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Healthcare middle managers' capacity and capability to quality improvement

Anita Hartviksen, Trude; Aspfors, Jessica; Uhrenfeldt, Lisbeth

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**Healthcare middle managers' capacity and capability to quality improvement**

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1  
2  
3 **1 Abstract**

4  
5 **2 Purpose** - The purpose of this study was to identify and critically discuss how healthcare  
6  
7 middle managers' (HMMs) development of the capacity and capability for leadership are  
8  
9 experienced to influence quality improvement (QI) in nursing homes.  
10  
11

12 **5 Design/methodology/approach** - This study had a critical hermeneutic perspective with data  
13  
14 gathered using focus groups, one individual interview and participative observations. Analysis  
15  
16 was guided by a qualitative interpretive approach.  
17  
18

19 **8 Findings** - The results show how HMMs' development of the capacity and capability for  
20  
21 leadership are experienced to influence QI in nursing homes through grasping complexity in a  
22  
23 conflicting practice. This involves continuous knowledge development and compensating  
24  
25 contrasted by resource shortages, role conflicts, and the lack of trust and cooperation.  
26  
27

28 **12 Originality/value** - HMMs have a key role in implementing QIs in healthcare. There are few  
29  
30 studies on how HMMs develop the capacity and capability for leadership and it is unclear  
31  
32 how clinical contexts are influenced by HMMs' development. This study provides new  
33  
34 knowledge supporting a change facilitating HMMs' developmental processes targeting  
35  
36 practical influence; it emphasizes continuity, coherence, presence, and trust.  
37  
38

39 **17 Keywords** Healthcare middle manager, Leadership, Development, Capacity, Capability,  
40  
41 Quality improvement, Nursing homes, Qualitative  
42  
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44 **19 Paper type** Research paper  
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## 20 Introduction

21 The healthcare middle managers (HMMs) in this study are identified as the leadership level  
22 closest to patients and health personnel in clinical practice (Birken *et al.*, 2018). HMMs are  
23 shown to have a unique position facilitating change, implementing healthcare innovation  
24 (Birken *et al.*, 2013), quality improvement (QI) (Zjadewicz *et al.*, 2016) and evidence-based  
25 practice (Birken *et al.*, 2018). Their central position between health personnel and top  
26 management involves working to limit knowledge and information gaps (Zjadewicz *et al.*,  
27 2016) and translating top-level policies, strategies and means, with the purpose of QI and  
28 reducing harm (Birken *et al.*, 2013). **Leading relationships is shown to be the most important**  
29 **factor in a caring nursing leadership (Solbakken *et al.*, 2018).**

30 This study appraises HMMs' development of capacity and capability for leadership,  
31 and how this process is experienced to influence QI in nursing homes. "Capacity" includes  
32 individual features such as technical expertise, creative thinking, social skills, and  
33 organizational understanding. "Capability" includes what HMMs are able to implement, such  
34 as the ability to identify and define problems, handle complex contexts (Mumford *et al.*,  
35 2007), adapt to change, generate new knowledge, and continuously improve (Fraser and  
36 Greenhalgh, 2001). HMMs' development of capacity and capability for leadership have been  
37 identified as part of a bottom-up development process that involves building self-confidence,  
38 knowledge, skills and tools. This process was facilitated by interaction in networks and an  
39 empowering approach from upper management (Hartviksen *et al.*, 2019).

40 Each nursing home described in this study is understood to be a place of residence  
41 providing long-term care to an older population with significant co-morbidities (Woo *et al.*,  
42 2017). The prevalence rates for dementia and care dependability in nursing homes are  
43 increasing. A nursing home involve a dual function, both as an institution and a home,  
44 including care and assistance from health personnel (Rijnaard *et al.*, 2016). This dual function

1  
2  
3 45 has been shown to be challenging, whereas the institutional aspect tends to overshadow the  
4  
5 46 needs comprised by a home (Vaismoradi *et al.*, 2016). People who have lived in nursing  
6  
7 47 homes have described experiences of loneliness, depression and limited support with their  
8  
9 48 spiritual needs, as well as a need for QI to avoid care-related symptoms (Greenwood *et al.*,  
10  
11 49 2018).

12  
13  
14 50 Abuse against the elderly is a relevant problem in nursing homes and are linked to  
15  
16 51 stress because of health personnel shortages and low competence (Yon *et al.*, 2019).

17  
18 52 Education of health personnel that includes multi-faceted components in conjunction with  
19  
20 53 didactic teaching has shown limited impact on residents' agitation, anxiety, mood and quality  
21  
22 54 of life, and consistent improvement of activities of daily living (Bauer *et al.*, 2018).

23  
24 55 Participation in individualized activities is suggested to support a resident's sense of self and  
25  
26 56 to reduce the feeling of loneliness connected to living in nursing homes (Kitzmüller *et al.*,  
27  
28 57 2018).

29  
30 58 QI in nursing homes should be targeted toward multidisciplinary areas with high  
31  
32 59 complexity (Agarwal *et al.*, 2013). QI efforts are to be understood as changing processes  
33  
34 60 within complex social systems that evolve over time in both predictable and unpredictable  
35  
36 61 ways (Taylor *et al.*, 2014). There are several methods available to assist QI processes,  
37  
38 62 exemplified by PDSA (Plan-Do-Study-Act) and Lean (refers to slim). PDSA is a four-stage  
39  
40 63 cyclic learning approach to improvement (Taylor *et al.*, 2014). Lean focuses on mapping out  
41  
42 64 and adapting process pathways to preserve what works, and to eliminate waste (Mason *et al.*,  
43  
44 65 2015). QI is shown challenging when healthcare organizations are hierarchical structured and  
45  
46 66 less collaborative, has resource scarcity, unclear aims, or new systems or special events  
47  
48 67 detracts the attention (Vaughn *et al.*, 2019).

