individual interview is different, as it does not benefit from interaction between several participants. It is also known that participants construct meaning differently in different times and contexts; the resulting statements gathered for analysis will inevitably vary. This individual interview gives the participant more time to share and expand on her individual experiences, and better conditions for continuity and completeness in the dialogue than a focus group setting. The format also allows for closer communication, and the participant is afforded a greater opportunity to be self-sufficient (Morgan, 1996). Individual interviews are often less susceptible to spontaneous expressive and emotional views than focus groups, and are thus easier to structure and control (Kvale & Brinkmann, 2015). As a result, the individual interview is planned and

completed without an assistant moderator. As the sole moderator, I record and take notes describing visual cues myself.

Participative Observations

Participative observations are used as the third method in Study III, adding complementary data from the clinical environment to the data gathered in the focus groups and individual interview. Participative observations open up the possibility to gather data based on a wider range of behaviours than the other methods, including action, more varied interaction, and open discussion (Morgan, 1996). The observations are planned and completed in cooperation with the participating HMMs: I follow the seven HMMs through their standard workdays for a total of 40 hours spread over a month, observing naturally occurring events and interactions (Alvesson & Kärreman, 2012). In this study, participative observations are based on moderate participation, that is, taking part in HMMs' daily activities and being involved when natural, but not taking the initiative (Spradley, 2016).

More specifically, these participative observations involve studying HMMs' development of capacity and capability to leadership in nursing homes from an insider' perspective (as HMM), rather than as an outsider (as researcher), and considering a range of cultural behaviours, knowledge, and artefacts. The role of the researcher differs from that of the focus groups and individual interview, since the HMMs are operating in their known environment and thus naturally lead the interaction (Spradley, 2016). On the one hand, then, meaning is studied as it emerges in its natural setting (Berg, 2007); on the other hand, this is not a fully natural setting, since the presence of the researcher inevitably influences the environment regardless of preventative measures taken (dressing in similar casual clothing to the HMMs, taking part in informal small-talk, etc.) I document the participative observations using field notes in cue form over the course of the working day, which involve discreetly withdrawing from situations when possible, or when the HMMs have office work to complete. The field notes include immediate reflections on the observations

and add to the verbal and nonverbal data from the focus groups and individual interview.

Analysis

In Study I, the analysis begins with thorough and repeated reading of the included studies, until a sense of whole is reached. Due to their homogeneity, the results are then possible to integrate into a meta-summary, which enables further evidence from a combined whole that is more than the sum of the individual results (Joanna Briggs Institute, 2014). The results are themed by similarity of meaning based on critical reflection among the three reviewers until trustworthy themes are reached (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015). Calculating effect size is part of this meta-summary, visualising how many of the included studies that has a theme or subtheme represented. The use of numbers in meta-summaries is known to sharpen focus in the search of patterns (Sandelowski & Barroso, 2006). The meta-summary is then further developed into a meta-synthesis (Joanna Briggs Institute, 2014), understood as an abstract integration of results and an interpretive synthesis of data (Sandelowski & Barroso, 2006). This meta-synthesis is developed using abductive critical hermeneutic analysis to search for overarching patterns in the text and then by reflecting critically on how other results fit into these patterns (Kvale & Brinkmann, 2015). This process includes searching for contrasts between HMMs' lifeworld and system-world (Habermas, 1987) and involves a persistent movement between distance and proximity and from parts to the whole. The results from Study I mutually influence, and are followed up in the next two studies (Studies II-III).

In Studies II and III, the analysis starts in the intersubjective dialogue and interaction between the research team and the participants during data gathering (Habermas, 1969). This interaction is replicated within the research team and by re-meeting the participants during the analysis. All verbal and nonverbal data from the data gathering phase are transcribed (Kvale & Brinkmann, 2015). The transcripts from the focus groups and the individual interview are systematically and consistently

generated in a repeating process: listening back-and-forth to the audio recordings until all words, sounds, and pauses are captured. The notes (including those from the assistant moderators) are transcribed from cue form into full sentences, and the drawings of communication lines are described by full sentences, detailing the identified communication patterns. The field notes from the participative observations are transcribed from cue form into full sentences, including all observations of and reflections on verbal and non-verbal interaction and dialogue.

In Study II, the transcripts amounts to 87 pages in total. Study III includes 43 pages of transcripts from the focus groups with HMMs, 11 pages from the individual interview, 116 pages from the focus groups with relatives, and 13 pages from the field notes. The transcripts are initially read several times to get a sense of the whole (Kincheloe & McLaren, 2005). The subsequent analysis involves interpreting the transcribed text (from the focus groups, individual interview, and participative observations) in a back-and-forth movement between preunderstanding and empirical data in a critical reflection in search of contrasts (Habermas, 1987). The analyses from Studies II and III are illustrated in Article 2, Table 2 (Hartviksen et al., 2018) and Article 3, Table 2 (Hartviksen et al., 2020), respectively.

The abductive critical hermeneutic analysis in this dissertation is supported by Alvesson and Sköldberg (2008), who strengthens the critical perspective, and seven main characteristics as described by Kvale & Brinkmann (2015). These characteristics, and their relevance to this study, are as follows: (1) the transcribed text is condensed into meaning units and abstracted and sorted into subthemes and themes related to the studies' aims (Kvale & Brinkmann, 2015). In this dissertation, this process evolves between parts and the whole,[4] in the search for underlying meaning (also known as latent content). The process alternate between proximity and distance: the latter equates to the broader social, historical and economic contexts of this dissertation, as

[4] For example, a part can refer to a meaning unit, an individual transcript, or an individual study; the corresponding whole would be the individual transcript, the total number of transcripts in each study, or the synthesis of all three studies, respectively.

well as the problematisation of what seems natural and self-evident (Alvesson & Sköldberg, 2008). In the end, this evolving process results in a comprehensive critical reflection on all data in each study, and a synthesis based on the results from all three studies. (2) The analysis is considered complete when a good gestalt is reached, without any logical contradictions, (3) the parts of the process are understood in relation to the overall interpretation, and (4) the autonomy of the individual text is respected (Kvale & Brinkmann, 2015). These characteristics are parts of lengthy, back-and-forth processes in this dissertation, delving deeper into the data and making new discoveries through critical reflection with the participants, co-authors, and supervisors. (5) The researchers should have some degree of knowledge about the theme, and (6) the researchers should be aware of how preunderstanding influences analysis (Kvale & Brinkmann, 2015). In these studies, this is handled by critical reflection and transparent descriptions in the Articles (1-3) and in this dissertation. (7) Interpretations should involve renewal and creativity (Kvale & Brinkmann, 2015). This is supported by critical reflection as a researcher and by questioning the results in constructive discussions between co-authors and supervisors. Table 1, *Characteristics from the Analysis Process,* visualises the practical performance of this analysis with examples from Study III.

Table 1 Characteristics from the Analysis Process

Characteristics (Kvale & Brinkmann, 2015)	**Examples from Study III**
1. The transcribed text is interpreted in a back-and-forth movement according to the hermeneutical circle	Transcripts from the focus groups, individual interview and participative observations are first interpreted individually, then in a process going back-and-forth where parts inform each other, gradually developing a sense of the whole. This process is based on critical reflection related to preunderstanding, theory, previous research , and empirical data
2. The interpretations are ended when a good gestalt is reached without logical contradictions	The interpretations are ended when each theme and subtheme are seen through the complete data, individually and as a whole, and when the themes no longer overlap
3. Partial explanations are tested against the global meaning	All themes and subthemes are tested in relation to the individual transcripts, the meaning units, and the data as a whole based on critical reflection developed by preunderstanding, theory, previous research, and empirical data
4. The autonomy of the text is respected	Critical reflections with the participants and within the research team ensures that researchers' preunderstanding, theory, previous

	research, or empirical data do not manipulate the results from the individual texts
5. The researchers have knowledge about the theme	The first and third authors are both experienced in healthcare leadership and the second author is experienced in pedagogy
6. The researchers are aware of how preunderstandings influence the analysis	The researchers preunderstanding is recognised and handled by critical reflection and transparency
7. The interpretations involve renewal and creativity beyond what is immediately given	The interpretations are completed in a critical hermeneutic process, searching for contrasts in a back-and-forth movement, whereas critical reflections with the participants and the research team ensure an interpretation leading to sufficient depth, renewal, and creativity

Synthesis of Studies I-III

The results from Studies I-III are synthesised to provide a broader and more in-depth understanding of the results than it is possible for the three studies individually. Given that Study I is a meta-synthesis, whereas Studies II and III are primary studies, the three studies are not synthesised according to the same procedures as for knowledge at the same level (Sandelowski & Barroso, 2006). Rather, the results from Studies II and III are synthesised with the results from Study I searching for how these two primary studies contribute to new knowledge and add to and challenge the analysis given by Study I. The analytical principles in this synthesis are informed by Study I when the results from the three studies are summarised inspired by JBI-SUMARI (Joanna Briggs Institute, 2014). As visualised in Table 2 in Chapter 4, this includes the three studies' aims, participants, methods, analysis, contexts, and results.

The results from the two primary studies (Studies II-III) critically contrast the results from the meta-synthesis (Study I) in an integration into a whole that together is more than the sum of the individual results (Joanna Briggs Institute, 2014). This includes an abductive critical hermeneutic analysis (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015) completed as a process of critical reflection in a back-and-forth movement between parts and whole, searching for contrasts (Habermas, 1987). The search for contrasts includes questioning the context, interpretive patterns, norms, and interaction (Alvesson & Sköldberg, 2008). This process is repeated several times, whereas the critical reflection increasingly provides a deeper access to the results.

The process is ended when the synthesis and each theme and subtheme are seen through the complete data, individually and as a whole, when the themes do not overlap (Kvale & Brinkmann, 2015), and when the critical questions no longer provide further insight (Alvesson & Sköldberg, 2008).

3.4 Ethical Considerations

This dissertation follows the general ethical guidelines for research, as presented by the Norwegian National Research Ethics Committees (2014), and the guidelines for research, ethical and scientific evaluation of qualitative research projects in medical and health research (Norwegian National Research Ethics Committees, 2009). These guidelines are based on international conventions, such as the Declaration of Helsinki, and are interpreted as the conventional formats of research ethics. The three studies (Studies I-III) and the synthesis are completed in accordance with general guidelines for research ethics: respect, good consequences, fairness, and integrity. The topic, methodology, implementation, and the dissemination of results is based on an apparent lack of knowledge around leadership development in healthcare. In response, new knowledge are searched via a systematic research process based on a critical and systematic verification principle (Norwegian National Research Ethics Committees, 2014). The research process is presented accessible for readers' critical understanding (Denzin & Lincoln, 2005) reflexively available for insight and challenge (Norwegian National Research Ethics Committees, 2014) through this dissertation and four published articles (Articles 1a, 1b, 2 and 3). This reflexivity includes the significance of my own role and the preunderstanding as a researcher in the interaction with the participants, the empirical data, and the theoretical perspectives (Norwegian National Research Ethics Committees, 2009).

Voluntary participation in this research is based on informed consent (Norwegian National Research Ethics Committees, 2009). In Study II (Appendix 8) and Study III (Appendix 9), participants are informed orally and in writing about the aims of the studies, their duration and methods, and their rights to withdraw at any phase of the

research without negative consequences. Based on individual autonomy, it is ensured that all participants know what they are participating in and the expected consequences. In the focus group format, it is inevitable that participants gain access to information provided by their fellow participants. Each focus group is thus initiated by encouraging the participants to consider information voiced that appear in group discussions as if they are covered by the duty of confidentiality. By raising this issue at the outset, each participant is given the opportunity to consider how much information about themselves they are willing to share (Norwegian National Research Ethics Committees, 2009).

Although the legislation only require personal information to be anonymised (Norwegian Centre for Research Data, 2019), the municipalities involved in this dissertation are also not identified. This is an extra precaution to avoid potential recognition of participants' identities. In addition, despite no data gathering from residents, I signed a confidentiality form prior to entering the nursing homes for the participative observations in Study III. This is done to reassure all participants, and others who notice my attendance, that any information about residents that inadvertently become available to me will not be disseminated in any way. Equally, information that involve the residents are not written in the field notes. All audio recordings from the focus groups and from the individual interview are stored, handled, and destroyed in accordance to current laws and regulations of handling personally identifiable information. Audio files and text files are kept locked away and password protected, only available to me and my main supervisor. All participant names are anonymised in the transcribed text files (Norwegian National Research Ethics Committees, 2009).

According to the Norwegian Centre for Research Data (NSD) (2019), all studies that process personal data should be notified and approved. In 2014, when the data for Study II is gathered, data not related to personal information is excluded from notification (Appendix 5). This includes audio recordings with interview guides

outlined such that no personal information appear in the recordings. At the time, Study II is found not to be subject to notification in accordance with the informal notification test provided by the NSD. However, these regulations are changed in 2018; thereafter, all audio recorded data should be notified (NSD, 2019). Accordingly, Study III is notified and approved by the NSD (2019) (Appendix 6). An attempt is made to notify the Regional Committees for Medical and Health Research Ethics (REC) (2019), but REC approval is found not to be required (Appendix 7).

3.5 Trustworthiness

Trustworthiness, including credibility, transferability, dependability and confirmability, is a central principle in all phases of research in this dissertation. Credibility is understood here as how the results are perceived to be true, credible, and believable from the participants' perspective. This credibility is strengthened by knowledge of the research field and a trusting relationship with the participants (Lincoln & Guba, 1985). This dissertation is initiated by critical reflection in practice. Entering the research field, my preunderstanding includes knowledge of the user representative in Study II and the participating HMMs in Studies II and III, as fellow participants in a learning network. I do not know the relatives who participates in Study III, but they have knowledge to me as a local researcher with a common linguistic and cultural background. Study III is completed in collaboration with practice. Significantly, the involvement of user representatives in research is known to optimise trustworthiness, design, applicability, and dissemination (Shippee et al., 2015). In the context of healthcare research, moreover, participants are not limited to HMMs in this dissertation, but also include patients, users, and relatives.

The credibility of this dissertation is increased by triangulation that provides expanded perspectives on the research. Three studies with different designs (and four different methods) are synthesised. The results from each study (Studies I-III) influence the other studies and the synthesis, and the results from Studies II and III are discussed with the participants during the analysis phase. Triangulation by

different researchers (Lincoln & Guba, 1985) is achieved by critical reflections, discussions, and reviews with co-authors and supervisors in a cross-professional research team[5] during the research process. This is also ensured by peer review processes (Lincoln & Guba, 1985) across four articles (article 1a, 1b, 2 and 3) published in three different international scientific journals.[6]

Transferability is understood as the extent to which results are usable in other contexts (Lincoln & Guba, 1985). It is situational and always based on critical reflection (Alvesson & Sköldberg, 2008). The applicability of the results in this dissertation is substantiated by its motives, specifically an evident lack of knowledge of how HMMs develop the capacity and capability for leadership (Briggs et al., 2010; Elliott, 2017; Ferlie, Crilly, Jashapara & Peckham, 2012) and how the sustainability of healthcare depends on HMMs' individual capability (Alleyne & Jumaa, 2007), as well as the need for leadership development as outlined in national and international guidelines (De Savigny & Adam, 2010; Norwegian Directorate of Health, 2005; Norwegian Ministry of Education and Research, 2013; Norwegian Ministry of Government Administration and Reform, 2008; Norwegian Ministry of Health and Care Services, 2015a). It is reasonable to assume that the widely described need for this knowledge enhances the possibility for transferability to other contexts. Furthermore, this dissertation is designed to include different perspectives: from an international context to rural municipalities, from different parts of hospitals and municipal healthcare, and from HMMs, users, and relatives.

Dependability entails how results are influenced by changes or unstable contextual relationships (Lincoln & Guba, 1985). The critical hermeneutic approach in this dissertation indicates that the participants, the contexts, and the researcher inevitably influence the results, and that truth is constructed in a dialogical process.

[5] The research team is considered cross-professional given my professional background as an occupational therapist, my main supervisor's as a nurse, and the second supervisor's as a pedagogue.
[6] JBI Database of Systematic Reviews and Implementation Reports (Article 1a), BMC Health Services Research (Article 1b and 2), and Leadership in Health Services (Article 3).

This is handled by transparency and critical reflection (Habermas, 1999). Focus groups, interviews, and participative observations are applied as methods to facilitate dialogue and interaction. Study I follows an *a priori* published, peer-reviewed protocol in collaboration with two university librarians to secure a well-prepared search. Sandelowski and Barroso's (2006) seven-step procedure is followed to integrate results, and the JBI-QARI (Joanna Briggs Institute, 2014) provides methodological guidance for the critical assessment process. In all three studies and the synthesis, dependability is strengthened by principles from Kvale and Brinkmann (2015) and Alvesson and Sköldberg (2008). I have also logged the research process throughout the timeline of this dissertation with detailed reflections around my participation as a researcher, including reactions and experiences (Carter & Little, 2007), as part of the critical reflection.

Confirmability is understood in this dissertation as how results are transparently described and grounded in data (Lincoln & Guba, 1985). In Study I, this requisite transparency is strengthened by the use of the JBI Reviewer's Manual and Revised Model (Joanna Briggs Institute, 2014) as a comprehensive guide to conduct and structure the *a priori* published, peer-reviewed protocol (Hartviksen et al,. 2017), and the use of effect size to support the analysis (Sandelowski & Barroso, 2006). In turn, the analysis and results from Studies I-III are described and grounded in data individually in the four published articles. These descriptions are elaborated in this dissertation, since the possibility for detail and depth in articles is influenced by the requirements from different journals and reviewers. Interview guides, notification forms, and informed consent schemes are appended the dissertation (Appendices 1-9). Confirmability also refers to the description of "negative evidence" (Lincoln & Guba, 1985), or conflicting results. Here, the critical hermeneutic approach supports how contrasts are emphasised and forwarded through all research phases, including the presentation of results, which is supported by quotes in Articles 1b, 2 and 3.

4. Results

This chapter presents the results of the three studies (Studies I-III) as summarised in Table 2. This includes the experiences of developing capacity and capability: in leadership (Study I), in a learning network (Study II) and in quality improvement (Study III). The chapter completes with a synthesis of these results, as visualised in Figure 2.

Table 2 Summary of Studies I-III

Study	**Aim**	**Participants** (n=524) **Method**	**Data Analysis**	**Context**	**Results** HMMs' development of capacity and capability *(main themes in italics)*
I Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2019). HMMs' experiences of developing capacity and capability: a systematic review and meta-synthesis. *BMC Health Services Research, 19*(1), 546. doi:10.1186/s12 913-019-4345-1	To identify the present knowledge and critically discuss how HMMs experience to develop the capacity and capability to leadership in a healthcare system characterised by high complexity	482 (HMMs) Comprehensive systematic review and meta-synthesis	Abductive critical hermeneutic analysis (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015) Meta-synthesis (Joanna Briggs Institute, 2014; Sandelowski & Barroso, 2006)	International (industrialised countries)	HMMs develop capacity and capability for leadership through personal development processes empowered by context *Experiences of personal development of capacity and capability* -A learning process -Identification as a confident leader *Experiences of a need for contextual support* -Networking -Empowered by senior management
II Hartviksen, T. A., Sjølie, B. M., Aspfors, J., & Uhrenfeldt, L. (2018). HMMs' experiences developing leadership capacity and capability in a public funded learning network. *BMC Health Services Research,*	To identify and discuss the facilitation of HMMs' development of capacity and capability for leadership	17 (16 HMMs and 1 user representative) Focus groups	Abductive critical hermeneutic analysis (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015)	Rural northern Norway	*Trusted interaction despite organisational and structural frames* -Inter-departmental knowledge and trust -Increased interaction *Knowledgeable understanding of a complex context* -Reflexive processes

18(1), 433. doi:10.1186/s12913-018-3259-7					-Theoretical understanding and tools
III Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2020). HMMs' capacity and capability to quality improvement. *Leadership in Health Services*, 33(3), 279-94. doi:10.1108/LHS-11-2019-0072	To identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence QI in nursing homes	25 (7 HMMs and 18 relatives) Multimethod: focus groups supported by individual interview and participative observations	Abductive critical hermeneutic analysis (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015)	Rural northern Norway	*Grasping the complexity and limited resources* -Supervising a complex context -Continuously developing and compensating *Conflicting practice* -Lacking supported development -Striving to meet unclear frameworks

4.1 Study I: Developing Capacity and Capability for Leadership

Study I is a comprehensive systematic review and meta-synthesis aiming to identify the present knowledge and critically discuss how HMMs experience to develop capacity and capability for leadership in a healthcare system characterised by high complexity. The meta-synthesis includes 23 studies published between 2005 and 2019 with a total of 482 participating HMMs. The majority of participants (18 out of 23 studies) have a professional background in nursing; the studies also refer to physiotherapists, environmental services staff, midwives, and physicians (each identified in one of 23 studies). The studies originate from industrialised countries in North America, Europe, Australia, and Asia. The settings are mainly different kinds of public hospitals (identified in 20 of 23 studies); only nine of the studies include municipal healthcare. The extracted data from the included studies describe their origin, aims, participants, methods, contexts, and results, and are shown in detail in a meta-summary scheme inspired by JBI-SUMARI (Joanna Briggs Institute, 2014). This scheme is visualised as Table 3 in Article 1b (Hartviksen et al., 2019), as presented in part 2 of this dissertation

Based on the analysis, two main themes are stated: (a) personal development of capacity and capability, and (b) a need for contextual support. From these themes, a meta-synthesis is developed: *Healthcare middle managers develop capacity and*

capability through personal development processes empowered by context. A conceptual model of the results is visualised in Figure 2, and the identified meta-synthesis, themes, subthemes, and effect sizes are shown in Table 4 in Article 1b (Hartviksen et al., 2019), as presented in part 2 of this dissertation.

Personal Development of Capacity and Capability

The first main theme - *personal development of capacity and capability* - illustrates how HMMs in the included studies experience what they describe as a personal process of gradually ripening and autonomously adapting to a complex and rapidly changing context. Through this process, they acquire competence, self-confidence, and an identity as an HMM. This main theme has two subthemes: (i) *a learning process* and (ii) *identification as a confident leader*.

A learning process is identified when the participating HMMs experience learning by developing knowledge and effective coping strategies. This includes leadership skills in engaging and coaching health personnel, problem-solving and decision-making, time and project management, and working with information technology. Several tools are experienced as useful to HMMs' development, including the Lean methodology, mental and conceptual models, learning tours, situational feedback, mindfulness exercises, an "I'm ok" diary, and clinical supervision. The learning processes are experienced to provide broader perspectives, respect for human diversity, a sense of progress, the ability to balance challenges and opportunities, and proficiency in change management and quality improvement. Study II in this dissertation is the only study included in the meta-synthesis that describes how learning processes are facilitated pedagogically. This includes short lectures and group work, alongside principles of coherence, flexibility, reflection, and repetition (Hartviksen et al., 2018).

Identification as a confident leader is recognised as a subtheme when HMMs experience entering the leadership role with a lack of confidence before eventually developing a leadership identity by defining personal leadership limits. This is

accomplished by establishing authority and changing attitudes and knowledge about the leader role and leadership. Participants in the included studies describe such development at personal, managerial, occupational and professional levels. This development includes enhanced self-confidence and job performance based on a shift to a less administrative and more frontline leadership, through which HMMs become accountable and committed role models, gain a voice, coach and empower staff, and develop an awareness of complexity. Significantly, of the 23 included studies, 17 describe contending with healthcare complexity as the intention of HMMs' development of capacity and capability for leadership.

Conversely, experiences in this first main theme are contrasted when the participants in the included studies describe approaching typical work situations with ineffective coping strategies, a need to sink or swim, to learn as you go, and a personal need to seek leadership training. Spanning a range of countries, 15 of the 23 included studies involve short-term leadership development programmes or interventions that are not part of HMMs' normal work situations (Chuang et al., 2011; Clarke et al., 2012; Cummings et al., 2014; Debono et al., 2016; Dellve & Eriksson., 2017; Dellve & Wikström, 2009; Eide et al., 2016; Goodridge et al., 2015; Hyrkäs et al., 2005; Korhonen & Lammintakanen, 2005; Lavoie-Tremblay et al., 2014; Lunts, 2012; MacPhee et al., 2011; Tistad et al., 2016; Tyan, 2010).

A Need for Contextual Support

The second main theme in this study is *a need for contextual support.* This theme illustrates how HMMs' organisational and interpersonal contexts influence their development of capacity and capability for leadership. This theme has two subthemes: (i) *networking*, and (ii) *empowered by senior management*.

The subtheme *networking* is recognised when the participating HMMs describe how formal and informal networks, workshops and multidisciplinary leader courses are experienced as being evolving. Networking is supported as a subtheme by descriptions of relational factors, such as communication, interaction, reflective

dialogue, discussions, conversations, storytelling, observation of others, teamwork, group cohesiveness, and new relationships. Networking also includes experiences of how HMMs develop capacity and capability by being part of a learning culture with support and encouragement from peer managers, or through mentoring, collaboration and sharing, relational coordination and feedback from staff and human resources. The participating HMMs describe the positive impact of networking in terms of enhancing dialogue, cooperation, understanding, and knowledge sharing.

Empowered by senior management is identified as a subtheme when the participants (in 15 of the 23 included studies) describe a need to be recognised, valued, and empowered through autonomy and professional development. The subtheme includes a need for resources, clear direction and vision, leadership structures, strategies, information, and communication. The participants describe the development of capacity and capability for leadership as connected to organisations with maximised discretion and a no-blame workplace culture. Ultimately, to be empowered by senior management involves the central principles of support, trust, respect, feedback, influence, freedom, and participation.

By contrast, in this second main theme (*need for contextual support*) HMMs describe a feeling of loneliness in their clinical practice and a lack of support and feedback from senior management. One study in particular depicts how HMMs experience empowerment at the individual and interpersonal level, but a sense of powerlessness at the system level (Tyan, 2010).

Contribution of Study I

This meta-synthesis provides evidence of how HMMs develop capacity and capability for leadership by gaining confidence in leadership through a learning process based on interaction within the complex system and an empowering approach from senior management. This evidence is contrasted by experiences of ineffective coping strategies and a sense of loneliness due to a lack of feedback and support. These

contrasts suggest a need for a changed approach in healthcare: specifically a shift from leadership development programmes towards leadership development processes based on networking, interaction, trust and respect, clear structures and frameworks, and support and feedback. It is worthy to note that this meta-synthesis provides no evidence of whether HMMs' development of capacity and capability is experienced to change practice, for example to reduce harm, improve patient safety, or strengthen the quality of healthcare. Indeed, one of the included studies indicates that HMMs' development has limited impact on clinical practice (Tistad et al., 2016), while only one other study reports some improved patient experiences (Debono et al., 2014). These questions thus represent important topics for future research.

4.2 Study II: Developing Capacity and Capability in a Learning Network

Study II aims to identify and discuss the facilitation of HMMs' development of capacity and capability for leadership. Two main themes are identified: (a) *trusted interaction despite organisational and structural frames,* and (b) *knowledgeable understanding of a complex context*.

