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How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings? A qualitative study about managers' experiences

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How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings?

A qualitative study about managers' experiences

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Abstract

Objective: Although many contextual factors can facilitate or impede primary care managers' work with quality and safety, research on how these factors influences the managers' continuous improvement efforts is scarce. This study explored how primary care managers experience the impact of a variety of contextual factors on their daily quality and safety work.

Design: The study has a qualitative design. Nine semi-structured qualitative interviews were conducted at the participants' workplaces. Systematic Text Condensation was used for analysis.

Setting: Five nursing homes and three home care services in Norway.

Participants: Female primary care managers at different levels, working in different units and municipalities varying in size and location.

Results: The participants cited the lack of time and money as a significant impediment to quality and safety, and these resources had to be carefully allocated. They emphasized the importance of networks and competence for their quality and safety work. Delegation of responsibility among employees helped create engagement, improved competence, and ensured that new knowledge reached all employees. External guidelines and demands helped them to systematize their work and explain the necessity of quality and safety work to their employees, if they were compliant with daily clinical practice in the organization.

Conclusions: Numerous contextual factors influence the managers by determining the leeway that they have in quality and safety work, by setting the budgetary constraints and defining available competence, networks, and regulation. At first glance these factors appear fixed, but our findings underscore the importance of primary care managers acting upon and negotiating the environment in which they conduct their daily quality and safety work. More research is needed to understand how these managers strategize to overcome the impediments to quality and safety.

Strengths and limitations of this study

- This study provide qualitative knowledge of the ways in which primary care managers' work with quality and safety despite contextual barriers.
- The samples of managers was diverse in terms of age, position, work experience, and type of unit (home care and nursing home).
- There was a range in the size and location of the municipalities and the units included in the study.
- The sample was small, but the participants had specific experiences about the study aim, providing sufficient information power and experiences that might be transferable to other primary healthcare settings.

Keywords: quality improvement, patient safety, context, primary care, nursing homes, home care

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INTRODUCTION

Background

There is increased attention to quality and safety challenges and improvement initiatives in the primary care setting [1-3]. However, research has shown that the results of improvement initiatives are inconsistent and often limited [4]. One of the pitfalls is that what is successful in one setting might fail in another [1]. The impact of quality and safety initiatives depend on contextual factors in the healthcare settings [4, 5].

Context can be either inner/internal (e.g., organizational culture and implementation climate) or outer/external (e.g., laws and regulations, external policies, and funding structures) settings of an organization [6]. The range of contextual factors across healthcare settings can influence the implementation of interventions and whether and how they affect quality and safety outcomes [4, 5, 7].

Several frameworks for healthcare improvement, such as the Consolidated Framework for Implementation Research (CFIR) [5] and Promoting Action on Research Implementation in Health Services (PARISH) [8], are designed to help researchers and practitioners who implement and conduct quality and safety improvement initiatives, to identify contextual factors in their setting [5, 6, 9-11]. The frameworks are often based on research from specialized healthcare. In contrast to specialized care, research and knowledge about contextual factors in the primary care setting are limited.

In Norway, the municipalities are responsible for primary care, including nursing homes and home care, midwife, rehabilitation, physiotherapy, and after-hours emergency services. The municipalities are by law required to improve healthcare quality and safety. Managers at all service levels are responsible for planning, implementing, and evaluating the improvement efforts [2]. Thus, managers are important in the effort to improve quality and safety in primary healthcare. A variety of contextual factors can facilitate or hinder primary care managers' work. Most of the research on the role of contextual factors for quality and safety work is related to quality improvement interventions and implementation. It is important to explore how contextual factors affect managers' daily quality and safety work, whether they are implementing specific improvement interventions or not. Thus, more research is needed to explore which contextual factors are salient for daily quality and safety work in the primary care setting.

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Aim and research question

The purpose of this study is to generate new knowledge about the contextual factors that influence managers' quality and safety work in Norwegian home care and nursing homes. This study answered the following research question: How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings? By answering this question, the study contributes to a better understanding of quality and safety improvement processes in Norwegian primary care as it occurs in everyday work.