49  
50  
51 68 Learning networks organizes competence development across professional and  
52  
53 69 organizational borders and are known to stimulate organizational learning (Ferlie *et al.*, 2012).

1  
2  
3 70 Quality Improvement Collaboratives (QICs), are central to current international strategies to  
4  
5 71 improve healthcare (Schouten *et al.*, 2008). QICs are shown to improve targeted clinical  
6  
7 72 processes and patient outcomes (Wells *et al.*, 2017). It is unclear if participation in learning  
8  
9 73 networks (Hartviksen *et al.*, 2019; Cunningham *et al.*, 2012) or other means for developing  
10  
11 74 HMMs' capacity and capability for leadership (Hartviksen *et al.*, 2019) influences the quality  
12  
13 75 of patient care in the participants clinical contexts (Hartviksen *et al.*, 2019; Cunningham *et*  
14  
15 76 *al.*, 2012). This is thus an area in need of additional research. The authors of this study aimed  
16  
17 77 to identify and critically discuss how HMMs' development of capacity and capability for  
18  
19 78 leadership are experienced to influence QI in nursing homes.

## 23 24 79 **Method**

25  
26 80 This study had a critical hermeneutic perspective based on Gadamer's descriptions of placing  
27  
28 81 the preunderstanding at stake in seeking new horizons (Gadamer, 1989) and Habermas'  
29  
30 82 additional societal dimensions including the understanding of a lifeworld as a cultural  
31  
32 83 horizon, whereas participants interpret and understand through specific experiences. The  
33  
34 84 participants' lifeworld was pre-understood as colonized by the system, a process that could be  
35  
36 85 balanced by reflection and critical questioning. The research team (authors) searched for  
37  
38 86 contrasts and accentuated theoretical statements that represented changeable dependent  
39  
40 87 relationships (Habermas, 1985).

## 41 42 43 44 88 *Design*

45  
46 89 This study was initiated and designed in collaboration with the research team and a member  
47  
48 90 of top management in a rural northern Norway municipality. This municipality had  
49  
50 91 implemented QI based on PDSA (Taylor *et al.*, 2014) and Lean (Mason *et al.*, 2015) with a QI  
51  
52 92 strategy aiming for user value, process work and a culture for QI. The implementation  
53  
54 93 included three workshops whereas HMMs were introduced for improvement boards and risk  
55  
56 94 boards, as well as board meetings with improvement suggestions, aims and measurements.

1  
2  
3 95 Six process counsellors were designated to assist HMMs with QI training and process work.  
4  
5 96 The HMMs had additionally participated for six years in a QIC.  
6

7  
8 97 The Norwegian National Patient Safety Campaign (The Norwegian Directorate of  
9  
10 98 Health, 2019) had included one of the nursing homes in this municipality as a national pilot  
11  
12 99 for the prevention of falls. Other improvement areas, such as malnutrition, were also  
13  
14 100 introduced in the same campaign. The municipality was part of the Norwegian National  
15  
16 101 Project “Patient-safe Municipality” (The Norwegian Directorate of Health, 2019), aiming to  
17  
18 102 ensure systematic and sustained work on patient safety. These affiliations included coursing  
19  
20 103 and practice in QI for HMMs.  
21  
22

23  
24 104 The setting included two publicly-financed nursing homes in this municipality.  
25  
26 105 Nursing home 1 employed four HMMs: two registered nurses, one healthcare assistant and  
27  
28 106 one social educator. Nursing home 2 included three HMMs: all registered nurses. Data were  
29  
30 107 gathered in April and May of 2019 by a multimethod approach where focus groups was the  
31  
32 108 main method, supported by one individual interview and participative observations. The  
33  
34 109 methods were considered complementary (Morgan, 1996). The analysis was guided by critical  
35  
36 110 hermeneutic principles according to Kvale and Brinkmann (2015) and Alvesson and  
37  
38 111 Sköldberg (2008).  
39  
40

#### 41 42 112 *Participants and Recruitment* 43

44  
45 113 The participants included all 7 HMMs and a total of 18 relatives from the two nursing homes.  
46  
47 114 7 invitations were sent to HMMs, and 30 were sent to nursing home residents and relatives.  
48  
49 115 Residents were not recruited, as they rejected to participate, or were considered not capable  
50  
51 116 by their relatives or healthcare personnel. The recruitment of relatives also posed challenges,  
52  
53 117 resulting in adaptations of the number and size of groups to enable participation.  
54

55  
56 118 7 participating HMMs represents a 100% participation rate among HMMs. 18 relatives  
57  
58 119 represented 16 of 95 total residents (one resident was represented by his two daughters, and  
59  
60

1  
2  
3 120 one resident was represented by his wife and son). This resulted in a 15% participation rate  
4  
5 121 among residents. The total number of participants was 25. Table 1 describes participants  
6  
7 122 characteristics. The parentheses indicate the same participants as presented in the previous  
8  
9 123 focus groups and individual interview.

10  
11  
12 124 Table 1

13  
14 125 *Participants' Characteristics*

15  
16 126 *Data gathering*

17  
18 127 Data were gathered by the first author in a three-part process as illustrated in Figure 1.