Trusted Interaction despite Organisational and Structural Frames

The first main theme - *trusted interaction despite organisational and structural frames* - is identified when participating HMMs describe how their involvement in this learning network contributes to their development of capacity and capability for leadership by refuting their complex context. The participants explain how they develop knowledge and trust in each other. This development is experienced to lead to increased interaction in HMMs' clinical practice, both internally in their individual organisations and across organisational structures. Therefore, this theme has two subthemes: (i) *inter-departmental knowledge and trust* and (ii) *increased interaction*.

Inter-departmental knowledge and trust is recognised as a subtheme when the participants describe how trust and respect are developed as a result of gaining a broader knowledge of themselves and the other participants. This entails what the

participating HMMs explain as understanding each other as colleagues. Also, the user representative emphasises the benefits of how this learning network is organised across organisational structures: the participating HMMs describe this as providing broader perspectives to patient pathways. The development of capacity and capability is explained in terms of building on a common consciousness of the purpose of leadership.

The subtheme *increased interaction* is identified when the participating HMMs describe how the interdepartmental organisation of this learning network increases both internal and interdepartmental interactions in the cooperation around patients in their professional practice. Increased interaction is also evident when both the participating HMMs and the user representative allude to the guidance from the Norwegian Institute of Public Health to bring in positive stimuli from a national level. In addition, the participating HMMs explain how this learning network encourage them to contribute in national networks, bringing their experiences from a local learning network to a broader context.

By contrast, HMMs in this learning network also describe their normal workdays outside the learning network as fragmented and solitary. A further contrast is visible when they explain how HMMs from other parts of healthcare are considered more as competitors than colleagues before they join the learning network. The HMMs does not know each other before the network: they describe limited knowledge of and trust in other HMMs, both internally in their organisations, but especially across organisational boundaries.

Knowledgeable Understanding of a Complex Context

The second main theme in this study - *knowledgeable understanding of a complex context* - is identified when participating HMMs experience this learning network to provide a common knowledge base among interacting HMMs. The participating HMMs describe this as a process of building understanding of a complex context. This

theme has three subthemes: (i) *reflexive processes*, (ii) *theoretical understanding and tools*, and (iii) *handling the complex and demanding context*.

The *reflexive processes* subtheme is recognised when the participating HMMs and the user representative discuss how this learning network initiates what they call "ripening processes" facilitated by reflection. The HMMs describe this as a meta-perspective on their clinical practice. The learning network is considered to be structured by workshops, consisting of short lectures combined with group-work where mentors ask questions to initiate reflexive processes. Core knowledge is repeated continuously, building on the participants' existing knowledge. The participants plan frequency and content for the workshops and contribute with knowledge and experiences: the contributions of the user representative are specially acknowledged here by the participating HMMs. Both the participating HMMs and the user representative emphasise how this learning network has no defined end-date, which provides a flexible, yet binding, long-term commitment that is important to continuity and trust. The results from all three focus groups provide experiences of how participation in this learning network yields a feeling of competence and vigour when handling change and dealing with new guidelines in clinical practice.

The second subtheme - *theoretical understanding and tools* - is based on the participating HMMs' experiences of developing capacity and capability for leadership by strengthening their theoretical foundation. Complexity, system, improvement and leadership theories, user knowledge, and different leadership tools are emphasised in this regard. Participating HMMs describe their development of a theoretical understanding, based on what one of them refers to as "small useful knowledge-drops" in a coherence that create a process understanding. Throughout the focus groups, the learning network is repeatedly compared with leadership education. Ultimately, the strengthened theoretical foundation is experienced to facilitate a knowledge-based practice by transferring theory into practical relevance.

The third subtheme - *handling the complex and demanding context* - is identified when the participating HMMs experience this learning network to change their everyday approach to leadership. This change is described as a new perspective on leadership that provides capacity and capability to handle a complex and demanding context. More specifically, the HMMs explain their previous everyday leadership in terms of ensuring service quality, handling top-down management, and reactive firefighting. Errors and omissions are experienced to be personalised, with scapegoats sought. This learning network is described to lead to increased reflection, consciousness, and confidence in leadership, as well as a knowledge-based practice, capacity for implementation, and a process-centred understanding of leadership that complements their existing administrative skills.

Conversely, the participating HMMs discuss this second main theme in terms of the learning network's atypical pedagogical approach compared to other leadership courses offered by their senior management. This learning network is described as the participants' only meeting point related to leadership rather than reporting or economic management. In addition, HMMs from the hospital experience that their senior management counteracts their participation in this learning network by not supporting it financially. Similarly, while the HMMs from municipal healthcare have followed up on activities in this network between the workshops, the participants from the hospital have not. One participant from the hospital is also ambivalent based on how her absence from work results in a mounting workload on her return.

Contribution of Study II

This study contributes new knowledge to how pedagogical approaches in learning networks have a bearing on HMMs' development of capacity and capability for leadership. In this learning network, the pedagogical approach is based on a transformative learning model, and the network is organised as workshops consisting of short lectures and group-work grounded in the pedagogical principles of coherence, continuity, flexibility, and repetition. Participants play an active role in

both the planning and implementation of the workshops, while mentors initiate reflexive processes among the participants. The participation in this learning network is experienced to provide capacity and capability related to confidence in leadership, user knowledge, handling a complex context, implementing changes, adapting to new guidelines, and knowledge-based practice. This study illustrates how HMMs who cooperate in patient pathways benefit from shared leadership development across organisational and structural frames. On the other hand, it does not describe how these results can be incorporated into healthcare and thus contribute to a change in leadership development. It is also not shown whether HMMs' experiences of leadership development occur purely at a personal level, or if they influence healthcare practice. Further research is required to investigate the practical consequences of learning network participation.

4.3 Study III: Developing Capacity and Capability to Quality Improvement

Study III aims to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence QI in nursing homes. This study identifies two main themes: (a) *grasping the complexity and limited resources*, and (b) *conflicting practice*.

Grasping the Complexity and Limited Resources

The first main theme: *grasping the complexity and limited resources* is identified when both the participating HMMs and relatives provide experiences of how HMMs' development of capacity and capability for leadership is influenced by the fact that nursing homes are complex contexts with limited resources to ensure residents quality services. This main theme has two subthemes: (i) supervising a complex context and (ii) continuously developing and compensating.

The subtheme *supervising a complex context* is based on both HMMs' and relatives' experiences of how HMMs' development is affected by their supervision of a complex context with vulnerable and sick elderly residents. Specifically, the nursing homes are

described as complex contexts when contradictory and overlapping domestic (a place of residence) and institutional (as a provider of medicine or nursing) needs are present. Several groups with different needs are described as involved in the nursing homes: residents, relatives, health personnel, HMMs, church personnel, and volunteers. HMMs' supervision is experienced by both the participating HMMs and relatives to involve a high dependency on how they develop professional nursing competence as part of their capacity to leadership. Perhaps more significantly, both HMMs and relatives point to examples of continuously changing needs: in particular, the participating HMMs underline how this complexity requires continuous development. These results from the focus groups and individual interview are supported by those from participative observations: for example when HMMs are seen to coordinate residents, relatives, health personnel, and volunteers in order to increase the activity programmes at the nursing homes.

Continuously developing and compensating is recognised as a subtheme when both HMMs and relatives describe experiences of how HMMs' development influences QI in the nursing homes through their continuous guidance, repeating of instructions, and compensating for resource scarcity among health personnel. The participating HMMs describe how their development involves a change of leadership style to one that is better suited to guiding and empowering the health personnel. The participative observations reveal that HMMs have implemented improvement and risk boards in their workplaces. Across all focus groups, barriers to this include a lack of adequate staffing in the nursing homes, both in numbers and knowledge (the participating HMMs describe how most health personnel have a lower level of education or a lack of care education); examples are provided of how this leads to quality deviations, accentuating the need for HMMs to be present to continuously improve knowledge and attitudes. Both the participating HMMs and the relatives explain how HMMs with a nursing background compensate for a lack of nurses by stepping in themselves. The participative observations support this theme through

examples of how HMMs continuously perform tasks that have been left uncompleted, and how this results in positive feedback from the health personnel.

In contrast, in the main theme of grasping the complexity and limited resources, the participating relatives describe how residents depend on their relatives' ability to observe and react if they are not receiving adequate service quality (not the HMMs). Several participating relatives give examples of how they have reached agreements on QI in meetings with HMMs, but that no subsequent procedural changes are made, meaning any agreed action lapses after a short period if no HMM is present to raise the issue continuously. The participating relatives describe numerous quality deviations. In the focus groups before the participative observations, the relatives explain their acceptance of these shortcomings, attributing them to a lack of resources. In the repeated focus groups, these interactions change to a questioning of this acceptance. The participating HMMs reason that they are aware of existing areas for QI in nursing homes and consider that they have developed the capacity to handle them, but that reduced capability (due to a lack of resources) means that they have to prioritise certain areas over others.

Conflicting Practice

The second main theme in this study - *conflicting practice* - is based on how participating HMMs and relatives experience HMMs' development as a conflicting three-fold combination of responsibilities: to profession, to personnel, and to economics. This main theme has two sub-themes: (i) *lacking supported development* and (ii) *striving to meet unclear frameworks*.

The sub-theme *lacking supported development* includes how the participating HMMs describe entering their position experiencing their lifeworld with a lack of leadership capacity and capability. The lack of confidence is particularly emphasised. The participating HMMs describe their subsequent leadership development as an unsystematic, diverse, and fragmented process, based on learning by mistakes. They depict an implicit need to take individual responsibility for their own leadership

development, for example by turning to further education. Indeed, also one of the participating relatives questions whether HMMs receive the necessary support from senior management. The participating HMMs describe a need to develop nursing and leadership capacity and capability to handle interpersonal relationships, communication, and guidance. For instance, they describe how their participation in the learning network and patient safety campaigns develops their capability to implement QI by providing an increased understanding of healthcare complexity. While the municipality's QI strategy is described as having initially increased the facilitation of HMMs' development, this has not persisted over the longer term.

The sub-theme *striving to meet unclear frameworks* encapsulate how the participating HMMs describe their experiences of unclear signals from senior management. More specifically, they elucidate how, despite the municipality implementing QI strategies based on user values, cyclic improvement processes, and a culture of QI, the results from these strategies are not requested. Both participating HMMs and relatives describe how they experience the communication between HMMs and senior management to proceed top-down, including requests for budget cuts and economic reporting. Moreover, the HMMs describe how their development is countered when numbers are changed beyond their control and when they are given tasks whose meaning they do not understand. Both the participating HMMs and relatives describe how they experience leadership to be left to the individual HMMs' personal competence and characteristics. The participating HMMs explain how they experience QI to be under-prioritised in favour of tasks that are perceived as more acute. This is supported by the participative observations, which also reveal how computer systems affect HMMs' prioritising of work by displaying alerts on tasks that must be completed (for example, related to sick leave).

Therefore, the experiences of how HMMs' development of capacity and capability for leadership influences QI in nursing homes are contrasted when the results indicate that HMMs are simply left to their own individual development. As such, HMMs' experience the impact of their' development on QI to a varying degree in nursing

homes and as affected by two major role conflicts. The first role conflict is evident when both the HMMs and the relatives describe senior management as primarily economically focused, whereas HMMs and relatives prioritise the professional and relational part of leadership. The second role conflict is revealed when both participating HMMs and relatives explain how the HMMs who are nurses combine leadership and nursing. This conflict is seen to be reinforced by that they have shared positions, partly as HMMs and partly in rotation as ordinary nurses which reduces HMMs' possibility to be continuously present as leaders. (The two HMMs with a different professional background did not have such combined positions.) Both the participating HMMs and the relatives describe how presence and attendance as a professional HMM rather than as a nurse is central to HMMs' capability for leadership. Furthermore, the participating relatives explain how HMMs need to know the individual resident, relatives, and health personnel in their function as HMM in order to support them to make use of their individual strengths. Absence of HMMs is also highlighted by both participating HMMs and relatives as increased by frequent mandatory meetings arranged by senior management outside the nursing homes.

Contribution of Study III

This study contributes new knowledge to how HMMs' development of capacity and capability for leadership is counteracted by organisational and structural challenges. While the participating HMMs in this study describe their development of leadership capacity as a process of knowledge acquisition, continuous improvement, and understanding of complexity, in reality, they experience a fragmented and incomplete development process. Both the participating HMMs and relatives explain how HMMs' capability is challenged by resource scarcity, role conflicts, and conflicting demands. This study suggests that HMMs need to develop their capacity and capability to influence QI through a leadership that is present, that holds a continuous perspective on the development of knowledge and attitudes among health personnel, and that is supported by an organisational structure and senior leadership that promote coherence in needs and demands.

4.4 Synthesis: Developing Capacity and Capability in a Conflicting Practice

The synthesis of Studies I-III includes 524 participants and provides two main themes, each with two subthemes. From these, the synthesis emerges as follows: *Healthcare middle managers develop capacity and capability for leadership through supported or unsupported transformative processes interacting in a conflicting practice.* The two main synthesised themes are: (1) *transformative processes to handle complexity* and (2) *interaction challenged by a conflicting practice*.

Transformative Processes to Handle Complexity

The first main synthesised theme - *transformative processes to handle complexity* - is identified when the results from the meta-synthesis in Study I suggest that HMMs experience a personal development process. This development of capacity and capability is described as a learning process combined with developing confidence and self-confidence. Study II adds to these results by indicating how a learning network based on a transformative learning model supports such development by providing reflexive processes that deliver knowledgeable understanding, theoretical explanatory models and tools, and practical experiences of handling complex contexts. Study III expands this perspective further by showing how HMMs' development is experienced to be influenced by a complex leadership context which involves getting to grips with complexity and limited resources, supervising and continuously developing, as well as compensating for shortcomings. The first main synthesised theme has two subthemes: (a) *transformative learning processes,* and (b) *self-confidence in a complex context*. Table 3 illustrates (in light and dark orange) how the themes and subthemes from Studies I-III relate to this synthesised theme and its subthemes.

Table 3 Transformative Processes to handle Complexity

Synthesised theme 1 in synthesis: **Transformative processes to handle complexity**	
Synthesised subtheme 1a **Transformative learning processes**	Synthesised subtheme 1b **Self-confidence in a complex context**
Themes and subthemes from Studies I-III	
Study I (main theme) **Personal development of capacity and capability**	Study I (subtheme) **Identification as a confident leader**
Study I (subtheme) **A learning process**	Study II (main theme) **Knowledgeable understanding of a complex context**
Study II (subtheme) **Reflexive processes**	Study II (subtheme) **Handling the complex context**
Study II (subtheme) **Theoretical understanding and tools**	Study III (main theme) **Grasping the complexity and limited resources**
Study III (subtheme) **Continuously developing and compensating**	Study III (subtheme) **Supervising a complex context**

The synthesised subtheme *transformative learning processes* is recognised when the results from Study I reveal how HMMs enter leadership positions experiencing a lack of capacity and capability. The participants in the included studies describe a personal responsibility to develop their leadership skills. These results are supported by Studies II and III. While Study I describes how HMMs undergo individual learning processes, Study II gives substance to these processes by showing how the pedagogical approach of a given learning network contributes to transformative learning. This approach builds on HMMs' existing knowledge using a workshop model that supports their development and in which reflection, continuity, coherence, repetition, and flexibility are described as key principles. Study III provides results on how HMMs experience their development as a shift towards a more guiding and empowering approach to leadership. This approach is used to continuously develop and to compensate for existing shortcomings, with the purpose of QI. Studies I-III all provide evidence of how development of leadership capacity includes a blend of knowledge, skills, and tools: whereas Studies I and II indicate a need to develop leadership knowledge, Study III adds the need for specialised nursing competence. Together, the three studies describe how HMMs primarily experience a lack of support in their development, a process referred to as "sinking or swimming" (Study I) or "learning by failing" (Study III).

The second synthesised subtheme -*self-confidence in a complex context*- is illustrated in Study I when HMMs' development of capacity and capability is experienced to include identification as a confident leader who adapts autonomously to a complex and rapidly changing context. This development process is described as changing their leadership approach to one that is more frontline, less administrative, and more grounded in coaching and empowering. Study II adds to this subtheme when the learning network is described to provide capability to handle the complex context by facilitating a change in HMMs leadership approach: this change is experienced to facilitate implementation of a knowledge-based practice and provide the necessary competence to seek out the causes of problems rather than chasing scapegoats. Study III also substantiates this subtheme when the participants describe how HMMs' development in everyday leadership is about supervising and grasping the complexity and limited resources. HMMs development of capacity and capability is experienced to facilitate a trusting leadership overseeing knowledge development in healthcare personnel and the implementation of QI processes. Conversely, Study III provides contrasts to this subtheme when HMMs' development is described as challenged by a complex context that is subject to continual change, daily unpredictability, and a leadership dependent on individual competence and priorities.

Interaction Challenged by a Conflicting Practice

The second main synthesised theme -*interaction challenged by a conflicting practice*- is identified when the results in the meta-synthesis in Study I describe how HMMs experience a need for contextual support, be it through networking or empowerment by senior management. Study II adds to these results by illustrating how a learning network may facilitate trusted interaction by enhancing inter-departmental knowledge, trust, and interactions in spite of existing organisational and structural constraints. On the other hand, Study III foreground the contrasts in this theme by showing how the complex context consists of a conflicting practice that challenges HMMs' interaction due to a lack of supported development and a mandate to meet frameworks that lack clarity. This second theme has two synthesised subthemes: (a)

interaction in a transactional organisation, and (b) *unsupported in a conflicting practice*. Table 4 illustrates (in light and dark green) how the themes and subthemes from Studies I-III correspond to this synthesised theme and its subthemes.

Table 4 Interaction Challenged by a Conflicting Practice

Synthesised theme 2 in synthesis **Interaction challenged by a conflicting practice**	
Synthesised subtheme 2a **Interaction in a transactional organisation**	Synthesised subtheme 2b **Unsupported in a conflicting practice**
Themes and subthemes from Studies I-III	
Study I (subtheme) **Networking**	Study I (main theme) **A need for contextual support**
Study II (main theme) **Trusted interaction despite organisational and structural frames**	Study I (subtheme) **(*A need to be*) Empowered by senior management**
	Study II (no theme)
Study II (subtheme) **Inter-departmental knowledge and trust**	Study III (main theme) **Conflicting practice**
Study II (subtheme) **Increased interaction**	Study III (subtheme) **Lacking supported development**
Study III (no theme)	Study III (subtheme) **Striving to meet unclear frameworks**

The synthesised subtheme *interaction in a transactional organisation* is recognised when the results in Study I describe how HMMs experience the positive impact of networks in developing their capacity and capability for leadership. Sharing knowledge and a learning culture are experienced to provide a broader understanding of healthcare among HMMs. This includes interaction, support and encouragement from peer managers, communication, and reflective dialogue. Study I also provides contrasts to this by showing how the organisational structure in healthcare preclude such interaction and how HMMs experience a sense of loneliness as a result. Study II adds to these results by providing a further explanation of how a learning network can lead to trusted interaction based on knowledge around interactional challenges and increased interaction in clinical practice. Study II also adds to the contrasts by pointing to HMMs' experiences of top-down management and a lack of meeting points. Although Study III does not contribute a specific theme to this subtheme, the results are supported and further explored by experiences of interaction as a conflicting practice, whereby leadership is left to the individual HMM in a leadership structure based on traditional command and control.

The second synthesised subtheme -*unsupported in a conflicting practice*- is illustrated in Study I when HMMs describe a need to be empowered by senior management. This is experienced as a need for influence, support, recognition, and validation. The included studies underline how HMMs generally experience a lack of feedback and support. Although Study II does not contribute a specific theme to this subtheme, this study contributes to the results by describing how a learning network is experienced to empower its participants, and also how HMMs describe a lack of empowerment in their everyday work situation. The participating HMMs describe a conflicting practice in which they fight fires, face a personal responsibility for faults and omissions, and seek out scapegoats. Crucially, both Studies II and III describe how participants experience leadership development as mainly unsupported and fragmented. Study III provides experiences of conflicts between residents' domestic and clinical needs, the institutional needs, the economic priorities of senior management, and HMMs' professional and relational competence. The participating HMMs describe role conflicts as a result of unclear frameworks and a lack of resources, which ultimately impinge on their development of capacity and capability as leaders.

The interrelationships between themes and subthemes in Studies I-III and the synthesis are illustrated in Figure 2. The figure visualises how the synthesis is a further development of the meta-synthesis in Study I through an abductive critical hermeneutic analysis that incorporate the results from Studies II and III. The corresponding orange and green colours indicate how the themes in Studies I-III connect to those in the synthesis (as outlined in Tables 3 and 4). This synthesis will be critically discussed in the following chapter.

Figure 2 Synthesis of Studies I-III

5. Discussion

This chapter comprises a critical discussion of the synthesis: *Healthcare middle managers develop capacity and capability for leadership through supported or unsupported transformative processes interacting in a conflicting practice.* The discussion includes how the theoretical understanding of capacity and capability has evolved over the course of the research, and how this dissertation contributes to existing knowledge. Furthermore, the two main themes of the synthesis are discussed: (1) *transformative processes to handle complexity* and (2) *interaction challenged by a conflicting practice*. The chapter completes with methodological considerations.

5.1 Transformative Processes Interacting in a Conflicting Practice

The overall aim of this dissertation is to deepen knowledge and critically discuss how HMMs develop capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity. The synthesised results reveal that this development is experienced as supported or unsupported transformative processes interacting in a conflicting practice. The participating HMMs in all three studies describe entering the position with an experience of insecurity, lack of self-confidence, and lack of leadership competence. This synthesis thus contributes knowledge to how the described absence of nationally specified competence requirements for leadership development (Andrews & Gjertsen, 2014) affects HMMs' lifeworld. It also provides substance to the reports from public authorities on major leadership challenges in healthcare based on competence, recruitment, quality deviations, and patient safety (Norwegian Ministry of Health and Care Services, 2015a). In turn, the results of the synthesis illustrate how such challenges surprisingly coincide across countries and cultures, signalling a macro perspective to the need for change in the facilitation of HMMs' development of capacity and capability for leadership.

The synthesis contributes knowledge of how HMMs develop capacity and capability for leadership with or without direct support during the process. These results suggest that HMMs autonomously adapt to a rapidly changing context when interacting in a conflicting practice. Such transformative processes include developing a leadership approach with increased transformative features, as described by Bass and Steidlmeier (1999). These processes take place through continuous transformative learning and increased self-confidence based on empowerment, trust, and respect. The results contribute to illustrate practice, when the theory of complex responsive processes (CRP) describes how unpredictability in complex organisations emerge self-organisation in a non-linear nature (Stacey & Griffin, 2007). However, the challenges in such non-facilitated development are evident in the results that describe these processes to be fragmented, lonely, and dependent on the individual HMMs characteristics and possibilities. The results in this synthesis show how HMM's experience a need to be empowered by their senior management, as well as a lack of trusted interaction and a struggle to deliver against unclear frameworks.

The results indicate that a learning network facilitates transformative processes among HMMs: the network offer a potential meta-perspective on current work situations through short lectures of up-to-date knowledge exchange and facilitated reflection. These results support existing knowledge of how HMMs learn at varying speeds in a learning environment that is psychologically safe and stimulates active involvement (Kattan et al., 2014; Schilling et al., 2011). However, this synthesis also contribute knowledge about how HMMs' leadership development does not relate to such processes outside learning networks and leadership programmes: in these wider settings, their development appears unsystematic and lacking in continuity.

The concepts of capacity and capability, which are included in the aims and research questions of this dissertation, are based on the preunderstanding of a difference between the individual capacity that HMMs' possess, and their capability, that is, their opportunities to exercise leadership based on this capacity. The understanding

of these theoretical concepts is initially inspired by Mumford et al. (2007) but is further developed and substantiated here through Studies I-III and the synthesis. Together, the research strengthens the interconnection between the concepts, and highlights how self-confidence, theoretical perspectives, and various leadership tools form central parts of HMMs' capacity for leadership. In turn, these capacities are experienced to enable HMMs with the capabilities needed to implement a knowledge-based practice and to handle complexity and limited resources. Capacity through inter-departmental knowledge, user knowledge, trust, and respect is described to develop capability for interaction. These results suggest that the facilitation of HMMs' development as leaders benefits from implementation as transformative processes that include capacity and capability as a complementary whole. For HMMs, these transformative processes are based on critical reflection, which leads to personal growth, learning, and identification as a confident leader. Habermas (1999) describes critical self-reflection as the basis for uncovering the prerequisites for the realisation of human potential and thus the development of competence. CRP adds to this understanding by explaining how knowing depends on self-knowing (Stacey, 2005). HMMs' experiences of such processes are particularly evident in Study II.

As Ringard et al. (2013) argues, HMMs take part of a strong hierarchical structure. This synthesis contributes knowledge to how this structure influences their capability as leaders. Historically, New Public Management (NPM) is associated with a change from a predominantly rule-oriented management to a target- and result-oriented (Hood, 1995). The results included in this synthesis correspond to Habermas's (1987) descriptions of two types of society: goal-oriented or guided by interaction. This illuminates a key contrast in leadership development among HMMs, supporting previous research that describe a traditional management model guided by goal orientation in a complex healthcare context that demands interaction (Ferlie et al., 2012; McKimm & Till, 2015). The synthesis also features HMMs' experiences of unpredictability as part of their daily work. This is described by CRP as natural in an

organisation (Stacey & Griffin, 2005). However, these results contribute to the discussion of how unpredictability is understood in relation to health personnel, residents/patients/users, and relatives as human actors (Stacey & Griffin, 2005), by identifying challenges of unpredictability as connected to transactional senior management strategies.

This synthesis contributes to existing descriptions of healthcare as complex contexts (De Savigny & Adam, 2010), by depicting the complexity as a conflicting practice, that limits HMMs' capability as leaders. HMMs' leadership is previously described as three-fold, demanding professional, personnel-related, and economic leadership (Mumford et al., 2007). However, this synthesis suggests that prioritising within these areas is left to the individual HMM, creating role conflicts as a result. This is particularly apparent in Study III: first, in the way in which HMMs provide both leadership and nursing competence to clinical practice; second, in the contradiction between changing municipal strategy based on adapting to process pathways (Mason et al., 2015) and participants' experiences of a transactional leadership style (Bass & Bass, 2009) from senior management that is not consistent with such processes. Similarly, the results indicate the extent to which hierarchical structures limit the possibility of equality, justice, and the best possible outcomes (Formosa, 2015); this is especially seen when the participating HMMs give examples of what Habermas (1987) calls systematically distorted communication. Such examples include changes to budgetary estimates without HMMs' knowledge or influence, and tasks being allocated whose meaning the HMMs do not understand.

Fontenot (2012) suggests that power relations in healthcare may be influenced by the fact that senior management mainly consists of men, whereas most HMMs are women. This difference in gender distribution is recognised among the participants in this dissertation. The included studies in Study I do not provide a complete overview of gender distribution, but 13 of the 16 participating HMMs in Study II are women, as are all the participating HMMs in Study III. Transformative features, such as caring,

communication, and collaboration, are in some studies related to feminine values (Fontenot, 2012). However, other research describe the impact of gender differences in healthcare leadership to be unclear (Cummings et al., 2008). The results in this synthesis does not indicate that the power relations are caused by gender, they do however, suggest that HMMs are exposed to and are involved in power relations as part of their interaction. This contributes practical knowledge to how CRP explains human interactions as conflicting and competing relations (Stacey & Griffin, 2005).