19  
20  
21  
22 128 Figure 1

23  
24 129 *Data gathering process*

25  
26 130 *(Participants in focus group 2 and the individual interview are the same as in participative*  
27  
28 131 *observations and focus group 7. Focus groups 1 and 4 were merged to focus group 5. Focus*  
29  
30 132 *group 3 have participants from focus group 6).*

31  
32  
33  
34 133 In part 1, four successive qualitative, semi-structured focus groups and one individual  
35  
36 134 interview were performed, addressing participants' experiences of how HMMs' development  
37  
38 135 of capacity and capability for leadership influenced QI in the nursing homes. The questions  
39  
40 136 were open-ended, framed to stimulate dialogue and reasoning from critical and reflective  
41  
42 137 perspectives (Alvesson and Sköldbberg, 2008). Assistant moderators had the responsibility of  
43  
44 138 audio recording and taking notes describing visual cues as well as group dynamics (Morgan,  
45  
46 139 1996). This included drawing communication lines among the participants. The focus groups  
47  
48 140 were conducted in shielded meeting rooms at the nursing homes. Each focus group lasted 1.5  
49  
50 141 hours. The individual interview was conducted with the same principles as the focus groups.  
51  
52 142 Part 2 consisted of 40 hours of participative observations with all 7 HMMs over the course of  
53  
54 143 one month. The first author followed the different HMMs through normal workdays and  
55  
56 144 observed naturally occurring events and interactions. The participative observations were



1  
2  
3 145 documented by field notes. Part 3 included three focus groups with an interview guide  
4  
5 146 designed as elaborative and explanatory of the data already gathered. The amount of focus  
6  
7 147 groups, participative observations and participants were adapted to the data saturation  
8  
9  
10 148 (Alvesson and Sköldberg, 2008).

11  
12 149 The recordings from the focus groups with notes were transcribed into verbatim text,  
13  
14 150 comprising a total amount of 159 pages. Transcripts from the individual interview recording  
15  
16 151 amounted to 11 pages. Transcripts from the field notes amounted to 13 pages. The transcripts  
17  
18 152 were generated systematically and consistently, ensuring that all verbal and nonverbal  
19  
20 153 statements were documented (Kvale and Brinkmann, 2015). The transcripts from the field  
21  
22 154 notes were written in cue form, whereas transcripts from the focus groups and the individual  
23  
24 155 interview were written in oral language.

#### 25 26 27 28 156 *Data analysis*

29  
30 157 The critical interpretation of this study focused on the construction of reality and  
31  
32 158 asymmetrical relations of power, ideology, autonomy, and communicative distortions. The  
33  
34 159 interpretation included both understanding and explanation, altering between proximity and  
35  
36 160 distance, related to a broader social, historical, and economic contexts, and the  
37  
38 161 problematization of what seemed natural and self-evident (Alvesson and Sköldberg, 2008).  
39  
40 162 Considering how the participants' and the participating first author's lifeworld and  
41  
42 163 preunderstanding affected their understanding of their complex context was a central part of  
43  
44 164 the analysis. The first author had a preunderstanding of HMMs' development as challenging,  
45  
46 165 taking place in a demanding clinical context, and in need of a change. The preunderstanding  
47  
48 166 was based on experiences of previously being an HMM participating in the same QIC as the  
49  
50 167 HMM participants.

51  
52 168 The transcribed text from the focus groups, individual interview, and participative  
53  
54 169 observations were the points of focus for interpretation. First, the transcripts were read several  
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57  
58  
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1  
2  
3 170 times to get a sense of the whole. Second, the transcribed text was condensed into units of  
4  
5 171 meaning in a shortening process designed to preserve the core meaning (see Table 2). Third,  
6  
7 172 the condensed units of meaning were abstracted and sorted into themes and subthemes, based  
8  
9 173 on this study's purpose (Kvale and Brinkmann, 2015).

10  
11  
12 174 This analytical process had seven main characteristics: (1) the transcribed text was  
13  
14 175 interpreted in a back-and-forth movement according to the hermeneutical circle; (2) the  
15  
16 176 interpretation was ended when a good gestalt was reached without logical contradictions; (3)  
17  
18 177 partial explanations were tested related to the global meaning; (4) the autonomy of the text  
19  
20 178 was respected; (5) the researchers had knowledge about the theme; (6) the researchers were  
21  
22 179 aware of how preunderstandings influenced the analysis; and 7. the interpretations involved  
23  
24 180 renewal and creativity beyond what was immediately given (Kvale and Brinkmann, 2015).

### 25 26 27 28 181 *Ethical considerations*

29  
30 182 Ethics approval was obtained by the Norwegian Centre for Research Data (reg. no. xxx).  
31  
32 183 Participants were informed orally and in writing about the study, including their rights to  
33  
34 184 withdraw at any phase of the research and protection of their confidentiality. The participants  
35  
36 185 gave written informed consent to participate (Norwegian National Committees for Research  
37  
38 186 Ethics, 2014).

### 39 40 41 42 187 **Results**

43  
44 188 Participants characteristics are described in Table 1. Most participants were women (100%  
45  
46 189 among HMMs and 68% among relatives). The 18 relatives included 7 men. These are  
47  
48 190 representative numbers according to the gender ratios in Norwegian healthcare, where 83.6%  
49  
50 191 of health personnel are women (Statistics Norway, 2018). The recent time use survey by  
51  
52 192 Statistics Norway (2010) showed that women spent 26% more time on care work than men.  
53  
54 193 The results are presented in two overarching themes consistent with participants' quotations  
55  
56  
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3 194 as illustrated in Table 2. The themes were related to (1) grasping complexity and limited  
4  
5 195 resources and (2) conflicting practice.  
6  
7

8  
9 196 Table 2

10  
11 197 *Illustration of the analysis process*

12  
13  
14 198 *Grasping Complexity and Limited resources*

15  
16 199 The first main theme, *grasping complexity and limited resources*, illustrated HMMs'  
17  
18 200 continuous work to develop knowledge and attitudes among health personnel. The results  
19  
20 201 showed how HMMs were aware of existing improvement areas in the nursing homes. Some  
21  
22 202 were worked on, whereas others were described as needing improvement. The continuous  
23  
24 203 development focus was accentuated and contrasted by the participants' experiences of nursing  
25  
26 204 homes as complex contexts in states of continual change. It was accentuated when contexts  
27  
28 205 were described as requiring a high knowledge level among health personnel to ensure quality  
29  
30 206 services to vulnerable residents. It was contrasted when contexts were described as staffed by  
31  
32 207 limited resources, staff shortages, and mainly health personnel with high school education or  
33  
34 208 without healthcare education. HMM participants described that this complexity and resource  
35  
36 209 scarcity enforced continual QI processes. This main theme had two subthemes: (1)  
37  
38 210 supervising a complex context and (2) continuously developing and compensating.  
39  
40  
41  
42  
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44 211 *Supervising a Complex Context*

45  
46 212 The sub-theme *supervising a complex context* included participants' experiences of how  
47  
48 213 HMMs supervised QI in a complex context with vulnerable and sick elderly residents. These  
49  
50 214 residents were explained to have both domestic needs (the nursing home was their place of  
51  
52 215 residence) and institutional needs (such as medicine or nursing). The domestic and  
53  
54 216 institutional needs were explained as overlapping when relative participants expressed how  
55  
56 217 the residents and their environment should be clean, tidy, and well kept; this was interpreted  
57  
58 218 as a sign of dignity and professionalism in the nursing home and it was described as observed  
59  
60

1  
2  
3 219 quality. The needs contrasted when the participants experienced the nursing homes as  
4  
5 220 institutions that never could be a home. One example was given in one focus group (relative  
6  
7  
8 221 15, daughter):

9  
10 222 *“[. . .] it is very rare to see someone sitting with them [. . .] rare to see someone sitting*  
11  
12 223 *in the living room. All the while, it's that they are so busy.”*

13  
14 224 Another contrast was described by how different groups were involved in the nursing homes,  
15  
16 225 such as residents, relatives, health personnel, HMMs, volunteers, and others. The results  
17  
18 226 revealed several challenges in the interaction and collaboration among these groups. The  
19  
20 227 observations showed varying interactions between health personnel and residents. Several  
21  
22 228 relative participants had experienced feeling unwelcome. Relatives expressed how they  
23  
24 229 wanted to be a resource for the nursing homes but only in varying degrees were allowed to.  
25  
26 230 Both the focus groups and the participative observations showed how volunteers arranged  
27  
28 231 activities whereas health personnel did not contribute to residents' participation. One example  
29  
30 232 was given in one focus group (relative 3, daughter):

31  
32  
33 233 *“Then there was worship service, but the priest who was there, she complained that*  
34  
35 234 *there was almost nobody there. Only herself and a couple of residents.”*

36  
37  
38 235 Contrasts were also evident through the exercise of formal and informal rules in the  
39  
40 236 institution, exemplified by relatives' access to the kitchen. Participative observations revealed  
41  
42 237 how there were several written notices posted on walls and doors about what was not allowed,  
43  
44 238 but in the focus groups the rules were described as being followed differently. Some relatives  
45  
46 239 described this as a sign of flexibility, but mostly it was described as confusing and  
47  
48 240 discriminatory. The need for QI was forwarded by the relative participants' experiences of the  
49  
50 241 residents' dependency on their relatives' abilities to observe and act if they did not receive  
51  
52 242 quality services. Initially, they explained these shortcomings as related to the lack of  
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3 243 resources, and there was noted acceptance, but during the focus groups there were questions  
4  
5 244 as to whether this should be accepted.

7  
8 245 *Continuously Developing and Compensating*

9  
10 246 The sub-theme *continuously developing and compensating* involved experiences of how  
11  
12 247 HMMs influenced QI in the nursing homes by continuous guidance, repeating instructions  
13  
14 248 and compensating for resource scarcity. Focus group participants described a lack of adequate  
15  
16 249 staffing, both in numbers and knowledge. Most of the health personnel had lower degrees of,  
17  
18 250 or lacked, care education. Nurses were mainly organized in serving teams because of a  
19  
20 251 nursing shortage. Several quality deviations related to lack of knowledge and resources  
21  
22 252 became evident through the focus groups. The relative participants described examples of  
23  
24 253 how residents became increasingly more and more in need of care; and related it to a lack of  
25  
26 254 adequate training and activity. Time shortages were described as relative and related to how  
27  
28 255 health personnel prioritized time. A participant (relative 14, son) stated:

29  
30  
31  
32  
33 256 *“[. . .] here the health personnel were enough! Yes, they shielded themselves from the*  
34  
35 257 *residents, they closed the doors and sat down in the waiting room or the kitchen. I*  
36  
37 258 *argued with them several times. Because I saw, after all, I was there.”*

38  
39  
40 259 The HMMs in the focus groups described how they continuously worked to develop  
41  
42 260 knowledge and attitudes among health personnel with a guiding and empowering approach.  
43  
44 261 This was supported by the participative observations. The approach included showing health  
45  
46 262 personnel trust in their knowledge and expecting that they made use of it when needed. The  
47  
48 263 introduction of improvement boards and risk boards were examples of QI measures that were  
49  
50 264 introduced and successfully put into practice by the HMMs. However, the results from the  
51  
52 265 focus groups and the individual interview showed that what was not put into a routine fell  
53  
54 266 away if no HMM was present to continuously raise it. The need for continuous follow-up was  
55  
56 267 described by one participant (relative 5, daughter):  
57  
58  
59  
60

1  
2  
3 268            “Me and my sister when we have been in relative meetings . . . what we record, as she  
4  
5 269            (HMM) grabs on to it, it might work for a week or two . . . then it is the same again.”