The three studies in this dissertation represent three different system levels as described by the theory of Complex Adaptive Systems (CAS) (Baker, 2001; Nelson et al., 2011). Moreover, this synthesis adds to the existing knowledge by indicating that HMMs experience the development of capacity and capability for leadership across each of these three levels, and that each level is dependent of another. This is exemplified in Study III when the participating HMMs describe experiences of capacity and capability development in a learning network, which can be understood as a mesosystem, only for this capability to be restricted by the conflicting practice in a nursing home, that is, the microsystem (Nelson et al., 2011). The complexity theoretical landscape has as such developed through the initial explanation model from CAS, whereas the theory of CRP has become increasingly more useful. This utility is consistent with the suggestion that CAS and CRP are complementary theories (Luoma, Hämäläinen, & Saarinen, 2011).

The results of this synthesis, exemplified by the learning network, support how CRP applies Habermas's (1987) contention that it is possible for humans to cooperate and reach a common understanding by being conscious and self-conscious through critical reflection (Stacey & Griffin, 2005). This synthesis provides practical knowledge that describes how these social processes present challenges across transactional leadership and complex healthcare organisations. Based on the results from Study III in particular, the synthesis suggests that HMMs' lifeworld are, as Habermas (1987) describes, mediated by system imperatives, in some cases to such an extent that their identity may be threatened. And while relational aspects such as trust, respect,

and networking are described to increase capacity and capability for leadership, they are perceived to be absent in the context of HMMs' typical working day.

5.2 Transformative Processes to Handle Complexity

The first synthesised theme in this synthesis -*transformative processes to handle complexity*- is based on the results that suggest a processual approach to HMMs' development of capacity and capability for leadership (Table 3). This theme has two synthesised sub-themes: (a) *transformative learning processes,* and (b) *self-confidence in a complex context*. This synthesis adds knowledge to understand how HMMs in a rural public healthcare setting, through transformative learning processes, shift to a more confident and frontline leadership when it comes to involving and facilitating others, as described by Yukl (2009). This shift entails an increased degree of guidance, empowering health personnel by trusting in their knowledge, and compensating for varying levels of knowledge, attitudes, and resource scarcity. Building on internal motivation and self-leadership, the results suggest that HMMs increase capacity and capability based on features that can be related to a transformative leadership (Bass & Bass, 2009).

However, it should be noted that transformative leadership has itself been criticised for failing to address the growing complexity of healthcare. In response, the development of a theory for complexity leadership is forwarded (Marion & Uhl-Bien, 2002). This synthesised theme supports the utility of the complexity model of leadership as presented by Clarke (2013): experiences of command-and-control leadership are described negatively, and leadership development is explained in relation to both the individual HMM and the system level. However, the participating HMMs describe not being empowered by senior management, as well as a lack of contextual support in their transformative development processes. These results may suggest that communicative rationality through social interaction from the bottom up is not achieved in healthcare, which further implies that the realities for HMMs are unknown to senior management (Habermas, 1987).

The results in all three studies indicate that HMMs develop capacity based on acquiring leadership knowledge, skills, tools, and attitudes. The results suggest that this capacity further contributes to capability, described as personal ripening processes, developing leadership identity, self-confidence, broadening perspectives, and respect for human diversity. Illeris (2014) describes how transformative learning results in changed elements in leadership identity, and how critical reflection, open discourse, and implementing new understandings in practice facilitate a shift in a learner's meaning perspectives (Illeris, 2002). In this synthesis, the participants' experiences of capability include balancing challenges and opportunities and coping with healthcare complexity, change, and QI. This main theme includes results that emphasise the importance of continuity and coherence between the facilitation of HMMs' development and their practical working day. This supports how Straus et al. (2013) have portrayed clinical practical experience as crucial to the development of critical thinking skills and of a reflective practice.

The learning network explored in Study II takes a pedagogical approach based on transformative learning. This approach accounts for HMMs' life experience, how they are self-directed, and how they need to see a clear relevance to be motivated. Transformative learning is described as an individual activity where knowledge is constructed based on previous knowledge and through social interaction within the relevant context (Illeris, 2002; Straus et al., 2013). This synthesised theme contributes to this perspective by describing how HMMs' involvement and existing knowledge needs to build an understanding of the practical coherence of theoretical explanatory models. According to this synthesis, HMMs' transformative learning processes can thus be described as continuous reflexive learning based on active involvement. HMMs' development of capacity and capability for leadership is also described as cognitive, social, and technical processes, which involve interpretation, internalisation, integration, and institutionalisation (Schilling et al., 2011). Here, the participants describe capability development in terms of understanding healthcare from the users' and relatives' perspectives and implementing a knowledge-based

practice, process-work in QI, and reflection as part of their leadership. However, the results show that HMMs mainly experience their leadership development as learning by doing, in a workday that is task-oriented with little time for reflection.

The participants in Study II describe how the pedagogical approach in their learning network differs from other leadership development programmes they attend, which are described as fragmented and short-lived. These results add to previous research that presents HMMs' development as neglected (Briggs et al., 2010). This synthesised theme includes results that indicate that HMMs' leadership development lacks the continuous focus that Senge (2006) prescribe in a learning organisation. Furthermore, previous research has stated how pedagogical approaches to leadership development need updating based on increasing complexity in healthcare (Bradley et al., 2015; Briggs et al., 2010; Darr, 2015; Dickson, 2016; Elliott, 2017). This synthesised theme adds knowledge of an alternative pedagogical approach that is described by participants to meet such complexity. The results also suggest that, although we have broad knowledge of how healthcare acts as complex systems (Belrhiti et al., 2018), this knowledge is not properly integrated into practice. Here, HMMs' development of capacity and capability is experienced more as an autonomous adaptation to a complex and rapidly changing context than as a result of a supported facilitation.

5.3 Interaction Challenged by a Conflicting Practice

The second synthesised theme -*interaction challenged by a conflicting practice*- relates to the results where the participants describe HMMs' development of capacity and capability for leadership as unpredictable, fragmented, and lonely (Table 4). This includes experiences of lacking support, role conflicts (as an HMM and as a nurse), and conflicting expectations from senior management. This second theme has two synthesised sub-themes: (a) *interaction in a transactional organisation,* and (b) *unsupported in a conflicting practice*. This theme incudes results where HMMs describe the impact on their lifeworld of a workday characterised by a lack of instruction and by a struggle to ensure qualitative healthcare while handling an

overwhelming flood of concrete patient-related tasks amid limited recourses. Several previous studies describe similar results (Alleyne et al., 2007; Bradley et al., 2015; Briggs et al., 2010). This synthesised theme contributes to this knowledge by illustrating how HMMs develop capacity and capability for leadership within this conflicting practice.

This synthesis also adds knowledge that describes how senior management is experienced to reduce HMMs' capability for leadership. This is exemplified when the participating HMMs describe errors as attributed to individual scapegoats, and in cases where the HMMs are so preoccupied with reporting economical figures, attending mandatory off-site meetings, and responding to tasks related to sick leave, that QI gets under-prioritised. The results in this synthesised theme thus provide substance to existing knowledge, which has claimed that the present dominant transactional leadership is inadequate in healthcare as complex and relationship-driven organisations (Davidson, 2010; Ferlie et al., 2012; McKimm & Till, 2015), and that a distrusting leadership negatively affects the quality of healthcare (Okello & Gilson, 2015). Equally, HMMs' experiences of a loss of involvement and autonomy, highlighted among others by Belasen and Belasen (2016) and Embertson (2006), are also visible in all three studies when they describe a rigidly top-down senior management structure. On the other hand, this synthesis does not provide results that vindicate one leadership style over another; rather, the specific challenges associated with the dominance of a transactional leadership are raised and critiqued.

The results included in this synthesised theme suggests a lack of coherence between HMMs' leadership development and HMMs' leadership itself. Knowledge from learning theories provides explanations of how individual learning takes place in social interaction within the relevant context (Illeris, 2014; Straus et al., 2013). Previous research describe how interaction and relational attachment to colleagues increases internal motivation (Stewart, Courtright, & Manz, 2011). On the contrary, the results in this dissertation contributes knowledge of how HMMs experience a lack

of trust-based interaction and contextual support. Instead, their development of capacity and capability appears to be based on what CRP describes as how communicative interaction evolves self-organised by emergence in a non-linear nature, where power provides the opportunities and limitations (Stacey & Griffin, 2007). Ultimately, this synthesised theme indicates that HMMs take hold of their own development in a complex healthcare system dominated by traditional management and organisational structures.

HMM's development of capacity and capability for leadership are traditionally facilitated using a task-oriented approach that does not relate to complexity (Cummings et al., 2010; Cummings et al., 2013; Wong et al., 2007; Wong et al., 2013). This synthesised theme contributes knowledge of how a learning network mitigates healthcare complexity when its makeup spans organisational and structural boundaries. Learning networks are recommended by international health authorities (De Savigny & Adam, 2010) and previous research (Wells et al., 2018). However, supremely for the learning network in this dissertation is a continuous perspective based on the participants' own assumptions and premises, knowledge sharing, and repetition. Habermas (1987) describes how the lifeworld is governed by interaction, but that the formalisation of this interaction is part of what separates the lifeworld and system-world. The results in this synthesised theme include the learning network participants' descriptions of how they determine the content and frequency of their meetings themselves. This may imply a reduced formalisation compared to other, more traditional, leadership development programmes.

The learning network explored in Study II is described as a reflective meeting point among collaborative colleagues, providing trust, respect, and knowledge of each other's challenges when interacting in patients' pathways. According to Habermas (1999), these experiences may indicate the achievement of a communicative rationality, based on reflection, questioning what is taken for granted, mutual deliberation, and argumentation. This knowledge contributes to how CRP describes a

well-functioning complex organisation as building on interactions and dynamic networks (Braithwaite et al., 2017), as well as existing knowledge that suggests that HMMs' development is facilitated by supporting reflection and giving meaning to what HMMs are already doing (Flinn, 2018).

This synthesised theme includes results based on the participants' experiences of how HMMs develop capacity and capability by adapting their leadership through interpersonal relationships. These results strengthen current knowledge of how leadership is handled within changing complex social systems (Taylor et al., 2014). In addition, the results describe how HMMs struggle to work within unclear frameworks in a conflicting work situation that reduces their capability. The synthesis implies that HMMs develop capability when they are recognised and valued, and that an empowering senior management can contribute to this development through involvement, participation and autonomy, maximised discretion, a no-blame culture, trust, and respect. However, the results show that HMMs experience such support as lacking, and that HMMs need leadership structures and organisational coherence, delivered through clear vision, plans and strategies, information and involvement, and infrastructure and resources. The results from Study III underline that even when a municipality has formally changed its leadership strategy, the iterative interaction patterns in healthcare (Stacey & Griffin, 2005), remain dominated by transactional leadership styles, which are retained as a fallback for senior management in pressured situations, such as budget overspends.

5.4 Methodological Considerations

The methodological considerations in this dissertation are based on trustworthiness, as described by Lincoln and Guba (1985). This implies a discussion of strengths and limitations related to credibility, transferability, dependability, and confirmability.

Credibility

The critical hermeneutic foundation of this dissertation entails that knowledge develops in a co-constructive process with the participants, based on critical

reflection in a circular relationship between preunderstanding, theory, and empirical data (Christians, 2005). As a former HMM and participant in the learning network, this includes a dual role as a researcher and colleague of the participants and a preunderstanding that yields strengths and limitations. For instance, this preunderstanding is a strength when it simplifies access to the research field by building on existing trust, and when it increases the possibility to understand specific data. Morse (2015) describes how increased trust and intimacy provides richer data; the more data are revealed, the more trustworthy it can be considered. My preunderstanding provides practical knowledge (Halås, 2017) learned in practical situations, in accordance with the PhD programme with which this dissertation is associated. The preunderstanding is also a strength regarding how CRP explains organisations to be understood through personal experience and participation from an insider's perspective, whereby insight arises from the researcher's reflection on his or her own experience and from interaction (Stacey & Griffin, 2005).

On the other hand, this preunderstanding also challenges the movement from proximity to distance, as well as the questioning of doxa (what is taken for granted) in this dissertation (Alvesson & Sköldberg, 2008). This is a key limitation related to the critical hermeneutic foundation and has thus been subject to continuous critical reflection. The preunderstanding also poses ethical challenges in the moderation of the focus groups when the researcher is known to several of the participants (Christians, 2005; Kamberelis & Dimitriadis, 2005). This is handled through critical discussion with the participants, who agree to a high degree of confidentiality around the group processes. Nonetheless, my closeness to the research setting run the risk of influencing the participants' answers, which could lead to "pink elephant bias", where the researcher is more likely to see what is anticipated. The use of a specific theory (such as CRP) adds to these challenges by risking pinpointing and over-emphasising results that are close to said theory (Stacey & Griffin, 2005). These challenges have been central to critical reflection with the participants, supervisors, and co-researchers in this dissertation. To reduce the risk of diminishing the quality of

data gathered, the results are critically discussed with the participants during analysis. The focus groups also include assistant moderators who, similar to the co-authors in Articles 1-3, do not share the same preunderstanding and proximity to the research field. Credibility is further strengthened by elaborating on this preunderstanding and how it is handled critically.

This dissertation searches to develop knowledge that improves healthcare quality for users. Critical hermeneutic research is participating and interactive (Christians, 2005). This is strengthened by developing Study III in cooperation with a senior manager in the respective municipality and by adding one user representative to the 16 participating HMMs in Study II, and 18 relatives to the seven HMMs in Study III. This contributes to the critical reflection and incorporates experiences from the user perspective into the research. However, the three studies would have been strengthened yet further by a greater degree of user involvement throughout all research phases. One might also ask whether it is appropriate for a user representative to participate in the same focus groups as the HMMs, when the focus of the study is the facilitation of HMM's development of capacity and capability for leadership and the methodological foundation is based on Habermas's (1987) understanding of the participants' lifeworld. On the contrary, the user representative in this study is specially invited to the focus groups based on statements from the HMMs in the learning network, who describe how user representation contributes to their critical reflection. One example of such contribution in the focus groups is the questioning of what is unconscious or taken for granted by the participating HMMs. Another relates to the user perspective in general and its valuable experiences and critiques of local healthcare leadership. It is an acknowledged limitation of Article 2 that it is difficult to identify from which perspective (HMMs or user representative) the different themes evolve. This is clarified accordingly in this dissertation.

Similar reflections can be made with regard to the participating relatives in Study III. In the context of this dissertation, residents and relatives are considered the closest

groups to experience whether HMMs' development of capacity and capability reflects only a personal development, or whether it is based on a continuous process that improves the clinical practice (Konsmo et al., 2015). Although the participation of relatives is a strength, it is a limitation of Study III that no residents are recruited. However, it is important to note here that all residents in one of the nursing homes in this study has dementia, and most of the residents in the other. Few studies include participants with dementia, and their participation in semi-structured interviews is known to have limitations. More innovative visual methods and special training for the researcher may be of benefit before involving this group of participants (Phillipson & Hammond, 2018). The participating relatives nevertheless contribute to Study III by critical reflection on what they state to be a strong emotional investment in nursing home quality. In particular, the nursing home's food situation is of central interest to the relatives in the focus groups, whereas they refer to own observations as "fly on the wall". However, more detailed information prior to the focus groups (describing the implemented QI strategies and HMMs development of capacity and capability for leadership) would have strengthened Study III by ensuring that all relatives were equally informed in advance.

The credibility in this dissertation is further strengthened by triangulations of methods that support data reasoned from the participant's objective, social, and subjective world (Habermas, 1987). Replacing participation in a focus group with an individual interview has both strengths and limitations. The individual interview does not benefit from the participants' interactions, yet the participant is given more time to share her experiences. Such circumstantial differences influence the data, as people act differently in private than in a group (Morgan, 1996). Nonetheless, the benefits of gaining this participant's perspectives are considered more important than the limitations. The data gathering in Studies II and III is further strengthened by the repetition of focus groups. As well as the opportunity to delve deeper into the data already gathered, the participants describe the experience of knowing each other better and having more confidence, increasing the possibilities of active

interaction, critical reflection, and common understanding (Habermas, 1987). The participative observations change the communication and interaction again in Study III by reversing the asymmetric power relationships in the focus groups (Kvale & Brinkmann, 2015). Here, HMMs become the leaders and the researcher a follower.

Habermas (1990) discusses Gadamer's interpretive relation of the concept of "verstehen" and the meaning of the hermeneutical circle, intimating knowledge that strengthens the credibility of this research, in which interaction, critical reflection, and drawing of contrasts contribute to the circular process of reaching understanding. However, in the four articles (Articles 1a, 1b, 2 and 3), references to the hermeneutic circle are made to Gadamer. Habermas's (1990) further development, which includes critical reflection in the interpretive use of the hermeneutic circle, is a more accurate reference and is thus applied in this dissertation.

Transferability

The results of the three studies and the synthesis contribute knowledge to the complex context of public healthcare areas and cannot be immediately generalised to other contexts. However, according to Kvale and Brinkmann (2015), analytical generalisation is a possibility, whereby the results are considered "indicative" or transferable in relation to other similar situations or settings. This is strengthened by how the results here show how HMMs in different contexts, rural and urban, municipalities and hospitals, describe similar experiences. This implies that the results are not linked to a specific geographic or demographic context. The municipalities involved in Studies II and III are anonymised. This consideration leads to the limitation that I omit certain elements of contextual and historical background from Studies II and III. However, the research aims and questions are not considered to be directly influenced by such variations, and ethical concerns will always come first.

The inclusion of qualitative (and subsequent exclusion of quantitative) studies strengthens this dissertation by narrowing the results of HMMs' experiences in

alignment with the studies' aims. However, this affects the macro perspective of the results and may reduce their transferability. The learning network in Study II takes an unusual approach compared to other leadership development programmes attended by the participating HMMs: it uses a transformative learning model (Illeris, 2014). This atypical approach strengthens the study by contributing important new knowledge of a pedagogical approach experienced as useful by the participating HMMs. However, it is also a limitation of the research design, since studying other learning networks with other learning models may yield different results. Ultimately, the best test and validation of the transferability of qualitative theory is the use of it. Theory offers the potential to understand and analyse reality, increase the opportunity to change, give a controllable theoretical foothold, and be a guidance of action (Ragin & Becker, 1992). The use of these results will be further discussed in the following chapter in the recommendations for further research and implications.

Dependability

This dissertation's methodological foundation implies that, no matter the efforts made to maintain focus on research ethics and trustworthiness, all knowledge is situated, with the possibility to be influenced by factors such as gender, sexual orientation, class, ethnicity, race, or nationality (Christians, 2005). Both the critical hermeneutic foundation (Habermas, 1987) and CRP (Stacey & Griffin, 2005) indicate that the influence of changes and relationships are a crucial aspect of this research. Time is also an issue that is considered. The comprehensive systematic review and meta-synthesis in Study I includes studies published between 2005 and 2019, a 14-year timeline in which much development has taken place in Norwegian healthcare. It is a known risk to perform a systematic review early in the research process, as this could cause restrictions to further research. Likewise, a single review does not provide a complete, unquestionable overview of the area of knowledge (Joanna Briggs Institute, 2014). To assure updated knowledge, several new searches of literature are performed since the publication of Study I and prior to the submission of this dissertation. The data gathering for Study II took place in December 2014,

while the study was published in 2017; to ensure applicable data, the repeated focus group is completed in October 2016.

Dependability in Study I is strengthened by JBI methods and manuals (Joanna Briggs Institute, 2014), while that of Studies II and III is supported by critical hermeneutic principles (Alvesson & Sköldberg, 2008; Kvale & Brinkmann, 2015). Following such guidelines has been a source of security as a novel researcher seeking to ensure a trustworthy research process. The dependability is also ensured by critical reflection with the participants and supervisors in a cross-professional research team. A research log has strengthened the dependability in all three studies and the synthesis by affording the possibility for critical reflections both during writing and retrospectively, that is, reflecting on previous experiences in light of present thoughts (Carter & Little, 2007).

Confirmability

The presentation of results of this dissertation are searched to be transparent and grounded in data. The confirmability is strengthened by the richness of the descriptions in the data in the three studies. The text material and the overall quality are considered trustworthy. The research questions are experienced to create engagement among the participants, and thus active interaction and critical reflection. The meta-synthesis in Study I is strengthened by calculating effect size, which supports the extraction of data to reveal patterns or themes. The use of effect size is debated within qualitative research but has been fruitfully used by Sandelowski and Barroso (2006). Conversely, a systematic review and meta-synthesis is criticised for producing merely descriptive knowledge (Maxwell, 2012), which challenges the critical hermeneutical foundation of this dissertation. Related to Habermas (1987), it may be described as socially conservative rather than emancipatory. However, critical hermeneutics expands Sandelowski and Barroso's (2006) methodological approach in this dissertation. This is exemplified when they forward concepts such as *aggregating* results, while the concept of *integrating* is used in this dissertation, as it better

describes how this meta-synthesis is carried out in a process of critical reflection.

The semi-structured focus groups with open-ended interview guides (Appendices 1-4) in Studies II and III open up the possibility to add follow-up questions based on participants' interaction (Morgan, 1996). In Study II, the interview guide is perceived to be too open; the quality of the interview guide in Study III is improved accordingly. The confirmability of these studies is reinforced when the results from the first analysis phase are then validated by the participants in a new focus group from the three initial focus groups in Study II, and repeated focus groups in Study III. However, in Article 2 (Hartviksen et al., 2018), the concepts presented in Table 2 have not been coherently described: while Table 2 refers to themes, sub-themes, and quotations, the text refers to condensed meaning units and underlying meaning, which are not described by the table. In response, these analytical concepts are clarified in this dissertation. In study III, the confirmability is strengthened through the use of a multimethod approach. Morgan (1996) describes how a multimethod approach allows for richer data and a greater depth of results, since data gathered with one method is elaborated by the other methods. The amount of focus groups and participants in both Studies II and III are adapted to data saturation. In Study III, focus groups varied in size due to the participating relatives' busy schedules, although no significant data differences are identified.

While Studies I and II have aims and research questions referring to leadership in general, Study III refines this to QI as a central aspect of leadership (Norwegian Regulations on Management and Quality Improvement in the Health and Care Service, 2002). This refinement may be unclear as it is only briefly described in Article 3 (Hartviksen et al., 2020): its relevance is further elaborated in chapter 3.2 here. The rural context in Studies II and III means that one can expect that the participants, including the researcher, be to some extent known to each other. This is a strength in terms of the studies' credibility (Morse, 2015), but also a limitation in terms of the confirmability, as it may influence the quality of the resulting data. However, the

assistant moderator's brief to record non-verbal artefacts (Morgan, 1996) includes drawing communication lines and illustrating the communication patterns between participants. This supports the critical discussion of whether certain participants dominate the communication, or if they turn more towards the moderator or their fellow participants, which could imply that formal or informal power relations are at work. In the case of Study III, the communication lines illustrate the influence of two sisters on the interactions between participants in the same focus group, for example in the way that they follow each other's statements in a regular pattern. However, in the focus group, whose members included a mother and son, the interaction is unaffected.

In Study III, the proportion of participating HMMs and relatives is calculated. This is not an attempt to calculate selection; rather, it illustrates the difference in participation in the focus groups: 100% of the HMMs participate, while only 15% of residents are represented. This is particularly important as the results show the participating relatives to belong mainly to a group that experience themselves as more present and engaged in QI in the nursing homes than other relatives. The relationship between the participants may indicate that professionals can participate in research more easily during working hours, especially compared to volunteers who do so in their leisure time. Numbers can, in some cases, make such differences more visible than words (Sandelowski & Barroso, 2006). In retrospect, the corresponding article (Article 3) contains some technical weaknesses, where the research process would benefit from a clearer description. This is exemplified when some of the text is repeated from the participants and recruitment to the results section. Table 2 could have been better placed in the method section, and the quotes from participating HMMs and relatives would have benefitted from a clearer relation to the identified themes and sub-themes. Furthermore, consideration of the participants' lifeworld is not made explicit in this article. This is explored through a process of critical reflection in the focus groups and the individual interview, similar to the one described in Article 2 (Hartviksen et al., 2018), and the process itself is elaborated in

chapter 3 of this dissertation. The results from Study III are completely rewritten in this dissertation, in order to clarify the analysis process from transcribed text to themes and sub-themes from how it is presented in Article 3 (Hartviksen et al., 2020).

6. Conclusions

This dissertation aims to deepen knowledge and critically discuss how HMMs develop capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity. The results are concluded in a synthesis of three studies (Studies I-III), which implies that HMMs' development is based on supported or unsupported transformative processes through interaction in a conflicting practice. The concept of complexity has informed the research as a common thread, from Habermas's critical hermeneutics through to leadership, learning, and complexity theories. Complexity has been pervasive in the research aims and questions and is further developed as a concept: the results of this dissertation provide knowledge of how the complex context is experienced as a conflicting practice, including different and changing needs, unpredictability, and role conflicts.

The synthesis foreground results that describe how the conflicting practice in healthcare includes a lack of meeting points and thus a reduced opportunity for interaction. As a result, HMMs mainly experience leadership development as lonely, fragmentary, and unsupported transformative processes. Based on these results, the key message in this dissertation is a need for change in how HMMs' development is facilitated, shifting specifically from (a) unsupported to supported transformative processes; (b) lonely competitors to interactional networks; and (c) from command-and-control to an empowering leadership. The suggested changes involve both pedagogical and relational principles, as well as the organisational and structural assumptions of healthcare.

A change from unsupported to supported transformative processes will require a shift in approach from senior management that strengthens the coherence between how HMMs develop and perform leadership. Transformative processes start with HMMs' critical reflection on their own leadership, before building the requisite knowledge, skills, tools, and attitudes that make up a continuously present leadership. The synthesis of the three studies clarifies how HMMs experience a daily

leadership that lacks the possibility for such processes. Reflective processes are nonetheless shown to be facilitated by providing a meta-perspective on the work place, continuity, interaction with relevant contexts and colleagues, and repeated knowledge that contributes to the understanding of complexity as conflicting practices. Such changes are essential if HMMs' development of capacity and capability for leadership is to have a practical bearing on their clinical context, for example, through quality improvement.

Shifting HMMs' experiences from those of being lonely competitors to those of being participants in interactional networks will require a rethink in terms of how healthcare is structured and managed. In this research, allowing HMMs to be a part of continuous learning networks is found to be beneficial. This learning network is based on the principles of transformative learning: it is continuous and focuses on coherence to the clinical context. Consequently, it provides a meta-perspective on the clinical context that adds to the development of an understanding of healthcare complexity. It also facilitates knowledge development, dialogue and discussions, peer support and feedback, and trust and confidence, while the inclusion of participants from different organisations and roles (hospital, different parts of municipal healthcare and user representatives) is deemed valuable. Participants in this learning network use the concept of "competitor" as a point of comparison to their prior experience of the relationship to other HMMs in other parts of healthcare. After participating, they describe how they would replace "competitor" with "colleague".

A change from a dominant transactional, command-and-control leadership, to a more empowering leadership requires both a senior management and an organisational structure that are willing to facilitate HMMs' development processes through empowerment, trust, and dialogue. One crucial result of this synthesis is how HMMs experience a lack of confidence and self-confidence, and how support, feedback, trust, and respect are needed to develop as a confident leader. This change does not necessarily involve a wholescale shift away from transactional management, but

rather an openness to integrate other leadership perspectives, as exemplified by transformative and complexity leadership theories.

6.1 Implications

The research process in this dissertation begins in healthcare practice as a result of questioning the experienced contradictions as an HMM in a rural hospital and as a participant in a learning network. The results provide valuable insights regarding practical change and improvement that may strengthen HMMs' development of capacity and capability for leadership. This knowledge will be especially salient to HMMs, senior managers, and policy makers who can implement changes and QI in how healthcare is structured and managed.

For HMMs, this knowledge is suggested as a source of critical reflection and an approach for understanding leadership development: drawing lines between HMMs' individual capacity and capability, their choices and priorities, and the opportunities afforded and constraints imposed by healthcare complexity as a conflicting practice. For senior managers and healthcare policy-makers, the knowledge from this dissertation may underpin changes in leadership development programmes, and the support and feedback that are provided to strengthen HMM's development of capacity and capability for leadership. Changes suggested includes leadership development processes based on networking, interaction, trust, and respect, as well as clearer structures and frameworks, support and feedback.

This research relates to a healthcare context. However, the results may arguably be relevant to other complex contexts: suggesting the field of education to have the closest common features. The results show how features from transformative learning and transformative leadership are useful when applied to complex situations. Transformative learning based on coherence, reflection, discussion, repetition, knowledge sharing, and short lectures are thus also suggested explored for the facilitation and support of leadership development.

To improve how HMMs' are facilitated and supported, this research suggests how transformative learning processes require a connection to an exercise of choice between senior management leadership styles when needed and, in particular when meeting the demands of healthcare complexity. This clarifies the need to change HMMs' leadership support, factoring in continuous and systematic competence programmes aligned with HMMs' leadership practice, and based on clear frameworks, overall trust, and an empowering, continuously present leadership.

6.2 Recommendations for Further Research

The results in this dissertation indicate an extensive difference between the experiences of how HMMs develop capacity and capability for leadership, and how this development is facilitated. However, these studies are restricted to industrialised countries in public healthcare and mainly rural settings. Further research in other contexts may contribute to a broader perspective, as may research from other theoretical perspectives and methodological approaches. This synthesis suggests that HMMs' development of capacity and capability is challenged by a conflicting practice, whereby healthcare does not function as learning organisations (Senge, 2006). If HMMs are to perform as their best as leaders, a change is needed in the way their leadership development is facilitated. More specifically, the results here suggest a comprehensive process of change, completed as a continuous transformative, bottom-up competence development. Here, an extended research project is in the planning phase as a continuation to the knowledge developed by this dissertation.

Participatory action research (PAR) stands out as a useful approach to this extended research project. PAR is a recommended approach to change with others, rather than trying to change others (Reason & Bradbury, 2001). It represents a self-reflective spiral of planning change, acting and observing, reflecting on the consequences of these processes, re-planning, acting and observing again, and reflecting again (Kemmis & McTaggart, 2005). This processual approach corresponds to how the synthesised results in this dissertation describe the facilitative power of

transformative processes in HMMs' development of capacity and capability. A close collaboration between the research team, users, and municipality healthcare has the possibility to benefit both the research project and wider society. This is planned as a knowledge exchange process, where researchers exchange scientific knowledge, and the stakeholders exchange local knowledge about the context (Greenwood & Levin, 2005). Participation from other levels in healthcare aside from HMMs may also be relevant to this project, and possibly leaders in other public service in order to search for common challenges and possibilities. Finally, I have recently changed my job position and now combine an academic position at a university with the role of head of professional development and research in a municipal health department. This offers a unique opportunity to develop this research project further in an interactive collaboration between professional practice and academic research.

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Appendices

Appendix 1 Interview Guide, First Focus Groups, Study II

Appendix 2 Interview Guide HMMs, First Focus Groups, Study III

Appendix 3 Interview Guide Relatives, First Focus Groups, Study III

Appendix 4 Interview Guide, Second Focus Groups, Study III

Appendix 5 Exempted Notification to NSD, Study II

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Appendix 8 Informed Consent Study II

Appendix 9 Informed Consent Study III

Appendix 1 Interview Guide, First Focus Groups, Study II

Interview guide

How would you describe the usefulness of participating in the learning network?

How would you describe your experiences executing leadership before and after participating in the learning network?

- Any changes in how you think about leadership?
- Any changes in how you perform leadership?

How would you describe your abilities as a healthcare middle manager?

How is this influenced by participating in the network?

How does your participation in the network influence your staff?

How does your participation in the network influence the recipients of your services?

How can you compare these processes with other processes in your life?

Supporting questions:
- Can you add some examples?
- Why does this happen?
- How did this happen?
- How did you know this?
- How could this be changed?

Appendix 2 Interview Guide HMMs, First Focus Groups, Study III

This study searches to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence quality improvement (QI) in nursing homes.

First focus groups, HMMs in nursing homes

Background to the questions	**Research questions**	**Questions to the interview guide**
Introducing questions.	How can the participants be characterised?	How old are you?
		What basic education do you have?
		Do you have further education?
		How long have you been HMM here?
		Have you been HMM other places earlier?
		What inspired you to become a HMM?
		Have this inspiration changed?
Malnutrition indicates poor quality in nursing homes, and should thus be a priority QI process (1, 2).	How is QI areas understood at nursing homes?	How will you describe what malnutrition at nursing homes are all about from your perspective?
	How is QI work performed in nursing homes?	How will you describe how you have worked to improve malnutrition in your unit?
There are a lack of knowledge to how HMMs develop capacity and capability to handle the complex processes in QI (3, 4).	What contributes to HMMs' development of capacity and capability for leadership?	How will you describe how you as HMMs have developed capacity and capability to QI?
		How will you describe how you leaded the practice around nutrition before the QI processes?
		How will you describe how you are leading the practice around nutrition during and after the QI processes?
		How will you describe your experience of the competence or support needed for HMMs, in order to lead QI in nutrition in your unit?
		How will you describe your capacity and capability as HMMs to lead QI in nutrition in your unit?
		If any, what kind of support have you experienced to increase your

		knowledge and the possibility to succeed with QI?
		How and where do you work to increase your own knowledge in QI as HMM?
		Have you experienced anything that counteracts or prevents the development of QI in the unit?
It is unclear how the clinical contexts are influenced by HMMs development of capacity and capability for leadership (3, 4).	How are the clinical context influenced by HMMs development of capacity and capability for leadership?	Can you describe any situations where the residents of the nursing home have experienced change during the QI of nutrition?
		Can you describe any situations where this change could be seen as an improvement?
Follow-up questions	How can we get more depth knowledge in the different aspects of this study?	Can you share some examples?
		How did this happen?
		How do you know this?
		What did not succeed or worked less well?
		Have you thought about how this could have been changed?

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Appendix 3 Interview Guide Relatives, First Focus Groups, Study III

This study searches to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence quality improvement (QI) in nursing homes.

First focus groups, residents/relatives in nursing homes

Background to the questions	**Research questions**	**Questions to the interview guide**
Introducing questions.	How can the participants be characterised?	Do you live here, or are you relative to someone who live here?
		How long have you or your relative lived here?
		How old are you?
		Can you describe how it is to live at a nursing home, compared to home?
Malnutrition indicates poor quality in nursing homes, and should thus be a priority QI process (1, 2).	How is QI areas understood and explained at nursing homes?	How do you experience the nursing home related to food?
It is unclear how the clinical contexts are influenced by HMMs development of capacity and capability for leadership (3, 4).	How are the clinical context influenced by HMMs development of capacity and capability for leadership?	Can you explain who is the HMM of this unit?
		How do you experience this HMM's role related to health personnel's work with food?
		Can you describe how choices related to food in this unit are made?
		Have you experienced any change related to food while you or your relative has lived here?
		If any, in which way has this change improved or worsened the situation related to food?
		Do you have suggestions to how this change could have been made differently or better?
		Do you have suggestions to other improvements related to quality at the nursing home?
Follow-up questions	How can we get more depth knowledge in the different aspects of this study?	Can you share some examples?
		How did this happen?

		How do you know this?
		What did not succeed or worked less well?
		Have you thought about how this could have been changed?

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Appendix 4 Interview Guide, Second Focus Group, Study III

This study searches to identify and critically discuss how HMMs' development of capacity and capability for leadership are experienced to influence quality improvement (QI) in nursing homes.

Second focus groups, all participants

Background to the questions	**Research questions**	**Questions to the interview guide**
Clarifying questions.	What does the results from the initial analysis entail of nursing homes as context?	It is called a nursing home. How could you describe the nursing home as a home?
		Regarding the health personnel and the residents in the nursing home. Have you experienced situations where these persons are together, compared to next to each other? What about the HMM in this context?
		How will you describe the interdisciplinary work in the unit? Physicians, nurses, nurse assistants, physiotherapists, occupational therapists…
		All units besides one have nursing teams. What will you describe as the difference?
		In former focus groups with relatives, it was described how it was different leaders at daytime and in the evening, who were those who took the decisions in the unit. Not the HMMs. Who are these leaders?
		Regarding activities as exercise and café, who of the residents are asked to participate, and who are responsible to recruit and facilitate participation?
		I have understood that HMMs participate in several meetings. What happens when HMMs are not present in the unit?
		How do you experience that HMMs are not wearing uniforms in the unit?
	What could be the reasons why relatives seem to excuse quality deviations in the first focus groups?	In the initial analysis, relatives describes quality deviations, whereupon they constantly seeks to explain or excuse health personnel's role involved in such situations. How will you explain this tendency?
		This is a relatively small municipality. In my observations, I have seen examples where HMMs, health personnel, relatives and the residents know each other, or are in the same network. How could this influence the services at the nursing homes?

		The residents have different relatives who engage in different matters. How could this influence the services to the residents?
There are a lack of knowledge to how HMMs develop capacity and capability to handle the complex processes in QI (1, 2).	What contributes to HMMs' development of capacity and capability for leadership?	Which competence do you experience as important for HMMs?
		Which support do you experience as important for HMMs?
		Which competence do you experience as important for health personnel at nursing homes?
		How will you describe this competence as you experience it at present nursing homes?
		What characterises a good HMM?
		How will you suggest this to be improved?
It is unclear how the clinical contexts are influenced by HMMs development of capacity and capability for leadership (1, 2).	How are the clinical context influenced by HMMs development of capacity and capability for leadership?	In which way do you experience that HMMs influences how health personnel performs their work?
		During my observations, I have seen that HMM uses much time filling the holes for health personnel. If someone are lacking to perform a task, HMMs are performing it. Can you describe advantages and disadvantages with this practice?
Follow-up questions.	How can we get more depth knowledge in the different aspects of this study?	Can you share some examples?
		How did this happen?
		How do you know this?
		What did not succeed or worked less well?
		Have you thought about how this could have been changed?

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Appendix 5 Exempted Notification to NSD, Study II

NSD Personvernombudet for forskning

Hvordan kan jeg gjennomføre et prosjekt uten at det er meldepliktig?
http://www.nsd.uib.no/personvernombud/hjelp/vanlige_sporsmal.html?id=2

For at et prosjekt ikke skal omfattes av meldeplikten, må alle elektroniske data som behandles gjennom hele forskningsprosessen være anonyme. I tillegg må eventuelle sensitive data på ingen måte knyttes til direkte personidentifiserende opplysninger, heller ikke via kode og koblingsnøkkel. Her er noen fremgangsmåter som kan benyttes:

- Ved intervju og observasjon registreres data kun i form av notater (ikke opptak). Man må påse at det ikke registreres noen navn eller personidentifiserende bakgrunnsopplysninger i datamaterialet.
- Det kan eventuelt gjøres lydopptak av intervju dersom intervjuguiden er utformet slik at det ikke vil fremkomme personopplysninger i opptaket. (NB! Stemme kombinert med utvalgskriterier eller bakgrunnsopplysninger om informanten kan være identifiserende. Ved bruk av lydopptak må denne type opplysninger utelates eller begrenses, slik at enkeltpersoner ikke kan gjenkjennes i det samlede datamaterialet.)
- Spørreskjemaer innhentes i papirform, uten navn og sensitive personopplysninger.
- For at bruk av nettbaserte spørreskjema ikke skal omfattes av meldeplikt, må man forsikre seg om at IT-løsningen er fullstendig anonym (bl.a. at respondentens epost-/IP-adresse ikke på noe tidspunkt knyttes til spørreskjema), og at selve spørreskjemaet ikke inneholder spørsmål om identifiserende opplysninger. NB! De fleste nettbaserte spørreskjema innebærer registrering av epost-/IP-adresse, og behandlingen vil da være meldepliktig, selv om evt. bare tjenesteleverandøren har tilgang til disse opplysningene.
- Registerdata og journaldata kan brukes uten melding så lenge det kun er anonyme data som hentes ut. Opplysningene må ikke kunne tilbakeføres til enkeltpersoner på noen måte. Det finnes en rekke anonyme registerdata tilgjengelig på nett, bl.a. hos SSB og NSD

Resultat av meldeplikttest: Ikke meldepliktig

Du har oppgitt at hverken direkte eller indirekte identifiserende personopplysninger skal registreres i forbindelse med prosjektet.

Når det ikke registreres personopplysninger, omfattes ikke prosjektet av meldeplikt, og du trenger ikke sende inn meldeskjema til oss.

Vi gjør oppmerksom på at dette er en veiledning basert på hvilke svar du selv har gitt i meldeplikttesten og ikke en formell vurdering.

Til info: **For at prosjektet ikke skal være meldepliktig forutsetter vi at alle opplysninger som registre- res elektronisk i forbindelse med prosjektet er anonyme.**

Med anonyme opplysninger forstås opplysninger som ikke på noe vis kan identifisere enkeltpersoner i et datamateriale, hverken:

- *Direkte via personentydige kjennetegn (som navn, personnummer, epostadresse el.)*
- *Indirekte via kombinasjon av bakgrunnsvariabler (som bosted/institusjon, kjønn, alder osv.)*
- *Via kode og koblingsnøkkel som viser til personopplysninger (f.eks. en navneliste)*
- *Eller via gjenkjennelige ansikter e.l. på bilde eller videoopptak*

Vi forutsetter videre at navn/samtykkeerklæringer ikke knyttes til sensitive opplysninger.

Med vennlig hilsen, NSD
Personvern

Appendix 6 Approval from NSD, Study III

NSD Personvern

11.12.2018 14:18

Det innsendte meldeskjemaet med referansekode 993360 er nå vurdert av NSD.

Følgende vurdering er gitt:

Det er vår vurdering at behandlingen vil være i samsvar med personvernlovgivningen, så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet 11.12.2018 med vedlegg samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

VURDERING AV REK

Prosjektet er meldt til REK sør-øst D, deres referanse 2018/1905, og er vurdert å falle utenfor helseforskningsloven. Prosjektet kan dermed gjennomføres uten godkjenning fra REK.

MELD ENDRINGER

Dersom behandlingen av personopplysninger endrer seg, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. På våre nettsider informerer vi om hvilke endringer som må meldes. Vent på svar før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle særlige kategorier av personopplysninger om helseforhold frem til 31.12.2019.

LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 nr. 11 og art. 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse, som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes uttrykkelige samtykke, jf. personvernforordningen art. 6 nr. 1 a), jf. art. 9 nr. 2 bokstav a, jf. personopplysningsloven § 10, jf. § 9 (2).

PERSONVERNPRINSIPPER

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen

- om lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål

- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter (velg det som passer): åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og eventuelt rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare status for behandlingen av personopplysninger.

Lykke til med prosjektet!

Kontaktperson hos NSD: Lasse Raa

Tlf. personverntjenester: 55 58 21 17 (tast 1)

Appendix 7 Exempted Approval from REC, Study III

REK
REGIONALE KOMITEER FOR MEDISINSK OG HELSEFAGLIG FORSKNINGSETIKK

Region:	Saksbehandler:	Telefon:	Vår dato:	Vår referanse:
REK sør-øst	Silje U. Lauvrak	22845520	23.11.2018	2018/1905

REK sør-øst D

Deres dato:	Deres referanse:
25.09.2018	

Vår referanse må oppgis ved alle henvendelser

Trude Anita Hartviksen
Nord universitet

2018/1905 Lederutvikling – egenutvikling eller tjenesteutvikling

Forskningsansvarlig: Nord universitet **Prosjektleder:** Trude Anita Hartviksen

Vi viser til søknad om forhåndsgodkjenning av ovennevnte forskningsprosjekt. Søknaden ble behandlet av Regional komité for medisinsk og helsefaglig forskningsetikk (REK sør-øst D) i møtet 31.10.2018. Vurderingen er gjort med hjemmel i helseforskningsloven § 10.

Prosjektleders prosjektbeskrivelse

Det er få studier på hvordan mellomledere i helsetjenesten utvikler kapasitet og kvalitet til å håndtere de komplekse prosessene i kvalitetsforbedring, og studiene som finnes er uklare på hvordan den kliniske konteksten påvirkes av mellomledernes utvikling. Dette studiet søker å identifisere og kritisk diskutere hvordan brukere og pårørende opplever at klinisk kontekst påvirkes av mellomledernes utvikling av kapasitet og kapabilitet til gjennomføring av systematisk forbedringsarbeid innen ernæring. Det vitenskapelige perspektivet er kritisk hermeneutisk. Metoder vil være fokusgruppeintervju, deltakende observasjon i kombinasjon med individuelle intervju, og dokumentanalyse. Deltakere vil være mellomledere, brukere og pårørende i kommunal institusjonstjeneste.

Vurdering

Formålet med prosjektet er å undersøke «hvordan brukere og pårørende opplever at klinisk kontekst påvirkes av mellomledernes utvikling av kapasitet og kapabilitet til gjennomføring av systematisk forbedringsarbeid innen ernæring». Komiteen vurderer at prosjektet, slik det er presentert i søknad og protokoll, ikke vil gi ny kunnskap om helse og sykdom. Prosjektet faller derfor utenfor REKs mandat etter helseforskningsloven, som forutsetter at formålet med prosjektet er å skaffe til veie "ny kunnskap om helse og sykdom", se lovens § 2 og § 4 bokstav a).

Det kreves ikke godkjenning fra REK for å gjennomføre prosjektet. Det er institusjonens ansvar å sørge for at prosjektet gjennomføres på en forsvarlig måte med hensyn til for eksempel regler for taushetsplikt og personvern samt innhenting av stedlige godkjenninger.

Vedtak

Prosjektet faller utenfor helseforskningslovens virkeområde, jf. § 2 og § 4 bokstav a). Det kreves ikke godkjenning fra REK for å gjennomføre prosjektet.

Komiteens avgjørelse var enstemmig.

Klageadgang
REKs vedtak kan påklages, jf. forvaltningslovens § 28 flg. Klagen sendes til REK sør-øst D. Klagefristen er tre uker fra du mottar dette brevet. Dersom vedtaket opprettholdes av REK sør-øst D, sendes klagen videre til Den nasjonale forskningsetiske komité for medisin og helsefag for endelig vurdering.

Vi ber om at alle henvendelser sendes inn med korrekt skjema via vår saksportal: http://helseforskning.etikkom.no. Dersom det ikke finnes passende skjema kan henvendelsen rettes på e-post til: post@helseforskning.etikkom.no.

Vennligst oppgi vårt referansenummer i korrespondansen.

Med vennlig hilsen

Finn Wisløff
Professor em. dr. med.
Leder

Silje U. Lauvrak
Rådgiver

Kopi til: trude.a.hartviksen@nord.no
Nord universitet ved øverste administrative ledelse: postmottak@nord.no

Appendix 8 Informed Consent Study II

Forespørsel om deltakelse i forskningsprosjektet "Kunnskapsutvikling i læringsnettverk"

Bakgrunn og formål

Formålet med denne studien er å utforske hvordan deltagelse i et faglig nettverk for ledere påvirker deltagerne av nettverket i deres jobb som ledere i helsetjenestene.

Gjennom et intervju som vil foregå i en gruppe sammen med dine kollegaer, ønsker vi å spørre deg om erfaringene du har med deltagelsen i nettverket. Gjennom analyse og tolkning av resultatene fra intervjuet ønsker vi å forstå hvordan nettverket påvirker den enkelte i sin utvikling som leder, og hva et nettverk kan bidra med i lederutvikling generelt.

Som medlem av Forbedringsnettverk xxx ønsker vi din deltagelse.

Hva skjer med informasjonen om deg?
All informasjon vil bli behandlet konfidensielt. Det vil bli laget et lydopptak av intervjuet, samt laget skriftlige notater. Det er kun forskerne Trude Hartviksen og Berit M. Sjølie som vil ha tilgang til lydopptak og notater. Lydopptak og notater vil i sin helhet bli slettet når analysen av intervjuet er ferdigstilt, og senest ved publisering av resultat fra studien. Underveis i prosessen vil lydopptak og notater oppbevares i låsbart skap, og adskilt fra navn på deltagerne.

Resultater fra studien vil bli publisert som gruppedata, uten at den enkelte som har bidratt med opplysninger kan gjenkjennes. Studien vil bli publisert som en vitenskapelig artikkel med åpen tilgang på internett.

Prosjektet skal etter planen avsluttes desember 2015.

Frivillig deltakelse
Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli slettet. Dersom du avstår fra deltagelse vil det ikke ha innflytelse på din deltagelse i Forbedringsnettverk xxx.

Dersom du har spørsmål til studien, ta kontakt med Trude Hartviksen. Telefon 957 23 174

Studien er vurdert som ikke meldingspliktig til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

---

(Signert av prosjektdeltaker, dato)

☐ ***Jeg samtykker til å delta i intervju***

☐ ***Jeg samtykker til at informasjonen som fremkommer kan publiseres***

Appendix 9 Informed Consent Study III

Du inviteres til å delta i forskningsprosjektet

"Lederutvikling – egenutvikling eller tjenesteutvikling"

Informert samtykke til behandling av personopplysninger om deg som deltar i et forskningsprosjekt med observasjon, intervju og fokusgruppeintervju

Du er invitert til å delta i et forskningsprosjekt hvor formålet er å diskutere hvordan klinisk kontekst påvirkes av mellomledernes utvikling av kapasitet og kapabilitet til systematiske forbedringsarbeid, eksempelvis innen ernæring.

I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Hvorfor får du spørsmål om å delta?
xxx kommune har tatt initiativ til et samarbeid med Nord Universitet om dette forskningsprosjektet.

Alle mellomledere i institusjonstjenesten er forespurt om deltakelse etter tillatelse og kontaktopplysninger fra enhetsledere.

Hva innebærer det for deg å delta?
Deltakelse innebærer to ulike fokusgruppeintervju ledet av stipendiat Trude Anita Hartviksen, ett ved oppstart, og ett ved avslutning. Universitetslektor Berit Mosseng Sjølie vil assistere. Du kan også bli forespurt om å delta i et individuelt intervju. Hvert intervju forventes å vare en time. Det vil bli tatt lydopptak og notater. Alt vil foregå rundt et hyggelig kaffebord, vi kommer tilbake til møtested.
I tillegg vil stipendiat Trude Anita Hartviksen delta som observatør i avdelingen din med fokus på mellomledelse i en periode på maksimalt tre uker våren 2019. Her vil hun bruke notatblokk.

All informasjon vil bli anonymisert med deltakernummer fra første skriftlige nedtegnelse. Aldersspenn og kjønn i gruppen vil registreres, men ikke kobles opp mot deltakernummer.

Involvering av brukere
Vi vil også invitere brukere og pårørende til fokusgruppe og individuelle intervju. De vil bli spurt om hvordan de opplever at deres tjeneste påvirkes av mellomledernes utvikling av kapasitet og kapabilitet til systematisk forbedringsarbeid, eksempelvis innen ernæring. Det blir tatt lydopptak og notater.

Det er frivillig å delta i prosjektet
Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi 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
Deltakelse i fokusgrupper forutsetter taushetsplikt. Vi vil bare bruke opplysninger om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Kun stipendiat og veiledere vil ha tilgang. Deltakerne vil ikke kunne gjenkjennes i publikasjoner.

Prosjektet skal etter planen avsluttes 31.12.19. Lydopptak vil deretter bli slettet. Transkribert anonymisert datamateriale vil bli oppbevart i en femårsperiode hvis datamaterialet krever flere publikasjoner. Ingen personopplysninger vil bli oppbevart. Vi behandler opplysninger om deg basert på ditt samtykke. Så lenge du kan identifiseres i datamaterialet, har du rett til innsyn, å få rettet eller slettet, og å få kopi av dine registrerte personopplysninger. Behandlingen av personopplysninger kan påklages til personvernombudet eller Datatilsynet. 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.

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 stipendiat Trude Anita Hartviksen (trude.anita.hartviksen@nord.no), 95723174

Veiledere er:
Professor Lisbeth Uhrenfeldt (lisbeth.uhrenfeldt@nord.no) og professor Jessica Aspfors (jessica.m.aspfors@nord.no)

Vårt personvernombud Toril Irene Kringen kan kontaktes på personvernombud@nord.no.

NSD – Norsk senter for forskningsdata AS, personvernombudet@nsd.no, 55582117

På forhånd takk

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet Lederutvikling – egenutvikling eller tjenesteutvikling, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i fokusgruppeintervju
- ☐ å delta i individuelt intervju
- ☐ å delta i deltakende observasjon

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. 31.12.19

(Signert av prosjektdeltaker, dato)

Du inviteres til å delta i forskningsprosjektet

"Lederutvikling – egenutvikling eller tjenesteutvikling"

Informert samtykke til behandling av personopplysninger om deg som deltar i et forskningsprosjekt med observasjon, intervju og fokusgruppeintervju

Du er invitert til å delta i et forskningsprosjekt hvor formålet er å diskutere hvordan hverdagen for den som bor på sykehjemmet påvirkes av mellomledernes evne og mulighet til forbedringsarbeid, eksempelvis innen ernæring.

I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Hvorfor får du spørsmål om å delta?
xxx kommune har tatt initiativ til et samarbeid med Nord Universitet om dette forskningsprosjektet.

Du forespørres som bruker eller pårørende i institusjonstjenesten i xxx.

Hva innebærer det for deg å delta?
Deltakelse innebærer to ulike fokusgruppeintervju ledet av stipendiat Trude Anita Hartviksen, ett ved oppstart av studiet, og ett ved avslutning. Universitetslektor Berit Mosseng Sjølie vil assistere. Hvert intervju forventes å vare en time. Det vil bli tatt lydopptak og notater. Alt vil foregå rundt et hyggelig kaffebord, vi kommer tilbake til møtested.

I tillegg vil stipendiat Trude Anita Hartviksen delta som observatør i avdelingen din med fokus på mellomledelse i en periode på maksimalt tre uker våren 2019. Her vil hun bruke notatblokk.