6  
7  
8 270 Varying levels of knowledge and resource scarcity were explained in the focus groups and  
9  
10 271 supported by the participative observations as involving a high dependency on HMMs’ levels  
11  
12 272 of professional nursing competence. The participants described how HMMs compensated for  
13  
14 273 the lack of nurses by replacing them themselves, and the participant observations showed how  
15  
16 274 HMMs constantly performed small and large tasks that were left undone by health personnel.  
17  
18 275 These compensations were observed as providing positive feedback from health personnel.  
19  
20

### 21 276 *Conflicting Practice*

22  
23  
24 277 The second main theme, *conflicting practice*, illustrated how HMMs’ development was  
25  
26 278 experienced and observed as a three-fold enterprise related to their profession, personnel, and  
27  
28 279 economics. These three parts were not emphasized equally by the HMMs but left to individual  
29  
30 280 competence and prioritizing. Participants in the focus groups explained that some HMMs had  
31  
32 281 a strong professional focus whereas others prioritized their time for tasks regarding health  
33  
34 282 personnel follow-up and economic reporting. The different points of focus were described as  
35  
36 283 conflicting with each other. These experiences were supported by the participative  
37  
38 284 observations. Participants in the focus groups described how top management mainly had an  
39  
40 285 economic focus, whereas HMMs needed professional and relational points of focus. The  
41  
42 286 relative participants referred to being “a good person” as the most important feature for  
43  
44 287 HMMs. This main theme had two sub-themes: (1) lacking supported development and (2)  
45  
46 288 striving to meet unclear frameworks.

### 47 289 *Lacking Supported Development*

48  
49  
50  
51 290 The sub-theme *lacking supported development* included HMMs experiences of developing  
52  
53 291 capacity and capability for leadership as an unsystematic process they needed to take  
54  
55 292 individual responsibility for. Several HMMs explained in the focus groups how they had  
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1  
2  
3 293 chosen to approach further education. Nursing competence was more frequently accentuated  
4  
5 294 than leadership competence in the focus groups, along with expertise in relationships,  
6  
7  
8 295 communication, and guidance. This was supported by the results from data gathered in the  
9  
10 296 participative observations. One participant (relative 7, husband) said:

11  
12 297 *“You must have interpersonal traits and be able to see the individual, whether it is the*  
13  
14 298 *employee [ . . . ] I think if you have interpersonal traits, then you see everyone, then you*  
15  
16  
17 299 *also see the relatives.”*

18  
19 300 The development of capacity and capability for leadership was experienced as diverse and  
20  
21 301 fragmented by the HMM participants. They all explained how they were recruited by being  
22  
23  
24 302 encouraged to apply and how they started in the position with feelings of uncertainty, having  
25  
26 303 no leadership competence. They did not get to experience the training and follow-up needed  
27  
28 304 for entering the position. The follow-up they did receive was related to administrative  
29  
30 305 computer programs. One participant (HMM 7) shared her experiences:

31  
32  
33 306 *“Now I am more conscious, because when I started, I had zero knowledge as a leader,*  
34  
35 307 *and I had zero experience and I didn't get the training I needed to become a leader. I*  
36  
37 308 *got training in how to register time sheets, but being an HMM, it is not about how*  
38  
39 309 *many time sheets you register. It's about something more, something different.”*

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42 310 HMMs' development process, as described in the focus groups, was based on experience,  
43  
44 311 learning by mistakes. One HMM participant described how QI was challenging because of  
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46  
47 312 her lack of capacity and capability, exemplified by national and local improvement initiatives  
48  
49 313 where she, because of insecurity, chose to observe from behind instead of leading the team. A  
50  
51 314 change was experienced to involve somewhat more follow-up when the municipality decided  
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53  
54 315 to work continuously on QI. Participation in the QIC and the patient safety campaign were  
55  
56 316 also described as developing. In this regard, the HMM participants described an increased  
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58 317 understanding of the complexity in healthcare and continual improvement work. However, the  
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3 318 participants' experiences gave a picture of a high start-up focus, that eventually became  
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5 319 random and deficient.

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8 320 *Striving to meet Unclear Frameworks*

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10 321 The sub-theme *striving to meet unclear frameworks* included how the HMM participants  
11  
12 322 experienced unclear signals from top management who introduced QI strategies based on user  
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14 323 values, cyclic improvement processes, and a culture for QI, when the results of these  
15  
16 324 strategies were never requested. Several HMMs expressed in the focus groups that they  
17  
18 325 assumed their top management would like them to prioritize budget and economic expertise  
19  
20 326 higher than QI. They described how the communication mainly went top to bottom, and how  
21  
22 327 this presented several challenges to QI. Numbers were changed beyond their control and they  
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24 328 were given tasks they did not understand the meaning of.

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28 329 HMM participants explained that instead of working on improvement processes  
29  
30 330 related to their own challenges in their units, they were busy responding to economic reports  
31  
32 331 and cut demands. The exercise of leadership was left to each individual HMM, influenced by  
33  
34 332 HMMs' personal competence and characteristics. In this way, QI tasks became under-  
35  
36 333 prioritized in favor of tasks that were perceived as more acute. Participative observations  
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38 334 revealed how computer systems affected this, by giving alerts on tasks that had to be  
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40 335 terminated, for example, related to sick absence.