All informasjon vil bli anonymisert med deltakernummer fra første skriftlige nedtegnelse. Aldersspenn og kjønn i gruppen vil registreres, men ikke kobles opp mot deltakernummer.

Deltakelse av mellomledere
Vi vil også invitere mellomledere på sykehjemmet til fokusgruppe og individuelle intervju. Det blir også der tatt lydopptak og notater. Mellomlederne vil bli spurt om hvordan de opplever at tjenesten påvirkes av egen utvikling av evne og mulighet til systematisk forbedringsarbeid, eksempelvis innen ernæring.

Det er frivillig å delta i prosjektet
Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi 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
Deltakelse i fokusgruppene forutsetter taushetsplikt. Vi vil bare bruke opplysninger om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Kun stipendiat og veiledere vil ha tilgang. Deltakerne vil ikke kunne gjenkjennes i publikasjoner.

Prosjektet skal etter planen avsluttes 31.12.19. Lydopptak vil deretter bli slettet. Transkribert anonymisert datamateriale vil bli oppbevart i en femårsperiode hvis datamaterialet krever flere publikasjoner. Ingen personopplysninger vil bli oppbevart. Vi behandler opplysninger om deg basert på ditt samtykke. Så lenge du kan identifiseres i datamaterialet har du rett til innsyn, å få rettet eller slettet, og å få kopi av dine registrerte personopplysninger. Behandlingen av personopplysninger kan påklages til personvernombudet eller Datatilsynet. 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.

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 stipendiat Trude Anita Hartviksen (trude.anita.hartviksen@nord.no), 95723174

Veiledere er:
Professor Lisbeth Uhrenfeldt (lisbeth.uhrenfeldt@nord.no) og professor Jessica Aspfors (jessica.m.aspfors@nord.no)

Vårt personvernombud Toril Irene Kringen kan kontaktes på personvernombud@nord.no.

NSD – Norsk senter for forskningsdata AS, personvernombudet@nsd.no, 55582117

På forhånd takk

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet Lederutvikling – egenutvikling eller tjenesteutvikling, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i fokusgruppeintervju
- ☐ å delta i deltakende observasjon
- ☐ at min pårørende _____ deltar i fokusgruppeintervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. 31.12.19

(Signert av prosjektdeltaker, dato)

Part 2

The four articles this dissertation is based on

1a. Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2017). Experiences of healthcare middle managers in developing capacity and capability to manage complexity: a systematic review protocol. *JBI Database of Systematic Reviews and Implementation Reports, 15*(12), 2856-60. doi:10.11124/JBISRIR-2016-003286.

1b. Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2019). Healthcare middle managers' experiences of developing capacity and capability: a systematic review and meta-synthesis. *BMC Health Services Research, 19*(1), 546.3. doi:10.1186/s12913-019-4345-1.

2. Hartviksen, T. A., Sjølie, B. M., Aspfors, J., & Uhrenfeldt, L. (2018). Healthcare middle managers' experiences developing leadership capacity and capability in a public funded learning network. *BMC Health Services Research, 18*(1), 433. doi:10.1186/s12913-018-3259-7.

3. Hartviksen, T. A., Aspfors, J., & Uhrenfeldt, L. (2020). Healthcare middle managers' capacity and capability to quality improvement. *Leadership in Health Services*, 33(3), 279-94. doi:10.1108/LHS-11-2019-0072.

Experiences of healthcare middle managers in developing capacity and capability to manage complexity: a systematic review protocol

Trude Anita Hartviksen[1] · Jessica Aspfors[2] · Lisbeth Uhrenfeldt[1,3]

[1]Faculty of Nursing and Health Sciences, Nord University, Bodø Norway, [2]Faculty of Education and Arts, Nord University, Bodø Norway, and [3]Danish Center of Systematic Reviews: a Joanna Briggs Institute Centre of Excellence, the Center of Clinical Guidelines–Clearing House, Aalborg University, Aalborg, Denmark

Review question/objective: The objective of this review is to explore the experiences of healthcare middle managers in developing capacity and capability to manage in a leadership role characterized by high complexity.

Keywords capability; capacity building; developing; healthcare management; leadership

JBI Database System Rev Implement Rep 2017; 15(12):2856–2860.

Background

Healthcare middle managers

Healthcare middle managers (HMMs) are the first line managers and leaders closest to everyday clinical practice. This review will include HMMs in public healthcare services. Healthcare middle managers have an important role in translating top-level policies, strategies and resources into practical improvements. Turnover and shortage of personnel, engagement, motivation and the results of the workplace are all closely associated with healthcare management.[1-4]

Management in this review is defined as the process of achieving predetermined objectives through human, financial and technical resources.[1] Leadership on the other hand is understood as the process of engaging with others to achieve group objectives.[1] Healthcare middle managers are required to combine both management and leadership skills in their roles. This review will focus on HMMs' experiences of developing capacity and capability related to both topics.

The job as HMM is demanding. Multiple sources describe how knowledge in economics, technology, sociocultural systems and politics is needed in this role.[1,5-8] Moreover, HMMs are expected to have capacity and capability in communication, negotiation, analysis, developmental strategizing, problem solving, leadership, risk management and networking.[1,3-7,9,10] Capacity in this review is understood as HMMs' knowledge and methods, and the ability to translate knowledge into practical clinical improvements. Capability on the other hand includes driving force, strategy, power, willpower and motivation.[11]

Healthcare management has traditionally been characterized by strategic planning, and concrete tasks, in a leadership structure based on hierarchical and linear models, with command and control principles, top-down supervision and little room for creativity.[3,10-13] Lately, these models have been criticized due to their lack of ability to account for highly complex healthcare organizations.[3,10-15] Recent research suggests flexibility among leadership styles as the most essential skill in healthcare leadership, as different leadership styles evoke various responses in different situations.[18] Flexibility is thus an essential leadership skill central to HMMs' capacity and capability.

Traditionally, healthcare middle management has been performed in addition to, and often overshadowed by, more visible clinical tasks related to patient needs.[1,6,7] Healthcare middle managers have been expected to be self-taught in leadership,[18] and to develop capacity by individual leadership training. This does not correspond with the complexity of the job.[16] Complexity in this review describes healthcare as complex adaptive systems comprising groups of

Correspondence: Trude Anita Hartviksen, trude.anita.hartviksen@nord.no

There is no conflict of interest in this project.

DOI: 10.11124/JBISRIR-2016-003286

individual agents with the freedom to act in unpredictable ways. These actions are interconnected so that one agent's actions change the context for the other agents.[18] Healthcare middle managers' backgrounds have often been clinical, with limited health management qualifications, experience or support.[1,14] Their capacity and capability in leadership have been limited, thus needing development.[1,6,14,22] As this has been neglected in existent literature, investigating how HMMs gain the capacity and capability to succeed in their role is a phenomenon of interest to this research project.

Complexity

There is increasing complexity in healthcare services. This increasing complexity involves emerging new principles.[3,10,20,21] At the clinical or micro level, the introduction of integrated healthcare illustrates this. Integrated healthcare is based on a stronger first level of care, with multidisciplinary teams, user involvement, and a municipal healthcare in close interaction with specialized care.[20-22] In hospitals, care is evolving from the traditional fragmented specialist model to that organized around processes, clinical pathways, integrating evidence-based medicine and a focus on treating persons – not diseases or organs. The increasing complexity requires up-to-date knowledge, new approaches to leadership, and new methods to improve patient care.[3,10,20-27] This changes the context for healthcare middle management.

The growing complexity takes place in a society that is also rapidly changing.[10,21] The 20th century has been described as the information age, with increasing technology, and with strategic planning as a central feature of healthcare management. Today, society changes so fast that planning and anticipating the next change is challenging.[10] This shifting context adds to the complexity in HMM.

This picture of a rapidly changing complex context gives us an understanding of why capacity and capability development is essential to achieve sustainability for HMMs. It is also argued that HMMs' sustainability influences the sustainability of healthcare organizations as a whole.[7] This systematic review will therefore explore HMMs' development of capacity and capability to handle leadership in this complex context.

Developing capacity and capability

Traditionally, HMMs' development of capacity and capability has included learning specific competencies in how to undertake specific tasks, such as creating internships or reporting on economic achievement. How to achieve and apply these specific competencies within a complex and changing organization has not received adequate attention.[6] Suggested strategies have been system thinking, personal mastery, mental models, building a shared vision, and team learning. These strategies have been understood as cognitive, social and technical processes which include interpretation, internalization, integration and institutionalization.[26] However, healthcare middle managers' capacity and capability development in the present complex healthcare context is a field in need of more knowledge.[16,23,27]

Previous research has described numerous different approaches to capacity building, such as site-based training and mentoring programs,[29] different management systems, for instance the Lean concept,[30] periodical meetings,[9,31,32] online portals,[2] training[33,34] and coaching.[7] It has been suggested that one way to develop capacity is through cultivating oneself.[10,24] However, individual learning is necessary but not sufficient. Working in groups facilitates trust and creative thinking while simultaneously challenging commonly held approaches.[7,24] The World Health Organization (WHO) encourages resource networks and knowledge centers, and bottom-up and collaborative approaches.[28] Collaborative approaches are action-oriented, and can include face-to-face workshops, site visits and video conferencing.[6,12]

Developing healthcare middle management capacity takes time as it involves changing integrated cultures, attitudes and habits.[1] Leaders learn at varying speeds, and they need a learning environment that is psychologically safe to stimulate active involvement.[9,26] It is also crucial that HMMs have the authority and responsibility to disseminate their knowledge.[6] In this systematic review HMMs' development of capacity and capability will be explored.

The importance of a systematic review

The development of leadership and management capabilities have been recognized as fundamental to healthcare organizations. However, there are limited peer-reviewed studies on management, including quality improvement efforts, both in size, scope and rigor.[1] A systematic review, focusing on how HMMs develop capacity and capability, will be an important contribution to further the knowledge on this significant subject of knowledge transfer in

international healthcare systems. A systematic review will help policy makers and healthcare managers prioritize measures for HMMs development of capability and capacity, and inform HMMs' knowledge of leadership. The purpose is ultimately to improve the quality of the services available for users of healthcare. A preliminary search in the *JBI Database of Systematic Reviews and Implementation Reports*, the Cochrane Database of Systematic Reviews, DARE, PROSPERO, PubMed and CINAHL did not identify any current or ongoing systematic reviews on this or similar topics.

Inclusion criteria

Types of participants

This review will consider studies that include HMMs, regardless of how long they have been in the management position and their healthcare field. Healthcare middle managers are understood as leaders closest to healthcare practice, with responsibility for both clinical practice and healthcare personnel. Studies on HMMs without personnel responsibility will be excluded.

Phenomena of interest

This review will consider studies that describe, investigate or explore how HMMs experience developing capacity and capability to manage in a leadership role characterized by high complexity.

Context

This review will consider studies where the context is managing complexity in public healthcare services.

Types of studies

This review will consider studies that focus on qualitative data, including, but not limited to, designs such as phenomenology, grounded theory, ethnography, action research and feminist research.

Search strategy

The search strategy aims to find both published and unpublished studies. A three-step search strategy will be utilized in this review. An initial limited search of MEDLINE and CINAHL will be undertaken followed by an analysis of the text words contained in the title and abstract, and of the index terms used to describe articles. A second search using all included keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all included reports and articles will be searched for additional studies. Studies published in English, German, Swedish, Norwegian and Danish will be considered for inclusion in this review. Initially, studies published from 2005 to the present will be considered for inclusion in this review. The limitation is chosen due to the rapidly changing complexity in healthcare services in the last decades, including an increased focus on user involvement, and interdisciplinary and interdepartmental cooperation.[10-23]

The databases to be searched will include: CINAHL, PubMed and Scopus

The search for unpublished studies will include: Google Scholar, MedNar and ProQuest Dissertations and Theses Global.

Initial keywords to be used will be: healthcare; middle manager; first-line manager; leadership; leaders; developing; learning; capacity; capability; complexity. MeSH terms or headings will be used when possible.

Assessment of methodological quality

Qualitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using the standardized critical appraisal instrument from the Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI).[35] Any disagreements that arise between the reviewers will be resolved through discussion, or with the third reviewer.

Data extraction

Qualitative data will be extracted from papers included in the review using the standardized data extraction tool from JBI SUMARI.[35] The data extracted will include specific details about the interventions, populations, study methods and outcomes of significance to the review question and specific objectives. Authors of primary studies will be contacted if information is missing or unclear.

Data synthesis

Qualitative research findings will, where possible, be pooled using JBI SUMARI.[35] This will involve the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings rated according to

their quality, and categorizing these findings on the basis of similarity in meaning. These categories will then be subjected to a meta-synthesis in order to produce a single comprehensive set of synthesized findings that can be used as a basis for evidence-based practice. Where textual pooling is not possible the findings will be presented in narrative form.

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RESEARCH ARTICLE Open Access

Healthcare middle managers' experiences of developing capacity and capability: a systematic review and meta-synthesis

Trude Anita Hartviksen[1*], Jessica Aspfors[2] and Lisbeth Uhrenfeldt[3]

Abstract

Background: Healthcare middle managers play a central role in reducing harm, improving patient safety, and strengthening the quality of healthcare. The aim of this systematic review was to identify the present knowledge and critically discuss how healthcare middle managers experienced to develop the capacity and capability for leadership in a healthcare system characterized by high complexity.

Methods: This comprehensive systematic review provided evidence of healthcare middle managers' experiences in developing the capacity and capability for leadership in public healthcare. The three-step literature search was based on six databases and led by a PICo question. The review had a critical hermeneutic perspective and was based on an a priori published, protocol. The methods were inspired by the Joanna Briggs Institute and techniques from Kvale and Brinkmann. The results were illustrated by effect size, inspired by Sandelowski and Barroso.

Results: Twenty-three studies from four continents and multiple contexts (hospitals and municipal healthcare) published from January 2005–February 2019 were included. Based on experiences from 482 healthcare middle managers, 2 main themes, each with 2 subthemes, were identified, and from these, a meta-synthesis was developed: *Healthcare middle managers develop capacity and capability through personal development processes empowered by context*. The main themes included the following: 1. personal development of capacity and capability and 2. a need for contextual support. From a critical hermeneutic perspective, contrasts were revealed between how healthcare middle managers experienced the development of their capacity and capability and what they experienced as their typical work situation.

Conclusions: This review provides evidence of the need for a changed approach in healthcare in relation to criticisms of present organizational structures and management methods and suggestions for how to strengthen healthcare middle managers' capacity and capability for leadership in a healthcare system characterized by high complexity. Evidence of how leadership development affected the clinical context and, thus, the quality of healthcare was found to be a field requiring further research.

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Keywords: Healthcare middle manager, Leadership, Complexity, Capacity, Capability, Development, Empowerment, Systematic review, Meta-synthesis

* Correspondence: trude.a.hartviksen@nord.no
[1]Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway
Full list of author information is available at the end of the article

Background

Healthcare middle managers (HMMs) were recognized in this systematic review as the leadership level closest to everyday clinical practice [1, 2], any manager who is supervised by an organization's top manager and who supervise one level above line workers and professionals [2, 3]. This leadership level is often referred to as first or frontline leaders, nursing leaders, or clinical managers. This review included HMMs in public healthcare services. HMMs have extensive responsibility in healthcare organizations [1]. Their central position, between executives and frontline employees, makes HMMs crucial in limiting knowledge and information gaps [4, 5] and translating top-level policies, strategies and means to improve patient quality and reduce harm [6]. Positive leadership has been related to increased patient satisfaction, fewer adverse events [7, 8], lower patient mortality, medication errors and restraint use, and fewer hospital-acquired infections [8]. Nursing leadership directly and indirectly influences nurses' motivations [9]. Close to the organizational context, HMMs possess unique knowledge, skills and experience [3], depending on their individual and the organization's capacity and capability. Capacity includes individual features such as technical expertise, creative thinking skills, social skills, and organizational understanding. Capability includes what HMMs are able to implement, such as the ability to identify and define problems and handle complex contexts [10], the ability to adapt to change, generate new knowledge and continuously improve [11].

HMMs' capacity and capability have been shown to develop through several different individual and collaborative approaches. These approaches have included learning specific competencies through cognitive, social, and technical strategies, system thinking, personal mastery, mental models, the development of a shared vision, team learning, training, programmes, management systems and coaching [12]. Developing assignments, feedback and training in actual organizational challenges, and the prioritization of leadership development in the organization have proven to be good strategies [13, 14]. HMMs' development of capacity and capability involves self-awareness [14] and changing integrated cultures, attitudes and habits [12]. However, leadership development programs have had a tendency to focus on skills training and technical and conceptual knowledge, and to a lesser extent on personal growth and awareness [15].

Leadership development consists of multilevel and longitudinal dynamic complex processes [11, 14]. It has been suggested that the job satisfaction of HMMs improves through the decentralization of the organizational structure, increased organizational support from supervisors and through empowering HMMs to participate in decision making [16]. Interventions based on actions, audits, feedback, reminders and various types of education have proven to be more effective in changing professional behaviour than persuasion-based actions, such as local consensus processes and opinion leaders [17]. Quality improvement collaboratives have been widely used as an approach to shared learning and improvement in healthcare and have been shown to improve targeted clinical processes and patient outcomes [18]. Findings related to educational development and job training have been inconclusive and require further research [16]. It is claimed that the development of leadership in healthcare organizations requires a cooperative approach that achieves the best results when it incorporates the local context [19].

Healthcare is a context of increasing complexity that is generally acknowledged to be complex social systems [20]. This increasing complexity refers to a rapidly changing healthcare system with new technology and treatment methods and increasing focus on coherent, proactive person-centred services, a context that alters the prerequisites for HMMs' capacity and capability [21, 22]. The nonlinear, dynamic, and unpredictable nature of healthcare [20–24] has been described through various perspectives of system theory and complexity theory; complex adaptive systems (CAS) and complex responsive processes (CRP) are examples of these perspectives [21]. CAS describes how individual agents in healthcare systems are free to act in unpredictable and interconnected ways [25]. Stacey et al. [26] introduced CRP, which attempts to understand human organizations as processes. This approach was seen as new and necessary in order to differentiate and distance itself from the dominating understanding of human organizations as objectifying systems and rationalistic causality. CRP emphasizes human interaction as the basis of transformative organizations. The difference between CAS and CRP could be described as the difference between a mathematical (CAS) or social (CRP) perspective on complexity. The perspectives could also be combined into a contextual complexity perspective, allowing the possibility of contextually shifting between perspectives [21].

Complex systems are based on collective behaviours in dynamic networks, where continuous changes are necessary and occur regularly [27]. In this context, HMMs have experienced a shift from professional authority to managerial values, economic stress [9], dominating top-down management and a loss of involvement and autonomy. These changes have been associated with multiple reforms beginning in the 1980s that aimed to manage public service organizations using private sector principles; these reforms are known as the New Public Management approach [3, 28]. Rather than adapting the leadership style to the tasks at hand, the staff and their previous experiences, leaders tend to favour a preferred

leadership style, predominantly transactional leadership [20]. It has, however, been shown to be difficult to achieve changes through command and control strategies [27]. It has been argued that a dynamic, emerging, creative and intuitive view of healthcare should replace the traditional "reduce and resolve" perspective [25]. This approach involves developing new principles in healthcare leadership [21–24], accepting that some behaviours emerge self-organized, and accepting that minimum specifications [28], aims, limits and incentives [29] are better approaches than long-range plans and targets [28].

The expedient choice of leadership style is known to be situational. Given this understanding, the complexity in healthcare organizations requires leadership development that provides the capability to modify leadership styles [14]. Diverse leadership styles have been found to be positively associated with nurse, patient and organizational outcomes [30]. It has been suggested that healthcare needs to encourage and develop transformational [20, 31], collaborative, reflective [20] and relational leadership styles [20, 31, 32], such as authentic leadership [33]. Transformational leadership has been shown to improve patient outcomes [6], increase well-being and decrease burnout factors in staff [34]. Relational leadership has been shown to increase job satisfaction [32, 33], patient satisfaction [7], retention, work environment factors, individual production [32], structural empowerment, work engagement and trust and to decrease negative workplace behaviours and burnout [33], adverse events, medication errors, restraint use, hospital-acquired infections and patient mortality [8].

HMMs' development of the capacity and capability for leadership in the present complex healthcare context is a field in need of more knowledge [14, 35–38]. The aim of this systematic review was to identify the existing knowledge in this field and to critically discuss how HMMs experienced to develop the capacity and capability for leadership in a healthcare system characterized by high complexity.

Methods

The methodological perspective in this systematic review was a critical hermeneutic perspective [39, 40]. The critical perspective indicates that this review not only aimed to produce evidence but also to elucidate when theoretical statements represented changeable dependent relationships, which is often taken for granted. This approach involved looking for contrasts to what HMMs experienced developed their capacity and capability for leadership in relation to HMMs' life world and system world [41]. The critical perspective was supported by a critical appraisal process in which the first and third reviewer cooperated closely, and the second reviewer was available in cases of disagreement. The overall hermeneutic perspective denoted that knowledge was interpreted through the interpreters' preunderstanding, where the comprehension of the whole affected the understanding of the parts, and the interpretation of the parts was based on the comprehension of the whole [39].

All three reviewers were experienced in knowledge development. The first and third reviewers had practical experience with capacity and capability development in complex healthcare contexts and performing and researching healthcare leadership with a critical perspective [42–44]. The second reviewer was experienced in capacity building, research on teachers' professional development [45], and research on healthcare leadership with a critical perspective [44].

This comprehensive systematic review was based on an a priori published, peer-reviewed protocol [12], which implies similarities in the design and methods between this review and the published protocol. Both the review and protocol were inspired by the meta-aggregation guidelines established in the Joanna Briggs Institute (JBI) Reviewers' Manual for qualitative studies [46–48], where both the appraisal and extraction processes before the synthesis added to the critical perspective. The aggregation combined the parts into a whole that was more than the sum of the individual results, which is analogous to a meta-analysis. Based on the a priori published, peer-reviewed protocol [12], the method involved a process of seven steps: 1. formulating a PICo question (Participants, phenomena of Interest, Context), 2. developing a search strategy, 3. searching for knowledge, 4. selecting studies, 5. critically appraising studies, 6. extracting and analysing data and 7. synthesizing data [46]. These seven steps were implemented while conducting this review and were followed up through the presentation of the methods and results. To increase the trustworthiness of the results, in step 6, we calculated the effect size for each theme based on the number of studies providing evidence for each theme. The choice of calculating effect size was based on Sandelowski [49], who described how using numbers provides a better illustration of patterns, sharpens the focus, and adds to the validity by verifying analytical moves.

Search strategy

The three-step search strategy followed the a priori published, peer-reviewed protocol [12]. The search strategy was based on the following PICo question [46]: The participants (P) were HMMs, as the leaders closest to public healthcare practice, with responsibility for both clinical practice and healthcare personnel. Studies were included irrespective of how long the HMMs had been in a leadership position and regardless of their professional backgrounds. Studies of HMMs without personnel responsibilities were excluded. The phenomena of interest (I) were studies that described, investigated, or explored how HMMs experienced the development of

the capacity and capability for leadership. Thus, the review considered studies that focused on qualitative data. The context (Co) included the complexity in community and specialized healthcare and was limited to public healthcare services. The purpose of this limitation was to consider the contextual meaning of public healthcare as different from non-public healthcare [50]. The PICo question described the focus, scope and applicability of this review [46] and was used to clarify the search, as demonstrated in Table 1.

The search process started in October 2017 with step 1, which was a preliminary search identifying whether any current or ongoing systematic reviews on this or similar topics existed. No such reviews were identified. Studies published in English, German, Swedish, Norwegian, and Danish between January 2005 and February 2019 were considered for inclusion. The languages were chosen based on the reviewers' common linguistic platform. The time limitation was chosen due to the rapidly changing complexity of the last decades in industrialized countries' healthcare, including an increased focus on user involvement, interdisciplinarity, and interdepartmental cooperation [21–25, 34–36, 51–58]. Step 1 expanded the list of relevant search terms. Based on a dominant scope of nursing-related research, such search terms were included in addition to the multidisciplinary search terms. Step 1 revealed HMM to be the most common international multidisciplinary terminology to describe this level of leadership in healthcare.

In step 2, the comprehensive literature search aimed to find both published and unpublished studies [12]. Based on Sandelowski [49], we added berry-picking. The databases searched were PubMed, CINAHL and Scopus. The search for grey literature included Google Scholar, MedNar and ProQuest Dissertations and Theses Global. The searches were performed in cooperation with two university librarians from Nord University. MeSH terms (Medical Subject Headings) or headings were used when possible. The identified studies were referenced using EndNote as a selection tool. In step 3, the reference lists of the initially included studies and studies that cited the included studies were searched [49, 59]. The process of identifying relevant studies was illustrated in a PRISMA diagram (see Fig. 1). Table 3 summarizes the selected studies.

Critical appraisal

The retrieved qualitative studies were assessed by two independent reviewers (reviewers 1 and 3) using the standardized ten-item critical appraisal checklist from the JBI: The Qualitative Assessment and Review Instrument (JBI-QARI). A four-point scale (yes, no, unclear, and not applicable) was applied [46]. For questions 1–5, the retrieved studies were assessed for congruity among their stated philosophical perspective, research methodology, research objectives, data collection methods, representation and analysis of data, and the interpretation of their results. For questions 6–10, the studies were assessed to culturally or theoretically locate the researcher and to address the researcher's influence in order to obtain an adequate representation of participants, ethical issues, and whether the conclusions flowed from the interpretation of data. There were few differences between the reviewers. Those differences that arose were caused by differences in reading the descriptions in the primary studies of the methodology and methods and were resolved through discussions. Table 2 presents the results and percentage achievement from the critical appraisal.

Data extraction

The data from the included studies were extracted to a developed meta-summary scheme, which was inspired by the JBI, the System for the Unified Management, Assessment and Review of Information (JBI-SUMARI) [46], which is illustrated in Table 3. The extracted data included specific details about the studies' origin, aim, participants, methods, context and the results of the

Table 1 PICo question and search terms

	Participants: Healthcare middle managers	*Boolean operator:*	Interest of phenomena: Developing the capacity and capability for leadership	*Boolean operator:*	Context:Complexity in public healthcare services
Search terms, step 1	Middle manager OR First-line manager OR Leadership ORLeaders	*AND*	Developing OR Learning OR Capacity OR Capability OR	*AND*	Healthcare OR Complexity
Final search terms, step 2	Leaders* OR Nurse leaders* OR Nurse administrators OR Nurse manage* OR Hospital administrators OR Health facility administrators OR Middle manage* OR Nursing manage* OR Personnel manage* OR Quality manage*	*AND*	Capacity building OR Capabilities OR Competence OR Development	*AND*	Health care OR Health care system OR Healthcare system OR Public sector OR Health care sector OR Delivery of Health Care OR Delivery of healthcare OR Healthcare delivery OR Health care delivery OR Complexity

*Indicates truncation; cutting the end of the search term to expand the search

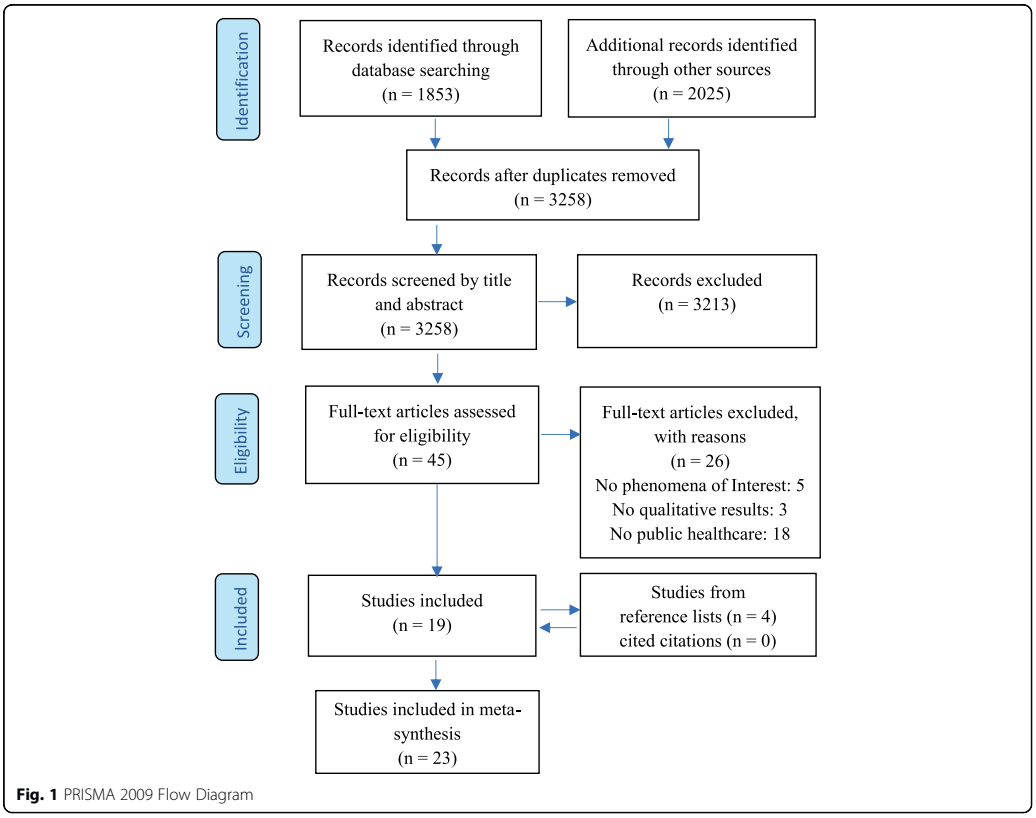

Fig. 1 PRISMA 2009 Flow Diagram

significance to the review question. Only aims and results related to HMMs' development of capacity and capability for leadership were summarized. Only qualitative results were summarized in the included mixed-method studies ($n = 3$).

Data analysis and meta-aggregation

The included qualitative research results were analysed with meaning condensation, which was inspired by Kvale and Brinkmann [81]. This analysis involved an aggregation and synthesis of the results in a critical process, which was a back and forth movement between the parts and the whole, searching for contrasts [40] in what HMMs experienced in the development of their capacity and capability for leadership. First, the included studies were read through until a sense of the whole was reached. Second, the extracted results, participant quotations [49] and paraphrases by the authors were aggregated. Third, in a collaboration among the three reviewers, these results were themed into subthemes and themes by similarity of meaning. The process continued until trustworthy themes were reached [39]. The themes were finally subjected to a meta-synthesis producing a single comprehensive set of synthesized results [46] and the effect size was calculated [49]. This process is illustrated in Table 4.

Results

The literature search of six databases identified 1853 studies. The search in the grey literature added 2025 studies. No relevant home pages were found [49, 59]. After duplicates were removed, the total number of studies was 3258. Screening by title and abstract excluded 3213 studies. The excluded studies did not meet the criteria of the PICo question used in this review: they did not involve HMMs or public healthcare, or they had quantitative designs. A total of 45 full-text articles were assessed for eligibility, and 26 were excluded. Of these articles, five had a different phenomenon of interest, three had no qualitative results, and 18 did not involve public healthcare. This inclusion process yielded 19 eligible studies. Through the included studies' reference lists, we added four additional studies. Searching cited citations did not reveal further studies.

Table 2 Results from the critical appraisal of methodological quality (JBI-QARI) [46]

Results from critical appraisal of 23 studies										
Study no/ Question no	1	2	3	4	5	6	7	8	9	10
1. Bergin [60]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	*Unclear*	Yes	Yes
2. Chuang et al. [61]	Yes	Yes	Yes	Yes	Yes	Yes	*Unclear*	*Unclear*	Yes	Yes
3. Clarke et al. [62]	No	*Unclear*	*Unclear*	Yes	*Unclear*	Yes	No	Yes	Yes	Yes
4. Cummings et al. [63]	No	Yes	Yes	*Unclear*	*Unclear*	Yes	No	*Unclear*	No	Yes
5. Debono et al. [64]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
6. Dellve & Wikstrom [64]	Yes	Yes	Yes	Yes	Yes	Yes	No	*Unclear*	No	Yes
7. Dellve & Eriksson [65]	Yes	Yes	Yes	Yes	Yes	Yes	*Unclear*	*Unclear*	Yes	*Unclear*
8. Eide et al. [66]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Goodridge et al. [67]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
10. Hartviksen et al. [44]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. Hodgson [68]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12. Hyrkäs et al. [69]	Yes	Yes	Yes	*Unclear*	*Unclear*	Yes	No	*Unclear*	No	*Unclear*
13. Korhonen & Lammin-takanen [70]	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	Yes	No	Yes	Yes	Yes
14. Lavoie-Tremblay et al. [71]	*Unclear*	Yes	*Unclear*	*Unclear*	*Unclear*	Yes	No	*Unclear*	*Unclear*	Yes
15. Lunts [72]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
16. MacPhee et al. [73]	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*
17. Miltner et al. [74]	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	Yes	*Unclear*	*Unclear*	No	*Unclear*
18. Paliadelis [75]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19. Paliadelis et al. [76]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
20. Simpson [77]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	*Unclear*	Yes	Yes
21. Tistad et al. [78]	*Unclear*	*Unclear*	*Unclear*	*Unclear*	*Unclear*	Yes	No	*Unclear*	*Unclear*	*Unclear*
22. Tyan [79]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	*Unclear*	Yes	Yes
23. Udod & Care [80]	*Unclear*	*Unclear*	Yes	*Unclear*	*Unclear*	Yes	No	*Unclear*	*Unclear*	*Unclear*
In total	65%	74%	74%	65%	61%	96%	30%	43%	61%	74%

This literature search ended in February 2019 with the inclusion of 23 studies.

The critical appraisal of methodological quality using the JBI-QARI instrument (Table 2) showed that only four [44, 66, 68, 75] of the 23 studies had positive answers to all ten of the questions assessed. Two of these studies were from Norway, one was from Canada, and one was from Australia. One of these studies was published in 2005, and the other three were published between 2015 and 2018. Two of the studies [74, 78] had only one positive answer to the ten questions assessed; these studies were from the USA and Sweden and were published in 2015 and 2016, respectively.

Question 6 concerned a statement locating the researcher culturally or theoretically. This question was addressed by 96% of the respondents. Ethical considerations, as part of questions 6–10, were not described in five of the studies [63, 69, 72, 74, 82], and an additional four studies [71, 73, 78, 80] were unclear in their descriptions. Question 7 *Is the influence of the researcher on the research, and* vice versa, *addressed,* had a very low achievement, 30%. Of the seven studies that addressed this concern, one was from Sweden, two were from Norway, one was from Australia, two were from Canada and one was from the USA/Taiwan; all of these studies were published between 2005 and 2018. Question 8, *Are participants, and their voices, adequately represented,* had a 43% score. Of the ten studies addressing this concern, four were from Australia, two were from Norway, two were from Canada, and one each was from Finland and the United Kingdom. These studies were published between 2005 and 2018.

In the context of the JBI-QARI, six studies [61, 62, 70, 73, 77, 80] were found to have methodological weaknesses. Of these studies, two were from Finland, two were from Canada and two were from Sweden, and they were published between 2005 and 2017. As stated by Sandelowski and Barroso [49, 59], qualitative research has no consensus on quality assessment or the use of quality criteria in systematic reviews. Methodological descriptions could also be affected by the editor and the context. The increased nuances in the data were

Table 3 Meta-summary of the included studies

Author, year, country	Aim	Participants ($n = 482$) Method	Data analysis	Context	Capacity and capability are described as (Results):
1. Bergin (2009) Sweden [60]	To elucidate processes involved in the way HMMs face and deal with their work situation	10 HMMs (Nurses and physiotherapist) Individual interviews	Grounded theory (Glaser [83, 84], Glaser et al. [85], and Kvale [86])	District hospitals and municipal long-term care	Experiences of defining their own leadership limits; trusting their own assessments and valuing their own competence and experience; creating space for reflection and learning; generating a managerial identity and integrity, respect for human diversity, and self -respect; establishing authority, autonomy, power, and influence
2. Chuang et al. (2011) USA [61]	To understand organizational and relational factors that influence middle managers' support for innovation implementation processes	92 HMMs (Nurses and environmental services staff) Individual interviews and focus groups	Thematic analysis (Erzberger [87]; Miles et al. [88])	General hospital	Experiences of development of complex innovations and improved performance based on early and often information, maximized discretion, resource availability, upper management support and a learning culture
3. Clarke et al. (2012) Australia [62]	To evaluate the professional development components of the *New South Wales Health Take the Lead Program*	17 HMMs (Nurses) Qualitative questionnaires, individual telephone interviews, and focus groups	Standard quantitative methodology (no ref)	District and general hospitals	Experiences of feeling valued and empowered in an increasingly complex healthcare, developing a network, focusing on reflection, being a role model. Less administrative, more frontline leadership. Appreciation of the role and nursing as a profession, time management, concentration, better strategic planning, positive future outlook
4. Cummings et al. (2014) Canada [63]	To pilot a 2-day coaching workshop conducted as a leadership development strategy	21 HMMs (Nurses) Workshops and focus groups	Iterative approach (no ref)	Municipal long-term care	Experiences of increased intentions to be a coach and coaching skills dealing with complexity. Communication techniques, technique of leading by example. Building confidence and empowering staff. Promoting feedback processes. Trust and respect between HMMs and staff
5. Debono et al. (2014) Australia [64]	To examine the effect of the *Take the Lead Program* on Nursing Unit Managers' and Midwife Unit Managers' job performance, leadership skills and the experiences of their patients	60 HMMs (Nurses and midwifes) Individual telephone interviews	Thematic analysis (Creswell et al. [89])	District and general hospitals	Experiences of a multifaceted educational program meeting complexity which enhanced job performance, leadership skills and confidence. Some improved patient experiences. Lean thinking and communication were experienced as most valuable. Improvement in problem-solving and decision-making skills. Collaborative articulation as a result of networking
6. Dellve and Wikstrom (2009) Sweden [82]	To conceptualize how health care leaders may be supported to influence their psychosocial work environment	39 HMMs (Nurses and physicians) Individual interviews and focus groups	Grounded theory (Glaser [83], Glaser et al. [85] and Charmaz [90])	District and general hospitals and municipal healthcare	Experiences of managing complex workplace stress, socializing in formal and informal leadership strategies, strategic leadership structures and occupational identity. Networking increased dialogue, cooperation and understanding. Reflective dialogue, communication and feedback from top managers, staff and human resources. Strategic mentorship programs and multidisciplinary leader development courses. Theoretical and practical knowledge. Self-reflection. Trust. Teamwork

Table 3 Meta-summary of the included studies *(Continued)*

Author, year, country	Aim	Participants ($n = 482$) Method	Data analysis	Context	Capacity and capability are described as (Results):
7. Dellve and Eriksson (2017) Sweden [65]	To describe the theoretical framework, i.e., the theoretical underpinnings and pedagogical principles, for leadership programs that support managers' evidence-based knowledge of health-promoting psychosocial work conditions as well as their capability to apply, adapt, and craft sustainable managerial work practices	44 HMMs (Professional background not described) Individual interviews and focus groups	Unclear (no ref)	District hospitals and municipal healthcare	Experiences of providing a systematic approach for working with complex issues, knowledge and inspiration, reflective dialog. Broader perspectives and concrete tools. Support, encouragement and inspiration from peer managers. Relational coordination. Top management support. Following up at one's own workplace
8. Eide et al. (2016) Norway [66]	To develop and investigate the feasibility of a 6-week web-based ethical leadership educational program and learn from participants' experience	9 HMMs (Nurses) Focus groups	Content analysis (Elo and Kyngäs [91])	Municipal long-term care, homecare and health centres	Experiences of reflection and motivation, counteracting a feeling of loneliness and promoting the execution of change. Ethic projects, situational feedback, mindfulness exercises, I'm ok diary, actualized ethical leadership issues, and improvement proposals
9. Goodridge et al. (2015) Canada [67]	To address changes in leadership practices associated with the implementation of Lean, and how the changed practice contributes to subsequent outcomes	4 HMMs (Professional background not described) Workshop, documentary review and individual interviews	A realist coding framework (no ref)	District and general hospitals and municipal healthcare	Experiences of Lean as complex interventions, aligning aims and objectives, attention and resources to quality improvement and change management, tools, changed attitudes or beliefs about leadership, increased levels of expertise, accountability and commitment, measuring and using data effectively, creating or supporting a learning organization culture. Network. Self-confidence. Empowered by autonomy, information, support, resources and professional development
10. Hartviksen et al. (2018) Norway [44]	To identify and discuss the facilitation of HMMs' development of capacity and capability for leadership	16 HMMs (Nurses) Focus groups	Critical hermeneutic (Kvale and Brinkmann [81], Alvesson and Sköldberg [92])	General hospital, municipal long-term care and homecare	Experiences of trusted interaction despite organizational and structural frames and knowledgeable understanding of complex context, knowledge, trust, and confidence. Transformative learning, coherence, reflection, discussion, repetition, workshops, knowledge sharing, and short lectures. Network. Flexibility. Leadership plan. Changed approach to leadership
11. Hodgson (2015) Canada [68]	To explore the development of self-efficacy in nursing leaders	7 HMMs (Nurses) Individual interviews	Content analysis (Polit and Beck [93])	District and general hospitals	Experiences of horizontal mentoring and developing self-efficacy in complex healthcare systems. Confidence, knowledge, feedback, validation and communication. Observing others. Experience of choosing to sink or swim. Human resources. Relationships with others. Knowing who to call. Support from peers and superiors. Individual strategies. Reflection, following the rules and/or learning by mistakes

Table 3 Meta-summary of the included studies *(Continued)*

Author, year, country	Aim	Participants ($n = 482$) Method	Data analysis	Context	Capacity and capability are described as (Results):
12. Hyrkäs et al. (2005) Finland [69]	To explore how first-line managers see future effects of the clinical supervision intervention 1 year after its termination	12 HMMs (Nurses) Short essays	Thematic analysis (no ref)	District hospital	Experiences of positive long-term effects on leadership, leadership role, interaction and communication skills, the desire for self-development, self-knowledge and coping. A broader perspective on work in a complex context, enhanced use of clinical supervision as a supportive measure. Skills in human resource management
13. Korhonen and Lammin-takanen (2005) Finland [70]	To describe nurse managers' expectations, attitudes and experiences of web-based learning before and after participation in a web-based course	23 HMMs (Nurses) Diagnostic assignments and individual interviews	Content analysis (Cavanagh [94], Insch et al. [95])	District and general hospitals	Experiences of changed attitudes to web-based learning. Lack of recourses limited the development. Developed information technology skills. Professional development as a nurse manager, developing oneself, management skills, and written communication and interaction skills
14. Lavoie-Tremblay et al. (2014) Canada [71]	To describe managers' and health care providers' perceptions of the development of their change capacities with the Transforming Care at the Bedside Program in a university-affiliated health care organization	3 HMMs (Nurses) Focus groups and individual interviews	Guided by the interview questions, using NVivo (Polit and Beck [93], Miles et al. [88], Miles et al. [96])	District hospital	Experiences of understanding the bigger picture, structured process to lead change, learning skills, skills to engage team members, better organize and plan changes, group cohesiveness and belonging, awareness of others, work as a team, new relationships, and to make results visible
15. Lunts (2012) United Kingdom [72]	To explore what middle managers perceived as helping them in the delivery of change in one high-profile integration project	6 HMMs (Professional background not described) Individual interviews	Grounded theory (Corbin and Strauss [97])	Municipal healthcare	Experiences of progress, informal networks. Dedicated time and awareness of complexity, leadership models, help to lead change. Clear steering and vision from senior leaders. Clear structures. Trust and respect. Mental models and strategies for working in complexity. Conceptual models and practical guidance on dealing with change within complexity
16. MacPhee et al. (2011) Canada [73]	To describe nurse leaders' perspectives of the outcomes of a formal leadership program	27 HMMs (Nurses) Individual telephone interviews	Content analysis (Graneheim and Lundman [98])	District and general hospitals, municipal homecare, mental and public health	Experiences of increased self-confidence, positive changes in leadership styles, the importance of communication, reflection and discussions in complex health environments. Fulfil their leadership roles and responsibilities. Feedback from senior management. Leadership skills. Mentoring. Adding recourses and tools. Project management competencies. Change management. Workshops. Nursing focus. Interprofessional courses
17. Miltner et al. (2015) USA [74]	To describe the identified professional development needs of nurse managers in a metropolitan area in the south-eastern United States	20 HMMs (Nurses) Focus groups	Content analysis (Hsieh and Shannon [99])	District and general hospitals	Experiences of learning as you go and gaining a voice navigating complexity, and to garner support. Internal mentoring programs
18. Paliadelis (2005)	To explore nurse unit	20 HMMs (Nurses)	Voice-relational method	General hospitals	Experiences of a lack of support, individual

Table 3 Meta-summary of the included studies *(Continued)*

Author, year, country	Aim	Participants ($n = 482$) Method	Data analysis	Context	Capacity and capability are described as (Results):
Australia [75]	managers' stories about the education and support they receive in their role	Individual interviews	(Gilligan [100], Mauthner and Doucet [101], Doucet and Mauthner [102])		seeking of suitable sources of management education, peer group support. To sink or swim
19. Paliadelis et al. (2007) Australia [76]	To explore how nurse unit managers cope, what helps them in their role	20 HMMs (Nurses) Individual interviews	Unclear (No ref)	General hospitals	Experiences of lack of formal support and respect in an increasingly complex role, support within own ranks. Sink or swim
20. Simpson (2006) Canada [77]	To identify the enhancers for informal learning, create and support a culture of learning and innovation	9 managers (Number of HMMs and professional background not described) Field work, individual interviews and focus group	Several, interpretivist (Gubrium and Holstein [103], Miles et al. [88])	District hospital	Experiences of informal learning about people, values and culture, knowledge, attitudes and skills. Collaboration, networking and sharing, passion and purpose, trust. Balancing challenges, opportunities and support, learning and creativity, respect. Connection to the organization, empowerment and freedom, modelling, no blame environment, recognition, support and valuing. Conversations and storytelling
21. Tistad et al. (2016) Sweden [78]	To explore the feasibility and usefulness of a leadership intervention to support managers' implementation of clinical practice guidelines recommendations, considering the influence of the context	11 HMMs (Professional background not described) Fieldwork, individual interviews and individual telephone interviews	Content analysis (Elo and Kyngäs [91], Graneheim and Lundman [98])	Specialized hospitals	Experiences of the participation of senior and frontline managers. Both understanding and templates are required to recognize and manage complexity. Leadership plan, knowledge and skills. Limited impact on managers' behaviours or clinical practice. Increasing understanding and awareness of their vital role
22. Tyan (2010) Taiwan [79]	To examine the perspectives of Taiwanese nurse managers who participated in a US home healthcare learning tour regarding the development of home healthcare for the elderly in Taiwan and to describe the views of Taiwanese home healthcare nurse managers on empowerment within the context of home healthcare	5 HMMs (Nurses) Focus groups, self-reflective diaries, individual interviews, fieldwork, and qualitative questionnaires	Content analysis (Hsieh and Shannon [99])	District hospitals	Experiences of professional development from taking an international learning tour. Based on the complexity of patient care. Experiences of being empowered on the individual and interpersonal level, but powerless on the system level
23. Udod and Care (2012) Canada [80]	To explore the stress experiences and coping strategies of nurse managers in an acute care setting in Canada to recruit and retain individuals in nurse managers roles	5 HMMs (Nurses) Individual interviews	Content analysis (no ref)	District hospital	Experiences of less effective coping strategies. A need for infrastructure and support systems. Access to continuous professional development, flexible, respond to rapidly changing complex environment

Table 4 Identified meta-synthesis, themes, subthemes and effect sizes

Meta-synthesis: HMMs develop capacity and capability through personal development processes empowered by context				
Study number	Theme 1: Personal development of capacity and capability		Theme 2: A need for contextual support	
	Effect Size: 96% (22 of 23 studies)		Effect Size: 91% (21 of 23 studies)	
	Subtheme 1a: A learning process Effect size: 96% (22 of 23 studies)	Subtheme 1b: Identification as a confident leader Effect size: 78% (18 of 23 studies)	Subtheme 2a: Networking Effect size: 83% (19 of 23 studies)	Subtheme 2b: Empowered by upper management Effect size: 65% (15 of 23 studies)
1	+	+		
2			+	+
3	+	+	+	+
4	+	+		
5	+	+	+	
6	+	+	+	+
7	+	+	+	+
8	+	+	+	+
9	+	+	+	+
10	+	+	+	
11	+	+	+	+
12	+	+	+	
13	+	+	+	
14	+		+	
15	+	+	+	+
16	+	+	+	+
17	+		+	+
18	+		+	+
19	+		+	+
20	+	+	+	+
21	+	+		+
22	+	+	+	
23	+	+		+

(+ indicates the number of studies in which a theme is addressed, while an empty spot indicates that a theme was not addressed)

considered to be of higher value than the disadvantages of inadequate methodological quality. Therefore, no studies were excluded for methodological reasons.

Meta-summary of the extracted data

The studies were characterized by representing four continents. Nine studies came from North America [61, 64–66, 71, 73, 76, 78, 83], nine from Europe [47, 60, 62, 68, 69, 72, 77, 80, 82], four from Australia [63, 67, 70, 74], and one from Asia [79]. Eighteen of the 23 studies were published after 2009, and five were published between 2005 and 2007. Together, all of the studies included 482 participants. The participants were nurses in eighteen of the 23 studies, one study included physiotherapists, one included environmental services staff, one included midwives, one included physicians, and five of the studies did not describe the HMMs' professional backgrounds.

The methods used were mainly individual interviews [60–62, 64, 65, 67, 68, 70–73, 75–80, 82] and focus groups [44, 61–63, 65, 66, 71, 74, 77, 79, 82], but field work [77, 79, 82], qualitative questionnaires [62, 79], workshops [67, 75], documentary reviews [67], essays [69], diagnostic assignments [70] and self-reflective diaries [79] were also employed. The analyses were mainly based on content analysis [66, 68, 70, 73, 74, 78–80], thematic analysis [61, 64, 69] and grounded theory [60, 72, 82], but an iterative approach [63], realist coding framework [67], critical hermeneutic analysis [44] and voice-relational method [75] were also used. One study was guided by interview questions and utilized NVivo [71], one used several interpretivist

analyses [77], one described having used standard quantitative methodology [62], and two studies did not describe how data were analysed at all [65, 76].

The contexts of the studies included 20 studies in public hospitals of different levels and sizes, 15 studies in district hospitals (major health care facilities) [60, 62, 64, 65, 67–71, 73, 74, 77, 79, 82], twelve studies in general hospitals [44, 61, 62, 64, 67, 70, 73–76, 82] and one study in a specialized rehabilitation hospital [78]. Nine studies had a municipal healthcare context [44, 60, 63, 65–67, 72, 73, 82], including four studies in long-term care [44, 60, 63, 66], three studies in homecare [44, 66, 73], one study in a health centre [66] and one study focused on mental healthcare and public health [73].

Meta-synthesis: HMMs develop capacity and capability through personal development processes empowered by context

The meta-synthesis *HMMs develop capacity and capability through personal development processes empowered by context* incorporated the results from 23 primary studies and was built on HMMs' experiences of developing capacity and capability for leadership in a healthcare system characterized by high complexity. Two main themes were developed. The first main theme, *personal development of capacity and capability,* illustrated the development of capacity and capability through two subthemes: "a learning process" and "identification as a confident leader". This main theme illustrated how HMMs experienced a personal drive for development on several levels with the purpose of maintaining leadership in a complex and changing context. The second main theme, *a need for contextual support,* was based on two subthemes: "networking" and "empowered by upper management". This main theme illustrated how HMMs' development processes were influenced by whether they experienced being in an empowering context, including by upper management and internal and external networks (see Fig. 2). The main themes had an effect size of 96 and 91%, respectively, and the subthemes were represented in no less than 65% of the studies (Table 4).

Personal development of capacity and capability

Personal development of capacity and capability was experienced as a gradually changing process, adapting to a rapidly changing and complex context. This experience was described as a personal process that included acquiring the necessary competence involved in this process and finding oneself as a HMM, developing self-esteem, self-confidence and identity. This theme had two subthemes, a learning process and identification as a confident leader.