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44 336 The results clarified two major role conflicts among HMMs. The first conflict was  
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46 337 between being concerned with communication and relationships whereas top management  
47  
48 338 asked for budget control; the second conflict was between being an HMM and being a nurse.  
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50 339 The second conflict was reinforced by HMMs having shared positions, partly as HMMs,  
51  
52 340 partly in the rotation as ordinary nurses. The shared management positions were explained as  
53  
54 341 reducing HMMs' availability to be present. The results showed presence and attendance from  
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56 342 HMMs in the clinical context as central to influencing QI. This was described as presence as a  
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3 343 professional HMM rather than a nurse. Both HMM and relative participants expressed that  
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5 344 HMMs needed to know the individual resident, relative and health personnel, and in this way  
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7 345 support everyone to make use of their individual strengths. One participant (HMM 7)  
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9  
10 346 explained:

11  
12 347 *“It is very important to be able to communicate and find the right words and*  
13  
14 348 *approach. I cannot speak in the same way to one and the other; I am in a different role*  
15  
16  
17 349 *to one and the other.”*

18  
19 350 As a contrast to how important HMMs’ presence was perceived, the participants in the focus  
20  
21 351 groups described absence, and how the top management removed HMMs from the units with  
22  
23 352 frequent mandatory meetings outside the nursing homes. One participant (relative 7, husband)  
24  
25 353 additionally described absent top management in the nursing homes, and questioned how  
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28 354 HMMs were supported:

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30 355 *“But how much support do HMMs get from their leaders [. . .] to exercise leadership,*  
31  
32 356 *it is almost impossible if you don’t have the top with you.”*

### 33 34 35 357 **Discussion**

36  
37 358 The purpose of this study was to identify and critically discuss how HMMs’ development of  
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39 359 capacity and capability for leadership were experienced to influence QI in nursing homes.  
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41 360 Seven focus groups, one individual interview, and participative observations were conducted  
42  
43 361 and analyzed with a critical hermeneutic perspective. In total, there were 25 participants; 18  
44  
45 362 were relatives and 7 were HMMs from two nursing homes in a rural municipality in northern  
46  
47 363 Norway. Two main themes were identified: (1) grasping complexity and limited resources and  
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49 364 (2) conflicting practice.

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51 365 The first theme, *grasping complexity and limited resources*, added new knowledge to  
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53 366 challenges related to nursing homes’ dual functions as both institutions and as homes  
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55 367 (Rijnaard *et al.*, 2016). This includes focus group’ participants descriptions of nursing homes  
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3 368 as complex contexts with overlapping and contrasting domestic and institutional needs. The  
4  
5 369 complex context necessitates stable and sufficient health personnel who are provided with  
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7 370 high knowledge and who exhibit good attitudes to ensure quality services. This was  
8  
9 371 contrasted by the focus group participants' experiences with lack of resources. The limited  
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11 372 recourses were explained as reducing HMMs' capabilities for implementation of QI  
12  
13 373 (Mumford *et al.*, 2007). These results support previous research on how resources influence  
14  
15 374 QI processes (Kaplan *et al.*, 2010). This study indicated quality deviations in the nursing  
16  
17 375 homes based on the lack of communication, knowledge, and skills among health personnel,  
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19 376 which thus underlines the need for HMMs' capacities and capabilities for QI to avoid care-  
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21 377 related symptoms (Greenwood *et al.*, 2018).

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26 378 The results showed the system's colonization of the relatives' life-worlds (Habermas,  
27  
28 379 1985) when the relative participants initially argued that they accepted deviations in nursing  
29  
30 380 homes because of the lack of money in the municipality. The rationalization of the life-world  
31  
32 381 (Habermas, 1985) seemed to be developing during the focus groups, where in particular the  
33  
34 382 relative participants in the last focus groups became clearly more critical, interrupted  
35  
36 383 themselves, and questioned how and why deviations were accepted. These results support  
37  
38 384 previous research indicating that QI in complex nursing home contexts should be  
39  
40 385 accomplished in multidisciplinary areas (Agarwal *et al.*, 2013). The results accentuated  
41  
42 386 nursing home cultures based on presence, trust and involvement. This was in contrast to the  
43  
44 387 experiences of how both relatives and voluntary organizations were not welcomed, and the  
45  
46 388 descriptions of a lack of collaboration.

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51 389 In the second theme, *conflicting practice*, the HMM participants experienced that they  
52  
53 390 had developed a capacity for influencing QI by an increased understanding of complexity and  
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55 391 continuous improvement work as a result of the municipality's focus on QI. Central parts of  
56  
57 392 HMMs' experiences of capacity development were recognized local and national  
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3 393 development areas. However, this was contrasted by how HMMs experienced their general  
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5 394 development of capacity and capability for leadership as an unsystematic process for which  
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8 395 they had taken individual responsibility and by which their capabilities for QI were reduced.  
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10 396 The participants described how HMMs' everyday expectations were experienced as  
11  
12 397 three-fold, regarding the need to meet professional, personnel-related, and economic  
13  
14 398 demands. Both HMMs and relatives experienced that prioritizing among these areas was left  
15  
16  
17 399 to individual HMMs, and that this practice caused multiple role conflicts. Although the top  
18  
19 400 management had introduced Lean as consistent for leadership throughout the organization,  
20  
21 401 with principles based on adapting process pathways (Mason *et al.*, 2015), it was explained by  
22  
23 402 both HMMs and relatives in the focus groups that traditional command and control leadership  
24  
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26 403 styles dominated from the top management level. The municipality's investment in the  
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28 404 development of HMMs' competence and implementation of QI was thus a clear contrast to  
29  
30  
31 405 how these role conflicts unfolded.

32  
33 406 Although both relatives and HMMs expressed in the focus groups that leadership  
34  
35 407 presence among residents and health personnel was important, the participative observations  
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37 408 revealed that health personnel highly valued when HMMs compensated for a lack of nursing.  
38  
39  
40 409 The members of top management were experienced to value economic reporting and  
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42 410 budgetary control. Previous research shows how HMMs' development of capacity and  
43  
44 411 capability for leadership should be supported by bottom-up processes, interactions within  
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46  
47 412 networks, and an empowering upper management (Hartviksen *et al.*, 2019).  
48

49 413 This study shows how HMMs experience a reality with opposite principles, lacking  
50  
51 414 coherence between leadership development programs and everyday life. HMMs experienced  
52  
53 415 expectations from the top management to prioritize the economic part of leadership, and much  
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55  
56 416 time was spent on meetings in this regard. HMMs expressed that they did not experience  
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58 417 communicative rationality, and provided several examples of systematically distorted  
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3 418 communication (Habermas, 1985) where their reality and budgetary estimates were changed  
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5 419 without their knowing and without the possibility of influencing this process.  
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8 420 The results show how both relatives and HMMs experienced the need for HMMs to  
9  
10 421 exercise leadership and adapt to individual residents, relatives, and health personnel so as to  
11  
12 422 make the most out of inter personal relationships. Both relatives and HMMs agreed to this  
13  
14 423 perspective; HMMs agreed from a professional view while relatives agreed from a relational  
15  
16 424 view. This correspondence between professional and relational experiences strengthens this  
17  
18 425 knowledge and expands the present understanding on how to handle QI processes within  
19  
20 426 changing complex social systems (Taylor *et al.*, 2014). This study shows how HMMs  
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22 427 developed the capacity to influence QI in nursing homes, but how the possibility of QI was  
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24 428 reduced because of how nursing homes are structured and managed.  
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#### 28 429 *Strengths and Limitations*

30 430 The authors of this study aimed to explore how HMMs' development of capacity and  
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32 431 capability for leadership were experienced to influence QI in nursing homes. This design  
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34 432 implies that aspects other than HMMs' development of capacity and capability could affect  
35  
36 433 HMMs' approaches to QI, including their personal characteristics, knowledge, and  
37  
38 434 experience. However, the results show parallels from the development programs HMMs had  
39  
40 435 participated in relative to the participants' experiences and data from participative  
41  
42 436 observations. One of the HMMs did not have the ability to participate in the initial focus  
43  
44 437 group, and thus participated in an individual interview. This interview did not benefit from the  
45  
46 438 participants' interactions and the participant had more time to share her experiences. These  
47  
48 439 differences could have influenced the data, as people tend to act differently in a group than in  
49  
50 440 private (Morgan, 1996). The benefits of gaining her perspectives were considered more  
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52 441 important than the limitations.  
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3 442 Participative observations were added as a method to observe HMMs in their clinical  
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5 443 environment, although influenced by the researchers' presence (Alvesson and Sköldbberg,  
6  
7 444 2008). The participative observations altered the asymmetric power relationship created by  
8  
9 445 focus groups (Kvale and Brinkmann, 2015), as HMMs took the leader position and the  
10  
11 446 researcher became a follower. These three different methods strengthened the study and gave  
12  
13 447 coherent results.  
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16  
17 448 The participants in this study were relatives and HMMs. Attempts were made to  
18  
19 449 recruit residents. Another important group of participants could have been health personnel.  
20  
21 450 However, this study aimed to keep the focus on HMMs and their influence on quality  
22  
23 451 improvement. This study's first author participated in the same learning network as the HMM  
24  
25 452 participants. This dual role involved the risk of influencing the participants' answers.  
26  
27 453 However, by building on existing trust, it also simplified access to the field. The relative  
28  
29 454 participants included two sisters, and a mother, and son. The communication lines showed  
30  
31 455 that the relationship between the two sisters influenced the communication by more closely  
32  
33 456 following each-others' input. This was not visible between mother and son. In a rural context,  
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35 457 it could be expected that the participants, in some degree, are known to each other.  
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### 39 458 **Conclusions**

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41  
42 459 The results of this study provide new knowledge about how HMMs' development of capacity  
43  
44 460 for leadership may influence QI in nursing homes, and how this is contrasted by  
45  
46 461 organizational and structural challenges that reduce HMMs' capability for QI. HMMs in these  
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48 462 nursing homes had developed capacity for leadership through knowledge and understanding  
49  
50 463 of the complexity and continual processes involved in their work. This development was  
51  
52 464 contrasted by how resource shortages, role conflicts, and the lack of trust and cooperation  
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54 465 reduced the possibility for succeeding with QI. The first theme provides new knowledge  
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56 466 about how important the presence of leadership among HMMs is with a continuous  
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3 467 perspective on the development of knowledge and attitudes among health personnel closest to  
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5 468 residents. The second theme provides new knowledge about how role conflicts and conflicting  
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7 469 demands reduce HMMs' capabilities for QI.  
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### 10 470 **Implications**

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12 471 For HMMs, the results of this study implicates knowledge that may provide a source for  
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14 472 critical reflection about own leadership and the connection between their development,  
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16 473 choices and priorities, and the opportunities and constraints that are given on the basis of  
17  
18 474 healthcare as a complex context, and how it is organized and managed. For top managers and  
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20 475 policy makers, the knowledge provided by this study implicates a need for a change in how  
21  
22 476 HMMs' development are facilitated and supported, suggesting HMMs' involvement in  
23  
24 477 continuous and systematic competence programs in coherence with HMMs' everyday life in  
25  
26 478 their clinical context. Such competence programs should be based on the principles of clear  
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30 479 frameworks, overall trust, and a facilitating, present leadership. These changes are understood  
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33 480 as necessary to meet the demands of complexity in healthcare and to secure HMMs'  
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35 481 development of capacity and capability for leadership to influence QI in clinical contexts.  
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Table 1