A learning process

The subtheme a learning process was present in 22 of the 23 studies when the development of capacity and capability was experienced as involving knowledge [44, 64, 65, 68–70, 77, 78, 82], reflection [44, 60, 62, 66, 68, 73], learning [44, 60, 68, 71, 77], self-knowledge [69, 82], concentration [62], passion, creativity [77], inspiration [65] and motivation [66]. This development was described as a learning process including coherence, flexibility, repetition, and short lectures [44]. The process was elaborated by one HMM:

> *"Through reflections and discussions, I have become more conscious on my way of leading and how it can have consequences on employee health* [65]*".*

The development of capacity and capability involved skills in engaging team members [71], promoting feedback processes and coaching [63], and developing skills in human resources [68, 69], leadership [72, 73], problem

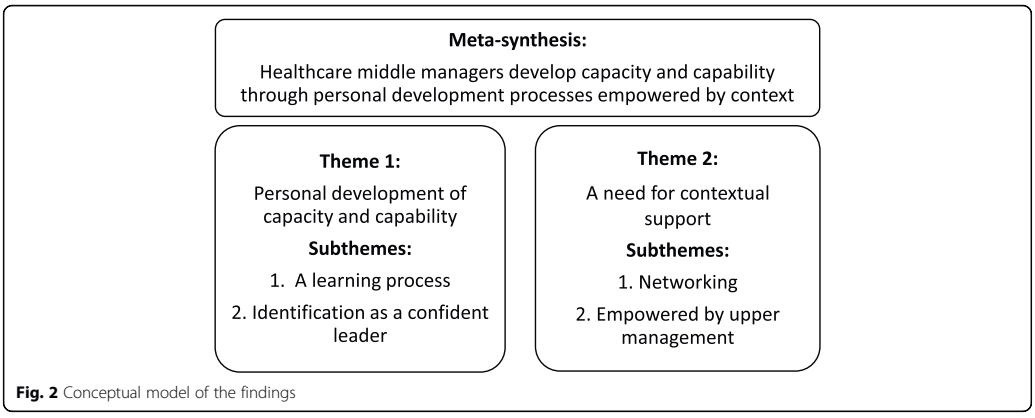

Fig. 2 Conceptual model of the findings

solving and decision making [64]. This development also involved skills in time management [62], project management [73], web-based learning and information technology [70]. HMMs experienced ineffective coping strategies [68, 80] and found that the development of effective coping strategies was useful [69]. Furthermore, the development of these skills involved proficiency in quality improvement, in the creation of a structured process to plan, lead and organize change [66, 67, 71–73, 80], in aligning aims [67, 77] and in achieving visible results [71]. It was also shown that HMMs developed positive prospects [62], progress [72] and the ability to balance challenges and opportunities [77]. The development of these skills was exemplified by one HMM:

> *"I think that my leadership skills were there, however, they were developed further and helped me to increase the capability of what I was able to do and how I was able to grow as a leader* [73]*".*

Several tools [65, 67, 73] were found to develop these skills, such as the Lean methodology [64], mental and conceptual models [72], learning tours [79], situational feedback, mindfulness exercises, an "I'm ok" diary [66] and clinical supervision [69]. The development of capacity and capability was experienced as providing broader perspectives [65, 69], understanding the bigger picture [71], and respecting human diversity [60]. The elements in these experiences of developing capacity and capability were contrasted by narratives from the participants' typical work situations. As one HMM explained:

> *"…in our work environment, especially in health care, we're on a very strict deadline and there's always a million and one things you need to complete in a day. And yes, production is one thing but if you don't have time to reflect on your practices then you're never going to change, you're never going to improve the practice* [62]*".*

HMMs considered access to continuous professional development important [80]. The results showed experiences of sink or swim [68, 75, 76], learning as you go [74, 82], and a personal need to seek management education [75].

Identification as a confident leader

The subtheme identification as a confident leader was present in 18 of the 23 studies when HMMs in the included studies experienced the development of capacity and capability as defining their personal leadership limits through establishing authority [60], changing attitudes, beliefs and knowledge [77, 78] about their role as a leader [69, 73, 78] and leadership [44, 67], and developing a leadership identity [60]. The start of this personal development process was described by one HMM as follows:

> *"I didn't know a lot of things nor the expectations of Nursing Unit Managers or ability required … You come into the role without knowledge and expectations of role* [64]*".*

Entering the leader role, HMMs experienced a lack of self-confidence [44, 63, 64, 67, 68, 73]. Development occurred at the personal [60, 69, 70], managerial [60, 62], occupational [62, 82] and professional [79] levels and included confidence [44, 63, 64, 67, 68, 73], enhanced job performance and changes in leadership [64, 69, 70, 78], leadership styles [73] and leadership models [72], being a role model [62, 63, 77], gaining a voice [74], staff empowerment [63], accountability and commitment [67].

In 17 of the 23 studies [44, 61–65, 67–69, 72–74, 76, 78–80, 82] the purpose of the experienced development process was to contend with healthcare complexity. This development led to an increased intention to be a coach [63], less administrative, and more frontline, leadership [62], and dedicated time for and awareness of this complexity [72]. This result of the personal development process was described by one HMM as follows:

> *"I don't get very uptight about all those orders we get, instead I say yes, yes we've seen this before, now we'll wait and see. So, the worst of it passes, because, like I usually say, what applies today doesn't always apply tomorrow* [60]*".*

A need for contextual support

Although the development of capacity and capability was experienced as a personal process, the results showed that this process did not occur by itself. These results converge in the second main theme: a need for contextual support. This theme was experienced as a development of capacity and capability influenced by HMMs' organizational and human contexts. This theme had two subthemes: networking and empowered by upper management.

Networking

The subtheme of networking was clearly present when HMMs described networks [44, 62, 64, 67, 77], workshops [44, 73] and multidisciplinary leader development courses [73, 82] as advancing their development, as well as when relational factors such as communication [63, 64, 68–70, 73], interaction [69, 70], reflective dialogue [65, 82], team work [71, 82], discussions [44, 73], conversations and storytelling [77], observing others [68, 71], group cohesiveness and new relationships [71] were

brought forward. One HMM described the meaning of networking as follows:

> *"The workshop has been very helpful from the networking side. You know there are Nurse Unit Managers all over the state with the same issues. You know you don't think that you're alone. Sometimes there, particularly out in the rural areas you feel like the problems that you're facing are different from the problems that they're facing in metropolitan areas or, you know, remote areas. But they're not, a lot of them are much the same. So that's been very helpful* [62]*".*

A learning culture [61, 67] with support and encouragement from peer managers [65, 68, 75, 76], mentoring [68, 73, 74, 82], collaboration and sharing [64, 77], relational coordination [62, 66], feedback from staff [68, 82] and human resources [82] was experienced in the development of capacity and capability. Horizontal and vertical mentoring were valued [68]. Networks increased dialogue, cooperation and understanding [82], and knowledge sharing and were described as enhancing trusted interactions despite organizational and structural frames, providing a knowledgeable understanding of a complex context [44]. Informal networks were also found to aid in development [72].

The importance of networking was contrasted by narratives from the participants' typical work situations, where HMMs described a feeling of loneliness [62, 66]. The development related to networks was experienced as important to be followed up at HMMs' own workplaces [65]. The results showed some improved patient experiences [64] and limited impacts on managers' behaviours or clinical practices [78]. The reason for this result was explained by one HMM:

> *"Some Nursing Unit Managers haven't been able to make changes because they simply haven't had the time* [64]*".*

Empowered by upper management

The subtheme empowered by upper management was presented by HMMs who experienced the need for resources [61, 67, 68, 70, 73], clear steering and vision, leadership structures [72, 82], plans [44, 78], information [61, 67], strategies [62, 82], communication [82], infrastructure [80] and rules [68]. A connection to the organization [77], maximized discretion [61], and a no-blame environment [77] were also among the results.

To develop capacity and capability, support [61, 65, 67, 68, 77, 80], trust [44, 63, 72, 77, 82], respect [60, 63, 72, 76, 77], feedback [68, 73, 82], influence [60], freedom [77] and participation [78] were experienced as central. The experiences of being empowered were described by one HMM:

> *"We've had certain budget frameworks, of course, but besides that, we've been free to develop the organization the way we want to ourselves, as long as we've abided by the stipulated preconditions. And for that reason, I've been able to influence my job an awful lot* [60]*".*

The need to be empowered by upper management was contrasted when HMMs experienced a lack of support [66, 68, 75, 76, 82] and feedback [66] from upper management and described that this had to be garnered [74]. HMMs experienced a need to be recognized, valued and empowered [62, 77] through autonomy [60, 67] and professional development [67]. One study described an experience of being empowered on the individual and interpersonal level but powerless on the system level [79]. The lack of support from upper management was explained by one HMM as follows:

> *"I have to say that I have been through some crises here and I haven't had support from anyone, no one in admin cared. I do try to deal with issues, but they're no help, I'd hate to see anyone else go down the same path* [76]*".*

Discussion

This systematic review and meta-synthesis of 23 primary studies aimed to identify existing knowledge and critically discuss how HMMs experienced the development of the capacity and capability for leadership in a healthcare system characterized by high complexity. This meta-synthesis provided evidence of the development of capacity and capability based on a personal development process reinforced by an empowering context. In the following section, contrasts in the results are discussed from a critical hermeneutic perspective and in the context of the existing research. Finally, methodological considerations, strengths, limitations, and implications are discussed.

Contrasts in the results of this meta-synthesis

The first main theme, *personal development of capacity and capability,* showed contrasts related to how HMMs described their need to develop a capacity and capability for leadership and how they experienced that their current complex organizational context in healthcare provided them the opportunity for such development. HMMs described their life world [40] as a feeling of being insecure and learning by doing, with a lack of leadership competence in approaching the position. Despite existing broad knowledge about the central role that competent HMMs have in healthcare [1–9], the results showed that it was left to chance and HMMs' own initiative whether the necessary leadership skills were present or developed.

Although HMMs strove to develop their capacity and capability, the results did describe a personal development process. This meta-synthesis added new knowledge about the importance of building self-confidence as a HMM to develop capacity and capability. Reflection and interaction were experienced as important catalysts for these processes. In contrast, the results illustrated how HMMs experienced a life world [40] with a task-related typical work situation, which did not allow for time for reflection. HMMs experienced a lack of self-confidence in leadership, where upper management, as a part of the system world [40], had put them in a role they did not have the prerequisites to fulfil. These results suggest that although we have broad knowledge about healthcare as complex systems [20], this knowledge is not integrated in practice. This could be understood as examples of changeable dependent relationships that are taken for granted in the present healthcare system [41] and that are not to be questioned. Thus, healthcare remains guided and structured in traditional ways, despite the rapid changing and increasingly complex context [21, 22]. Consequently, the development of HMM's capacity and capability will also be aimed towards the dominating task-oriented transactional leadership style and needs to be complemented with the capacities and capabilities of the more relational and transformative leadership perspectives [7, 8, 31, 34].

The second main theme, *a need for contextual support*, showed contrasts related to how HMMs described networks and to be empowered by upper management as essential to developing capacity and capability and how they experienced the lack of these in their present healthcare contexts. One study described how HMMs felt they needed to garner support [74], while another study described HMMs as powerless on the system level [79]. HMMs experienced support and feedback from their peer HMMs, but several studies described a lack of empowering support and feedback from upper management [66, 68, 75, 76, 82]. These results added to the existing knowledge describing a dominating top-down management in healthcare, HMMs' loss of involvement and autonomy [3, 28], and the relevance of a change in leadership styles where transformative [7, 31] and relational leadership [8, 31] are argued to better relate to the present complex healthcare systems [7, 31]. Communicative rationality can only be accomplished through bottom-up social interaction, since the reality is known only to the participants of the processes [40]. Several of the included studies [44, 62, 64, 67, 77] described how HMMs experienced participation in different forms of networks as developing. Additionally, other relational aspects linked to interaction were emphasized as crucial. These issues stand out in contrast to HMMs' life world experience of loneliness in their leadership role [62, 66] and added to the knowledge about complexity in interactions and complex systems based on dynamic networks [27].

These results show how healthcare are not recognized as unique and complex contexts, but instead are dominated by traditional management and organizational structures. The complexity in itself causes HMMs to take hold of their own development from the experience of not having the capacities and capabilities that are necessary, but they experience as though they stand alone in this process. In summary, the results elucidated a need to change the structures and approaches in the context of HMMs and in how HMMs are appointed and supported to ensure a strengthening development process in their leadership.

Methodological strengths

The methodological strengths of this systematic review included a structured search of the literature and an examination of each primary study using the critical appraisal instrument JBI-QARI [46]. The a priori published, peer-reviewed protocol [12] and collaboration with two university librarians secured a well-prepared search and enhanced the study's dependability and trustworthiness. The inclusion of sources from the grey literature extended the search base with studies not published in known databases, such as monographs, books, reports, guidelines or recently completed studies [49, 59]. Two different researchers, the first and third reviewers, conducted separate critical assessments of the primary studies and discussed the results until a common conclusion was reached. Despite noted methodological weaknesses, no studies were excluded. This approach protected against the loss of valuable data caused by primary studies' shortcomings in the implementation and/or presentation of methodological choices. The critical appraisal showed that question 6, a statement culturally or theoretically locating the researcher, was addressed by 96%. This result is especially high and may represent a need to place the research and researcher, which is a recognized issue in qualitative research [92].

The included studies used different methods for qualitative data collection and analysis. This approach provided the review with an overall breadth and depth of knowledge, where different entrance points were used to arrive at the results. The included studies originated from several different contexts, nationalities and continents in developed Western countries and showed surprising homogeneity in the presented experiences of the participants. Thus, this evidence points to directions for approaching the future development of HMMs' capacity and capability in both municipal healthcare and hospitals from an international perspective.

This systematic review benefited from the JBI Reviewer's Manual [46] and Sandelowski and Barroso's comprehensive framework for qualitative research synthesis [49]. The

JBI revised model [46] clarified the conceptual integration of evidence generation, synthesis, transfer and implementation [48]. This model and manual added to the transparency of the review, as they provided a comprehensive guide to conducting and structuring the a priori published, peer-reviewed protocol [12]. The JBI-QARI [46] enhanced the dependability by providing methodological guidance on the critical assessment process. Sandelowski and Barroso's framework helped advance the knowledge and develop the theory based on primary studies by aggregating target findings and offering valid guidelines for a meta-synthesis. Following the seven-step procedure added to the trustworthiness of the results by enhancing dependability [59]. Credibility was enhanced by quotations representing the participants in the primary studies and the collaboration among three different experienced researchers from different professions.

Methodological limitations

The methodological limitations of this systematic review included that healthcare leadership and management are described by several and diverse concepts. The three-step search strategy following an a priori published, peer-reviewed protocol [12] defined and utilized an extensive range of them. However, we cannot exclude the possibility that using other search terms could have helped identify other contributions.

The search process included the identification of a larger number of articles (2025) from sources other than articles found in ordinary databases (1853). This approach could be seen as a sign of an inadequate search strategy, since a structured search would be expected to result in a larger number of findings. However, this is mainly the matter in the health sciences. This review presented healthcare leadership as a broad field of interest for different research traditions. As examples, Simpson [77] wrote in the field of adult education, and Tyan [79] wrote in the field of philosophical tradition. Additionally, the exclusion of 3213 studies after the screening of titles and abstracts could indicate a lack of search precision. However, this result is more likely a sign of a lack of a common language and keywords across disciplines. The sources of grey literature (Google Scholar, MedNar and ProQuest Dissertations and Theses Global) had fewer opportunities to limit the search [46]. These sources produced many irrelevant studies, which were excluded, but they also produced valuable studies not identified through other databases. Three of the included articles were a PhD thesis [79] and two master theses [68, 77] that were found only in ProQuest Dissertations and Theses Global.

This systematic review included studies in English, German or Nordic languages, which provides a possibility for publication bias. The exclusion of non-public healthcare led to the exclusion of most studies developed in the USA. This exclusion could indicate a loss of results. However, the differences in contexts were of such an extent that the limitation was valued as clarifying. Additionally, the exclusion of quantitative studies could mean that results were omitted. This exclusion was supported by the aim of this review: to identify and critically discuss HMMs' experiences. The qualitative method was thus understood as expedient. Hewison [104] even suggested that the fragmented, reactive and interpersonal activity of management makes only qualitative research relevant.

The critical appraisal presented a low score in general, and only one question had a total score of 96%. However, this result may be due to guidelines from the journals and editors when publishing. Additionally, JBI-QARI was developed in a healthcare tradition, and the included studies were published in a variety of research traditions. In terms of effect size, 80% of the questions had over 61%. However, question 7, assessing researchers' interference with research, and question 8, ethical assessment, negatively stand out with 43 and 30%, respectively. These questions are central to qualitative studies and could thus have been taken for granted and therefore not specified. However, this result could also mean that these important questions were neglected. One of the included studies [62] even referred to standard quantitative analysis methodology for qualitative analysis. Overall, the lack of arguments for the selection of methodology and self-reflection on the researcher's influence contributes to the descriptions of Uhrenfeldt [43], who identified weaknesses in this area, even in qualitative research.

Implications for healthcare and further research

Our study has important implications. This study provides evidence of the need for a changed approach in healthcare regarding both organizational structure and leadership methods, aiming to enable HMMs' capacity and capability. The most important contribution this study provides is establishing connections between how HMMs develop capacity and capability by developing self-confidence in leadership through a learning process based on interaction in the complex system and an empowering approach from upper management. The facilitation of such development requires a change in how we organize and relate to management in healthcare. The change is needed to move from command and control to a leadership development process based on networking, interaction, trust and respect, clear structures and frameworks, support and feedback.

The context of the included studies was dominated by Western developed countries, especially from North America and Europe. This result may indicate that transferability to the context of developing countries requires further research. The contexts were mainly hospitals, which may be

because hospitals are assumed to provide better feasibility for research, and it may also be an example of municipalities as a context in need of more health-related research. Although this PICo had a multidisciplinary approach to HMMs, the participants in the included studies were mainly nurses. This result may demonstrate that these positions are mainly held by nurses but could also show a need for further research on multi-disciplinary leadership at this level. The included studies did not provide results about whether or how HMMs' development of capacity and capability changes practice or if this could be understood as solely a personal development process. Only one study showed some improved patient experiences [64]; another described how HMMs' development of capacity and capability had a limited impact on managers' behaviours and clinical practice [78]. Therefore, this systematic review did not provide evidence about whether HMMs' development of capacity and capability reduced harm, improved patient safety, or strengthened the quality of healthcare. This question will be an important topic for future research.

Conclusions

This meta-synthesis identified the established knowledge and critically discussed how HMMs experienced the development of their capacity and capability for leadership in a healthcare system characterized by high complexity as a personal process of building self-confidence, knowledge, skills and tools. The central role of HMMs in current healthcare organizations, structural constraining of leadership, the importance of a supportive top management, and how context influences leadership, have been demonstrated previously. However, this study added new evidence of how HMMs in public healthcare experience that the increasing complexity of healthcare changes which capacities and capabilities are necessary to develop, and how these skills must be developed by non-traditional methods. These methods are based on facilitating bottom-up development processes in an empowering context through interaction in networks and an empowering approach from upper management. This study also added new evidence about the importance of building self-confidence as a basis for leadership development processes. These results were in clear contrast to what HMMs described as their typical work situation, which was experienced as unprepared, lonely and with little support and feedback from upper management. The results showed that this field of research is dominated by nurse management; in this context, this study also adds new knowledge about HMMs with a multidisciplinary approach. In conclusion, this evidence is usable as a basis for politicians, administrators and healthcare managers to implement changes related to how we structure and lead international healthcare: a change in leadership development processes based on networking, interaction, trust and respect, clear structures and frameworks, support and feedback.

Abbreviations

HMMs: Healthcare Middle Managers; JBI: Joanna Briggs Institute; JBI-QARI: Qualitative Assessment and Review Instrument; JBI-SUMARI: System for the Unified Management, Assessment and Review of Information; MeSH: Medical Subject Headings; PICo: Participants, phenomena of Interest and Context; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

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Authors' contributions

TAH, LU and JA designed the study and search strategy. TAH provided the initial review. TAH and LU performed the critical appraisal, and JA was available in case of disagreements that were not resolved by discussions. TAH drafted the paper with important contributions from all the authors. All the authors discussed and accepted the analysis and final draft of the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

Coding data from this qualitative review are available upon request from the corresponding author, TAH, at trude.a.hartviksen@nord.no.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Author details

[1]Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway. [2]Faculty of Education and Arts, Nord University, Bodø, Norway. [3]Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway.

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RESEARCH ARTICLE Open Access

Healthcare middle managers` experiences developing leadership capacity and capability in a public funded learning network

Trude Anita Hartviksen[1*], Berit Mosseng Sjolie[1], Jessica Aspfors[2] and Lisbeth Uhrenfeldt[1]

Abstract

Background: Healthcare middle managers (HMMs) have, as the leaders closest to clinical practice, a crucial position in healthcare today. There is broad knowledge about the demands on HMMs' capacity, their situation in general, and the challenges this presents for the improvement of healthcare quality. There is less knowledge about how to facilitate HMMs` capacity and capability with regard to their leadership and how to handle this in a complex context. The purpose of this study was to identify and discuss the facilitation of HMMs' development of capacity and capability for leadership.

Method: A critical hermeneutic design was chosen. Data were collected through three focus group interviews with Norwegian HMMs who participated in a learning network. A user representative (from among the recipients of public healthcare), involved in the same learning network, participated in all three interviews. A qualitative interpretive approach guided the analysis.

Results: The results show two main themes: 1. Trusted interaction despite organizational and structural frames and 2. Knowledgeable understanding of a complex context.

Conclusion: This learning network facilitated HMMs` development of capacity and capability for leadership. The development included a combination of understanding the complex context, knowledge, trust, and confidence. The approaches in the learning network were based on transformative learning, coherence, reflection, discussion, repetition, knowledge sharing, and short lectures. These approaches can be recommended for the facilitation and support of HMMs.

Keywords: Healthcare middle manager, Leadership, Capacity, Capability, Learning network, Complexity

Background

Healthcare middle managers (HMMs) are, as leaders, closest to everyday clinical practice and have a crucial role in translating top-level policies, strategies, and means, to achieve practical improvements in healthcare delivery [1–3]. Turnover and a shortage of personnel, engagement, motivation, and accomplishments in the workplace are all factors closely associated with leadership and management [2–4].

This study involves HMMs` development of capacity and capability for leadership, to manage the complex context they are a part of, and how this developmental process can be facilitated. Capacity is understood as the individual features possessed by HMMs, such as technical expertise, creative thinking skills, social skills, and organizational understanding [5]. Illeris [6] defines learning as the process that changes a person's capacity. Capability is, on the other hand, understood as what HMMs are able to do, such as to identify and define problems and to establish and manage an evolving context [5].

This study's research question is as follows: How did HMMs, who participated in a learning network, experience that this participation contributed to the development of capacity and capability for leadership in a public funded healthcare system characterized by high complexity?

* Correspondence: trude.a.hartviksen@nord.no
[1]Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway
Full list of author information is available at the end of the article

Healthcare middle managers

Healthcare management is traditionally characterized by strategic planning and implementing concrete tasks in a leadership structure based on hierarchical and linear leadership styles [7]. Lately, this type of leadership has been criticized as reductionist and limiting due to a lack of ability to account for highly complex, interrelated, relationship-driven organizations [1, 7–9]. An example of hierarchical and linear leadership styles is described by the full range leadership model, transactional leadership. Transactional leadership relates to external motivation, contingent reinforcement, guidelines, command and control. The full range leadership model also includes two alternative leadership styles: transformative leadership and laissez-faire. Whereas transformative leadership is based on inspiring creativity, flexibility, and appealing to inner motivation, laissez-faire describes absent, or passive, leadership [10]. While research previously looked for the best leadership style, present research recommends flexibility among leadership styles as different leadership styles evoke various responses [1, 11].

The importance of HMMs` capacity and capability for leadership has been less recognized in healthcare [2]. Traditionally, HMMs have primarily focused on more visible, clinical tasks and therefore their leadership actions were in addition to, and often overshadowed by, their clinical workload [2, 12, 13]. It was expected that leadership would be self-taught, learned while working [14]. HMMs have possessed a clinical background, with limited capacity and capability for leadership, both regarding qualifications, experience, and support [2]. Several studies clarify that it is necessary to improve leadership education in healthcare and to develop HMMs` capacity [2, 3, 12, 14, 15].

A changing complex context demands HMMs with new and increased knowledge [1, 7, 12], including technological [1, 2, 7, 13], socio-cultural [1, 13], economical [1, 2, 16], and political knowledge [1]. The increased complexity makes HMMs more dependent on skills such as communication, negotiation, implementation, analysis [1, 17], developing strategies [13], problem solving, leadership [2, 16], risk managing, and networking [12].

There is thus broad knowledge about the roles HMMs are anticipated to fulfill. There is less knowledge about how to acquire these specific competencies, within a complex and changing organization [9, 12, 15, 18]. Dickson [3] suggests that present leadership should be understood through complexity theory.

Complexity theory explains healthcare organizations as complex adaptive systems (CAS) [7, 19, 20]. This understanding implies that microsystems are the core of all healthcare services [21]. The microsystems consist of individual interconnected agents who acts in unpredictable ways [22, 23]. CAS have been criticized for objectifying human organizations. Complex responsive processes (CRP) are an alternative understanding in complexity theory, describing organizations as processes of human interactions [7, 23]. The complex context in this study is understood in relation to both the theory of CAS and CRP. The purpose is to identify and discuss the facilitation of HMMs` development of capacity and capability for leadership.

Method

This study was guided through a critical hermeneutical perspective [24–27]. This methodological foundation includes Habermas` concept and understanding of a lifeworld. HMMs` lifeworld is, in this study, understood as a cultural horizon, where HMMs interpret and understand through concrete experiences and where values, norms, and language are important control mechanisms. It is understood that the participants` lifeworld is colonized by the system, which is a process that could be balanced by the participant's reflection and critical questioning of the context of meaning, patterns of interpretation, creation of norms, and social interactions [27]. The study searches to accentuate when theoretical statements represents changeable dependent relationships [26].

Design

The study occurred in a learning network in a rural part of northern Norway. The network was related to publicly funded healthcare. A learning network is understood as organized competence development across limited professional, or organizational, borders with the purpose of increasing knowledge and shared experience [28]. This learning network focused on quality improvement in healthcare. Learning networks that consider quality improvement, quality improvement collaboratives, are central to current international strategies to improve healthcare. A quality improvement collaborative focuses on areas in healthcare with large variations or gaps between best and current practice. A collaborative is supported by clinical experts and experts in quality improvement and involves multi professional teams from multiple sites. Such collaboratives are structured by a model of improvement, which emphasizes clear and measurable targets, data gathering, and small-scale testing of changes. The collaborative process involves structured activities in a given time frame. The purpose is to advance improvement, exchange ideas, and share experiences [29]. It has been confirmed that learning networks stimulate organizational learning better than traditional approaches, but there is a need for more empirical knowledge to build the theory in this area [9, 29].

There are different pedagogical approaches to learning based on each of five main learning theories: behaviorist, cognitivist, constructionist, humanist, or social learning

[30]. The choice of theoretical approach to learning will influence HMMs` development of capacity and capability differently, as their applicability depend on the learning situation. The theoretical perspective of HMMs` development in this learning network is inspired by Illeris' [6] perspective: transformative learning. Illeris [6] combines a variety of learning theories into a comprehensive framework, specifically aligned to adult learning [6]. This framework explains all learning as both individual and social. The individual receives impulses through social interaction, which are incorporated by internal interpretation and acquisition. It has been suggested that transformative learning involves changes in the learners` meaning perspectives, as a result of critical reflection, open discourse, and the implementation of a new understanding in practice [31].

This study's learning network was established in 2012 and consisted of 54 participants, who met 3–4 times yearly in order to 1. share development of leader and improvement knowledge, 2. receive guidance in the practical performance of improvement practices, and 3. networking. The meetings consisted of short lectures and group workshops within and across organizational borders. The meetings were located in different conference venues in the participating municipalities. The researchers` access to the network was facilitated since both the first and second researcher had participated in the network from the initial phase. The network initially organized as a project, and therefore was partly financed by the County Center for Development of Home Care Services, partly financed by the participants` organizations, and partly financed by the County Council.

The network included participants from among the recipients of public healthcare (at the time, one user representative), 40 HMMs from rural municipalities, 10 HMMs from a local hospital, 3 lecturers from a local university department, and the manager of the County Center for Development of Home Care Services. The Norwegian Knowledge Center for the Health Services had a role as the supervisor. The participating HMMs had clinical backgrounds, mainly as nurses, but there was also one social worker, three physicians, and one occupational therapist.

Participants

The participants of the study were volunteer members from this learning network. Aside from the one user representative, their professional backgrounds were all nurses, and they all worked as HMMs. The user representative was specially invited as at the time he was the only user representative in the learning network. The purpose of the involvement was to include this important perspective to the focus groups. The involvement of user representatives in research is known to optimize validity, design, applicability, and dissemination [32, 33]. The invitations were otherwise sent as an email to all the leaders who participated in the learning network. To capture various perspectives [34], the participants were divided into one group of municipal HMMs, one group of hospital HMMs, and one group of municipal long-term HMMs. In total, twenty-six invitations were sent. Sixteen HMMs participated (Table 1), which results in a 62% participation rate. The total number of participants was 17, including the user representative.

Data gathering

The data were gathered in December 2014, through three successive qualitative semi-structured focus group interviews [34, 35]. The first author conducted two of the interviews, while the second author conducted the third interview. The environment of the interviews was a shielded room in a restaurant, which was chosen to ensure that the participants would be undisturbed. Each interview lasted approximately one and a half hours.

The interviews addressed the participants` experience in the development of capacity and capability for leadership by participating in a learning network. The theoretical framework of complex adaptive systems (CAS) and complex responsive processes (CRP) influenced the design of the interview guide [7, 19, 20]. The questions in the interview guide were framed to stimulate dialogue and reasoning from a critical and reflective perspective [36]. The interview guide is enclosed (see Additional file 1).

The initial questions of the interviews were open-ended. The participants were asked about: 1. their experiences with the development of capacity and capability for leadership, 2. the usefulness of the learning network, 3. their capacity as a HMM, 4. how the learning network contributed in this area, and 5. other processes in their life that could be compared to the processes occurring in the network.

The participants contributed as much detailed information as they wanted. All participants, including the user representative, participated at the same premises. The participants followed up on each other's statements in a fluent conversation. The interviewer added complementary questions to bring forward contrasts in the participants` experiences or expectations. Such questions could be: 1. can you add some examples? 2. how did this happen? 3. how did you know this? 4. what was less, or not, useful? and/or: 5. how could this be changed.

The first and second author were present for all three focus groups and alternated positions as moderator and assistant moderator. The assistant moderator had the responsibility of audio recording the focus groups and to taking notes that included body language and other visual cues, including group dynamics [35]. The recordings with notes were transcribed into verbatim text, which

Table 1 Participants` characteristics

Participants	Focus group 1 HMMs from municipal homecare services	Focus group 2 HMMs from the local hospital	Focus group 3 HMMs from municipal long-term care	Total
HMM	5	6	5	16
User representative	1	[1]	[1]	1
Total	6	7	6	17

amounted to a total amount of 87 pages. The transcripts were generated systematically and consistently, ensuring that all verbal and nonverbal statements were documented [34].

Data coding and analysis

The critical interpretation of this study focuses on the construction of reality, asymmetrical relations of power, ideology, autonomy, and communicative distortions. The interpretation includes both understanding and explanation and alternates between proximality and distance. At the distance level, the interpretation relates to a broader social, historical, and economic context, a problematization of what seems natural and self-evident [36].

The use of reflection and critical questioning in focus groups, including the context of meaning, patterns of interpretation, creation of norms, and social interaction, could be understood as an attempt to rationalize the participants` lifeworld and thus balance the rationalization applied by the system. Every communication process is the result of a culturally practiced preunderstanding [27]. Considering the authors` and participants` lifeworld and preunderstanding and how this has affected their understanding of complexity was thus a central part of the analysis.

Both the first and second author had a preunderstanding of HMMs based on experiences from former HMMs positions in public healthcare and participation in the same learning network. This preunderstanding involved experiences of a demanding clinical every-day setting but also the experiences of how this situation could be influenced. The preunderstanding included an understanding of HMMs` capacity and capability for leadership as diverse and often randomly accomplished.

The transcribed text from the interviews was the focus of the interpretation. The transcribed text included stories, which were described in the interview text, about the participants` experiences with the development of capacity and capability for leadership by participating in a learning network. The interviews were read several times to get a sense of the whole. The purpose of the analysis was to deepen knowledge, leading to transformative action [37]. The analysis was done manually as this was considered an important part of the hermeneutical process. Through the analysis, we searched for latent content, while being guided by critical hermeneutic principles in accordance with Kvale [34] and Alvesson and Sköldberg [36]. Latent content addresses the relationship aspect and involves the interpretation of the underlying meaning of the text, which is deeper and more critical than what is initially expressed [34].

This analysis was based on seven main characteristics: 1. the transcribed text was interpreted in a back and forth movement according to the hermeneutical circle; 2. the interpretation was ended when a good gestalt was reached without logical contradictions; 3. partial explanations were tested in relation to the global meaning; 4. the autonomy of the text was respected as the text was understood from what it stated itself about the theme; 5. the researchers had knowledge about the theme; 6. although the interpretations were not without presuppositions, the researchers were aware of how these influenced the analysis [34]. The created reality will always be understood through intersubjectivity [38]; and 7. the interpretations involved renewal and creativity beyond what is immediately given, including new differentiations and mutually relations, as the meaning in this study expanded through an abductive process [34].

The transcribed text was condensed into meaning units in a shortening process in which the core meaning was preserved (see Table 2). Then, the condensed meaning units were abstracted and sorted under higher order headings into subthemes and themes, based on the study's purpose [34]. The conclusions of the first analysis phase were validated by the participants in a new focus group, consisting of 10 voluntary participants from all three former focus groups. The participants were here encouraged to object to the conclusions if they did not recognize their statements. The participants confirmed the trustworthiness of the results; thus, no changes were made on this basis.

Results

The participants were aged 34–69. The majority of the participants were women (75%). There were two men in each group, including the user representative. These are representative numbers according to the gender ratios in Norwegian Healthcare, where 84,9% of the employees are women [39]. Table 1 describes the participants` characteristics. The parentheses in focus groups 2 and 3 indicate that this is the same participant as in focus group 1.

The results are presented in two overarching themes, consistent with participant quotations. The themes are 1. trusted interaction despite organizational and structural frames and 2. knowledgeable understanding of a complex context.

Table 2 Illustration of the analysis process, from the text units to the subthemes and themes

HMMs experiences of developing capacity and capability to leadership		
Themes	Sub-themes	Quotations
Trusted interaction despite organizational and structural frames	Inter-departmental knowledge and trust	"...because we have the same foundation, and we know in our head what we are talking about" "We are associates, in a way"
	Increased interaction	"We have perhaps started to think, not think, but work, more similarly, more, not like he works like this in his place, but I do it differently in my place" "But, what is good is when you have been in the network, and come back, and then it is fresh in the head, and it is easy to work with those who have been there with improvement"
Knowledgeable understanding of a complex context	Reflective processes	"The network, it is thinking work, you know, reflections" "These are things that are repeated several times and that it is… for someone, you do not get everything all the time, but then it gets repeated, some of the themes"
	Theoretical explanatory models and tools	"Now we know that there is a system too" "It is useful to have theoretical knowledge about the different tools we use"
	Handling the complex and demanding context	"...before, I did much of the same things, but it was much more fragmented…" "You know, as a leader, that you need to lift your eyes, look ahead, above the daily tasks…yes, that we need to think a bit differently"

Trusted interaction despite organizational and structural frames

In this study, a recurring theme was the participants` experiences of how the learning network contributed to their development of capacity and capability for leadership as it refuted their complex context. Knowledge and trust were developed among the participants. The network, in itself, was not limited by organizational or structural frames. Participation led to increased interaction between HMMs, both internally in the individual organizations and across organizational borders. The study's results show that participation in the learning network provided HMMs with the possibility of seeing themselves as part of a broader perspective, the patient pathways. This was described as contrasting with their experience of a normally fragmented and solitary day.

Inter-departmental knowledge and trust

This learning network could be described as a leadership community founded on the development of knowledge and trust among the participants. This development resulted in capacity and capability for leadership based on a common consciousness of purpose, understanding, trust, and respect among the participants. The participants stated that they had developed a broader understanding, both of themselves as HMMs and in relation to other leaders from the same context and across organizational borders. Participant 1, from the municipal homecare services, explained:

"It is, like, related to…or to the network, when we have been there several times, and you feel that you, well, know these persons…. In addition, we have become, like, a close-knit gang…".

Participant 2, from the municipal long-term care, said:

"Just that, it is important that we sort of are come as far, that we as a leadership group have heard and been through the same things…because we have the same foundation, and we know in our head what we are talking about".

Participant 3, from the hospital, said:

"I have become very impressed by the work performed in home care services, and in, the municipality…I respect them…I must say, I admire them…".

This common knowledge and trust resulted in a team understanding among the participants; they understood each other as colleagues. This understanding was explained as a contrast to their previous view of each other, which was more like competitors.

The network had become so important for some of the participants that they would prioritize participating even if it was questioned by their senior management. This was an experience especially shared by the hospital participants. They explained that the learning network was their only meeting point related to leadership, as other meeting points were focused on reporting and economic management. Participant 4, from the hospital, explained:

"I do not acquire anything if I do not participate in this…if this is the little I get during a year...yes, then I even will pay for it myself".

Increased interaction

The learning network was described as increasing both internal and interdepartmental interactions when the participants returned to their leadership positions in their normal clinical day. Participant 5, from the hospital, explained:

"But, that is what is good, when you have been in the network, and come back then it is fresh in the head, and

it is easy to work with those who have been there with improvement".

Participant 6, from the municipal long-term care, said:

"I no longer "drive solo racing", to show others what I have achieved……We have perhaps started to think, not think, but work, more similarly, more, not like he works like this in his place, but I do it differently in my place".

The importance of the composition of participants in the learning network, across professional and organizational levels was emphasized, both by the municipality and hospital participants. The participants also described how the learning network had brought stimuli in from the national level, and they described how they had engaged in national networks, bringing their experiences from the local learning network into the broader context. These interactions, internal, across organizational levels, and even nationally, led to a feeling of competence, a satisfaction about having fresh knowledge, and a feeling of being able to handle changes and new guidelines.

Participant 7, from municipal homecare services, explained:

"Bringing the experiences from the learning network, we feel on top of the situation in other, national, networks".

Some challenges to participation were identified as being due to interference from organizational and structural frames outside the learning network. The participants from the local hospital described how the hospital administration tended to stop all travel and course-related activity for part of the year as an austerity measure. Participant 8, from the local hospital, also expressed ambivalence regarding her own motivation, leaving the normal demanding clinical day and creating a workload waiting for her return:

"Me, as a person, I am impatient…we are trained to put out fires… I have gained a broader understanding of how to work differently…but I am not all the way there yet…".

Knowledgeable understanding of a complex context

This learning network was described as adding knowledge that developed HMMs` capacity and capability for leadership based on a process understanding of their complex context. This development could be explained as reflexive processes supported by theoretical understanding and tools. The participants experienced the development of knowledge, which provided capacity for leadership. The development of common knowledge with other HMMs who they need to interact with in their normal clinical day was described as also adding capability by developing the possibility of utilizing this knowledge and developing it further to handle the complex and demanding context.

Reflexive processes

Participation in the learning network initiated reflexive processes. These processes included reflection, a ripening process, and a flexible yet binding commitment to the network. The networks` approach to learning stimulated these reflexive processes. The learning activities were described concretely as workshops with short lessons combined with group-work. The continual repetition of central knowledge and the participants` active role in contributing to group-work and as lecturers were valued. Participant 2, from the municipal long-term care, explained:

"The network, it is thinking work, you know, reflections…".

Participant 9, from the same interview, added:

"…that it is a process…. it is something, that I have developed. You have something when you start, and then…".

The participants described the reflexive approach as questions asked by mentors, which initiated the participants own reflexive processes. Participant 6, from the municipal long-term care, described it like this:

"...it gives you something to chew on further, in the clinical everyday life…".

A long-term commitment was described as being important to continuity, which also contributed to the development of trust among the participants. This learning network did not have an end-date. At the end of each current meeting, the participants themselves evaluated, and planned the next meeting, discussing whether and when it was needed. Participant 4, from the local hospital described the difference between committing to this network compared to a course:

"…and that it [the learning network] is with the municipalities…. that I think is much more binding than just to be around another place…in the world because someone sent you to this place…".

The participants explained that the learning networks` flexible yet binding, approach made it easier to enter as new participants, but even the participants with a long-term commitment experienced the development of new knowledge. This was explained in relation to the networks approach of always building on each participant's existing knowledge. Continuity and repetition were described as important and necessary since this type of process-work was described as demanding and time consuming.

Participant 2, from the municipal long-term care, explained:

"…that these are things that have been repeated several times and that it is, for someone, you do not get it all, all the time, but that it is…that it is repeated…again, some of the themes…".

The participants described working in groups, both with participants from own organization and across

organizational borders, as equally important. This importance was explained because working within and across organizational borders developed different kinds of knowledge: knowledge about internal challenges, and knowledge about interactional challenges. Sharing knowledge among the participants was in general experienced as an important approach to developing capacity and capability for leadership.

The participants from the municipalities had actively planned the periods between the network meetings and described these periods as important. The participants from the local hospital had not managed to make room for this activity but expressed that this was something they struggled to change.

The participants explained that the learning network, as a pedagogical approach, gave a meta-perspective to their clinical work place. They referred to sharing knowledge as small useful knowledge-drops collated to reflect on the shared topic. Altogether, the participants from all three focus groups compared the pedagogical approaches in the network to an education in leadership, leading to an individual ripening process.

Participant 6, from the municipal long-term care, said:

"For me, this has been a good education in leadership, simply…".

In contrast, the participants described the pedagogical approaches in the learning network as unusual compared to, for instance, other leadership trainings they had attended. As participant 4, from the local hospital, explained:

"I have thought many times that the life at the hospital should have been more like the schools we have attended… not just cut over…".

Theoretical understanding and tools

The approaches in the learning network, experienced to develop HMMs capacity and capability for leadership, included a strengthening of the theoretical foundation, in close relation to practice. This foundation involved complexity theory, system theory, improvement theory, user knowledge, leadership theory, and theory about different leadership tools. The participants stated that this approach facilitated a knowledge-based practice since theory was put into relevant coherence. Several participants described their previous experiences of theoretical leadership input as fragmented.

Participant 10, from the municipal homecare services, stated:

"…but this way of working is not…. you get in a way some tools…I feel that it has been good to get some basic knowledge and more theory, which has been useful in my job as a leader".

Participant 4, from the local hospital, said:

"All the time there are knowledge drops we can bring along …Well, these are elements that make you think in a certain way, and if you take this in, it covers most of what you might need to have in your head when you are working with improvement as a leader".

The same participant added:

"...but I had not had any input on my leadership [without the network], because it is all quiet in this way, there is no one who says that we have made a plan for the following years about how you could develop as a leader, no one had presented it to me, anyway…".

Handling the complex and demanding context

The participation in the learning network developed the HMMs` capacity and capability by changing their every-day approach to leadership. This changed approach was based on the development of a new perspective on leadership and the development of the abilities to handle their complex and demanding contexts.

The complex and demanding context was described as a normal clinical day with no instructions. The participants explained how they were ensuring quality services, handling top-down management, and putting out fires.

Participant 1, from the municipal homecare services described it as follows:

"Different problems where there is no blueprint, or system, which tells you how it should be".

The complex and demanding context was often described as being too complicated to handle. This lack of manageability lead to an identification of the self that was linked to errors and omissions. The participants described receiving this approach to leadership from their senior management, but they also shared experiences of choosing this approach themselves. With this approach, two possibilities were described if something wrong occurred: either the fault was experienced as your own, you did not manage to lead, or it had to be someone else's fault, resulting in looking for the member of the staff who did not manage their job.

Participant 2, from the municipal long-term care, said:

"It is easy in a way, to think, oh, I do not get it…".

Participant 7, from the municipal homecare services, explained:

"It is easy to think that someone is letting us down, right…".

The participants explained that participation in the learning network had simplified their handling of this complex and demanding context. Or, as participant 6, from the municipal long-term care, described it:

"It has not become easy, but it has become easier".

This simplified handling of the context was based on a change in the HMMs` every-day leadership, as they described it. This changed approach was experienced as a new perspective with an increased confidence in

leadership. The new perspective included a different way to putting out fires and self-identifying, and it complemented their administrative and managemental skills. The participants stated that this change was achieved by the development of knowledge, process-understanding, and reflection in the learning network.

Participant 3, from the hospital said:

"You have increased your understanding of why, if you make changes…why it does not work so fast, why things take time".

The changed approach included personnel management. Participant 7, from the municipal homecare services, described it as follows:

"I think, to emphasize that the personnel must make their own choices and to try to trust their choices".

The changed approach also included implementing a knowledge-based practice, and consciousness about the importance of user knowledge.

Participant 2, from the municipal long-term care, stated:

"That someone calls you and is dissatisfied with the services, and that, then you increasingly manage to take on their perspective".

The participants stated that the approaches from the network were implemented in practice as a more conscious priority; an approach of not looking for scape-goats, but instead searching to find the causes of the problems. They had gained a strengthened implementation capacity.

Participant 2, from the municipal long-term care, said:

"I notice, that I have in a way lifted it from myself…. It is like now something happened that maybe should have been different, it is possible to act".

Participant 9, from the same interview, said:

"…because it is not about where you let me down or where I let you down".

Participant 7, from the municipal homecare services, summarized this in the following way:

"That you do not have to put out fires every time".

Discussion

The purpose of this study was to identify and discuss the facilitation of HMMs` development of capacity and capability for leadership. Three focus-groups were conducted and analyzed with a critical hermeneutic foundation. In total, there were 17 participants: 16 HMMs and 1 user representative from a Norwegian learning network. We have identified two main themes: 1. Trusted interaction despite organizational and structural frames and 2. Knowledgeable understanding of a complex context.

The first theme, *Trusted interaction despite organizational and structural frames*, describes how the participants felt that the learning network gave them the opportunity to see themselves as a part of a broader perspective, the patient pathways. Participation resulted in trust in inter-professional and interdepartmental cooperation. This was contrasted with their normal fragmented and solitary day as an HMM.

The organizational and structural frames in healthcare do not emphasize inter-professional or interdepartmental cooperation, even though this is expected to occur; government, management, citizens, and central guidelines emphasize cooperation [1, 7–9]. The results of this study showed that the learning network that was studied was the only leadership related meeting point, either internally in their own organizations or across organizational borders, for the HMMs who participated. Other meetings HMMs attended were described as related to reporting, and economic management.

These organizational and structural frames exemplify what Habermas [27] explains as the system's colonization of HMMs lifeworld. The participants had the capacity [5] for inter-professional and inter-departmental cooperation, but their capability [5] was controlled by organizational and structural frames, which prevented their interaction.

The participants were interviewed in three focus groups related to their work place. The reason for this separation was to observe if there were any differences between levels, within in a municipality, or between municipalities and hospitals. This is seen as a strength in the study design because it contributed to new knowledge that indicated that the challenges with organizational and structural frames were experienced by the hospital HMMs in particular.

In the second theme, *Knowledgeable understanding of a complex context,* the participants described their lifeworld as demanding firework, a normal clinical day with no instructions. The participants explained how they struggled to ensure qualitative healthcare while handling an overwhelming flood of concrete patient-related tasks and top-down management. This normal day is described and explored by several other studies [2, 12, 13]. This study added new knowledge by visualizing another difference between the focus groups: The participants from the municipalities had succeeded to actively plan the periods between the network meetings, while the participants from the local hospital did not manage to make room for this activity, even though this was considered important to change. These constraints, imposed by the normal clinical day in the hospital, were taken for granted, and the choices they caused were unconscious before they were communicated and reflected upon in the focus group interviews.

The results of the study provided new knowledge about handling the organizational and structural frames as a key part of HMMs` complex context. In the second theme, the participants explained how the learning network's approaches provided knowledge and a process

understanding of this complex context. These approaches were explained as the facilitation of reflection, which was supported by theoretical understanding and tools. The participants explained that these approaches contrasted the other leadership development programs they had attended, which were experienced as fragmented. These statements are supported by several previous studies, which emphasize the importance of changing the pedagogical approaches to leadership development, based on the increased complexity in healthcare [2, 3, 12, 14, 15]. This study presents new knowledge about alternative approaches, which were experienced to meet the complexity.

These alternative approaches were experienced to have initiated a holistic understanding of the demands of leadership and thereby a focus not only on increasing HMMs` capacity but also their capability to handle organizational and structural frames. The participation could thus be understood as a communicative and cooperative action undertaken by individuals and based upon mutual deliberation and argumentation. This action is facilitated by a communicative rationality, which is achieved by reflection and questioning what typically goes without question in an individually and collectively learning process [27].

The second theme provides new knowledge about how these approaches and the following learning process generated a knowledge-based practice. This development was enabled by the way in which the theoretical understanding was put into relevant coherence and facilitated by the process understanding of the complex context. This process understanding was experienced as difficult to achieve by the transactional leadership style that currently dominates healthcare [10, 40–42]. Several of the participants explained that they considered themselves as competent but that their competence was inversely related to leadership or the complex context they were a part of. The model of transformative learning [43], which added to this existing capacity and capability, chosen by this learning network was experienced as relevant and included approaches such as reflection, workshops, process work, repetition and continuity. This is, on the other hand, a learning model that is more similar to the principles of transformative leadership rather than transactional leadership [41].

The participants believed that their development of capacity and capability led to a changed approach to leadership. The changes were related to their handling of their complex reality. This is a known challenge for HMMs [1, 7, 12]. The results in the second theme add new knowledge about how the participants experience leadership with a tendency to attribute errors to specific people. This tendency was explained as having a dual nature, either participants understand the fault as their own, resulting in a feeling of failure in leadership, or they determine that it had to be someone else's fault, resulting in looking for the member of the staff who did not manage their job. The HMMs described this strategy both as being derived from senior management and an approach they themselves made use of. Participation in the learning network had changed this approach; the HMMs explained that they had stopped looking for scape-goats. Instead, they had gained the capacity and capability to search for what caused the challenges.

The results of the study show that the participants gained confidence in leadership, and a strengthened implementation capacity, including a knowledge-based practice, and that they had extended their perspectives. The extended perspectives were particularly related to understanding services from the users` and relatives` perspectives. Process-work and reflection was developed as central elements of their leadership. The learning network could thus be described as contributing to the rationalization process, which handles the systems colonization of HMMs` lifeworld [27].

In this study, the complex context was understood in relation to both the theory of Complex Adaptive Systems [7, 19, 20] and Complex Responsive Processes [7, 23]. This theoretical perspective was found appropriate giving framework to the analysis including structures, processes, and patterns, where behavior emerges from bottom up [21]. The learning network is in this perspective an example to a meso system, in relation to the micro and macro system [44]. This study has shown that meso systems could interfere with the systems colonization of the micro systems lifeworld.

The choice of this learning network to utilize the transformative learning model [43] has influenced the results in this study, and could thus be seen as a limitation of the design. Studying other learning networks with other choices of learning models may yield different results. However, the choice of learning model was also important new knowledge added by the study, as an alternative to other learning models experienced by the participants as more typical but less functional.

Methodologically, this study's first and second author had both participated in the network. This dual role, as both researcher and colleague of the participants, affected the study in several respects. It simplified the access to the field by building on existing trust. However, the risk of having influenced the participants` answers, is also a limitation of the design.

This study is only based on three focus groups, which gives a limited contribution to this complex context. The findings cannot immediately be generalized to other contexts. However, Kvale [34] argues that analytical generalization is a possibility, which means that the

results of a study can be considered "indicative" or transferable in relation to other similar situations or settings.

This study provides new knowledge about how the choices of approaches in a learning network could facilitate HMMs` development of capacity and capability for leadership by contributing to the participants` rationalization process and thereby refuting the systems` colonization of HMMs` lifeworld. The implication for practice is a suggestion of several identified and discussed approaches to the facilitation of HMMs` development of capacity and capability for leadership, which were experienced as useful by the participants of a learning network. Further research is necessary to study how these results could be taken further out in healthcare organizations, adding knowledge to change. It would also be expedient to study the use of the networks` approaches in a clinical context, to explore if the HMMs` experiences of development are only personal or if this development influences the organization further, as experienced by personnel, users, and relatives.

Conclusions

This learning network facilitated HMMs development of capacity and capability for leadership. The development included a combination of understanding the complex context, knowledge, trust, and confidence. The approaches in the learning network were based on transformative learning, coherence, reflection, discussion, repetition, knowledge sharing, and short lectures. These approaches can be recommended for the facilitation and support of HMMs.

Additional file

Additional file 1: Interview guide. (DOCX 12 kb)

Abbreviations

CAS: Complex adaptive systems; CRP: Complex responsive processes; HMM: Healthcare middle manager; NSD: Norwegian Data Protection Official for Research

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Availability of data and materials

The interview guide is available in Additional file 1. The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

TAH designed the study, developed the interview guide, and conducted the focus group interviews in collaboration with BMS. TAH analyzed the data, developed the thematic structure, and drafted the manuscript with important contributions from all the authors. All the authors discussed and accepted the analysis and the final draft of the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

Patient information was not part of this study. Ethics approval was not obtained, since Norwegian regulations demands this when personal information directly or indirectly is gathered. The research did not involve any directly or indirectly identifying information about the participants. The study was submitted to the informal notification test provided by the Norwegian Data Protection Official for Research (NSD) [45], and was found not to be subject to notification. This study was a part of the Center for Development of Institutional and Home Care Services Nordland, project 13,211,141, and was supported by the Nordland County Council, project 18–15-0041.

Ethical guidelines were followed [46]: 1. Participants were informed orally and in writing about the purpose of the research and their rights to make independent decisions without negative consequences, including withdrawing at any phase of the research. 2. Participants were not pushed to give information. 3. Participants gave informed consent to participating. 4. Ethical challenges related to conducting focus group interviews [47, 48] when the researchers and participants know each other were considerated and found not to be problematic by the participants, as the group stated a high degree of confidence during the interviews.

Competing interests

The authors declare that they have no competing interests.

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Author details

[1]Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway. [2]Faculty of Education and Arts, Nord University, Bodø, Norway.

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The aim of this dissertation is to deepen knowledge and critically discuss how healthcare middle managers (HMMs) experience to develop capacity and capability for leadership in a publicly funded healthcare system characterised by high complexity.

In the theoretical landscape of leadership, learning and complexity theories, consisting three studies and a synthesis, this dissertation identifies and critically discusses how HMMs experience to develop capacity and capability: in leadership (Study I), in a learning network (Study II) and in quality improvement (Study III). The results show how HMMs experience to develop capacity and capability for leadership through supported or unsupported transformative processes interacting in a conflicting practice.

This dissertation provides an important contribution to the knowledge of how HMMs development of capacity and capability for leadership can be facilitated. Suggested changes to todays practice include both pedagogical and relational principles, as well as the organisational and structural assumptions of healthcare, specifically (a) from unsupported to supported transformative processes; (b) from lonely competitors to interactional networks; and (c) from command-and-control to a more empowering leadership.

The main results of this dissertation provide valuable insights regarding practical change and improvement that may strengthen HMMs' development of capacity and capability for leadership in healthcare practice. This knowledge is considered especially valuable for HMMs, senior managers and policy makers who are responsible for implementing leadership development, organisational change and quality improvement in healthcare.

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