*Participants' Characteristics*

Timeline	April 2019						May 2019			
Participants' Characteristics	Focus group 1	Focus group 2	Individual interview	Focus group 3	Focus group 4	Participative observations	Focus group 5	Focus group 6	Focus group 7	In total
Relatives	5	0	0	10	3	0	(6)	(4)	0	18
HMMs	0	6	1	0	0	(7)	0	0	(7)	7
Female	3	6	1	6	2	(7)	(5)	(3)	(7)	18
Male	2	0	0	4	1	0	(1)	(1)	0	7
Spouse	1	0	0	3	2	0	(1)	(3)	0	6
Adult child	3	0	0	7	1	0	(4)	(1)	0	11
In-laws	1	0	0	0	0	0	(1)	0	0	1
Age	47-73	32-57	50	34-80	53-90	(32-57)	(47-68)	(56-80)	(32-57)	32-90
Nursing home 1	2	4	0	9	2	(4)	(2)	(3)	(4)	17
Nursing home 2	3	2	1	1	1	(3)	(4)	(1)	(3)	8
Experience in nursing homes	2-4 years	2-8 years	4 years	1-7 years	1-6 years	(2-8 years)	(2-6 years)	(1-4 years)	(2-8 years)	1-8 years

Table 2

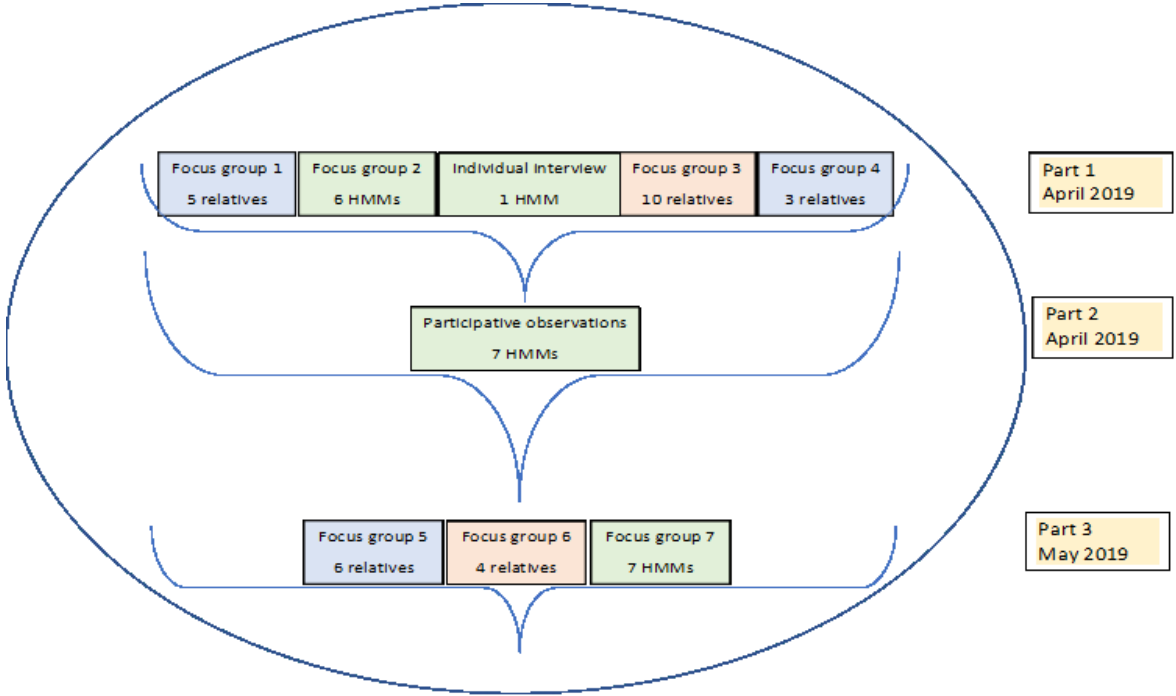
*Illustration of the analysis process*

Experiences of how HMMs' development of capacity and capability for leadership influence quality improvement in nursing homes		
Themes	Sub-themes	Units of meaning (Quotations)
Grasping complexity and limited resources	Supervising a complex context	<i>"The biggest challenge is this daily, that is, one thing is what you can measure, but what happens every day, and can all the substitutes, and also permanent employees, do they know what the individual prefers, and how we are doing it here"</i> (HMM 5)
	Continuously developing and compensating	<i>"Things fluctuate all the time: it is easy for someone to disagree about how something should be done or become uncertain [ . . . ] they need guidance, a person who asks the right questions [ . . . ] it's continuous work."</i> (HMM 3)
Conflicting practice	Lacking supported development	<i>"It must be a proper program or follow-up [ . . . ] not just the title HMM, but to become a leader [ . . . ] because there are different techniques to involve people, to lead, it is an art, and of course there are tools [ . . . ] when I started I had to find out for myself."</i> (HMM 7)
	Striving to meet unclear frameworks	<i>"[ . . . ] they think we should be economic oriented [ . . . ] we are guided by professional expertise, than what they want of us. They probably think [ . . . ] that everything is square, but healthcare is not square, there is no black-and-white answer, eh, even if they want it."</i> (HMM 6)

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Figure 1

*Data gathering process*



Health Services