METHODS

The study uses a qualitative explorative design [12].

Recruitment and sample

We recruited a purposive sample of nine middle- and top-level managers in primary care. The sample includes managers from five municipalities, located in three counties in different regions of Norway. The selection criteria were based on diversity in managerial role, responsibility, and a variety of counties and municipalities, to ensure that the sample represented a variety in contextual settings. Our sample consisted of four managers from nursing homes, four from home care services, and one director of health and care services in a municipality. All participants were females aged 34-61 years, with three to 19 years of managerial experience. The municipalities, nursing homes, and home care services represented in our sample differ in size, location (urban/rural) and structure. The managerial levels span from the municipality level (one director of health and care services), followed by top managers of the nursing home and home care services (n=2), and department managers with personnel responsibility of one or several departments within the nursing homes and home care service (n=4). Also included in the sample are professional development nurses with responsibility for the daily operations within specific departments (n=2). They do not manage personnel and or have administrative responsibility.

Co-researchers from Center for Development of Institutional and Home Care services in two Norwegian municipalities recruited the participants through mail and telephone. The researchers then contacted the participants to establish a relationship, agree upon the time, and place for the interviews. The study is a part of the larger SAFE-LEAD project that aims at building leadership competence and guide primary care managers in their efforts to advance and improve vital quality and safety strategies, attitudes, and practices in their organizations.

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The participants in the current study were recruited as a part of a first phase in the SAFE-LEAD project, to explore the role of contextual factors for quality and safety work in primary care (see Wiig et al. [13] for study protocol) and as a basis for intervention planning in the project. The participants were informed about the SAFE-LEAD project and the aim of the current study before participating.

Data collection

Data were drawn from semi-structured individual interviews of the nine managers. The interviews took place at the institutions where the managers worked and were carried out by the authors and co-researchers in the SAFE-LEAD project. The interview guide included open questions about managers' quality and safety work, and more specific questions on the importance of factors such as external demands, economy, and structure inspired by Bate et al.'s [14] Organizing for Quality framework. Each interview lasted for about 45 minutes. Only the researcher and the participant were present during the interview. The interviewer invited the managers to share experiences and tell stories about how different contextual factors affect their work with quality and safety. To decide on the sample size we assessed information power by considering the specificity of the research question, use of theory, the quality of the interviews and the analysis strategy [15]. The research question in our sample was specific addressing different contextual factors, and the sample was relevant to explore the question as it consisted of managers with different backgrounds from different counties and municipalities across Norway, in addition to varying managerial background and role from nursing homes, home care, and management levels. Most interviews were information-rich, providing numerous perspectives and nuances on how different contextual factors influence the managers' work with quality and safety. After nine interviews, we found sufficient information power for a responsible analysis to explore our study question. The interviews were audio-recorded, encrypted and transcribed by the authors and co-researchers. The names of all participants were removed from their statements prior to transcription.

Analysis

To analyze the data, we used Systematic Text Condensation (STC), a thematic, cross-case analysis strategy [16]. The analysis comprised four steps: (1) reading the transcribed interviews to obtain a sense of the material and identify preliminary themes, (2) developing code groups based on the preliminary themes and identify units of meaning related to each code group, (3) establishing sub-groups in the code groups and condensing the content in each code group, and (4) synthesizing the content in each code group to reconceptualized

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descriptions of how contextual factors influence the participants' work with quality and safety.

In step 1, all project members involved in the data collection, including co-researchers, participated in identifying the preliminary themes. ER and TJ completed the analysis in steps 2-4 with input and discussion with SW.

Ethics

The Regional Committees for Research Ethics in Norway found that the study was not regulated by the Health Research Act. The Norwegian Social Science Data Services approved the study (NSD, ID 52324). The study followed the Helsinki Declaration, and all participants gave their written informed consent.

Patient and public involvement

Patients were not involved in this study, but patients' and their next-of-kin's perspectives are central to the SAFE-LEAD project [13]. Patients, service users, and next-of-kin representatives participated in the SAFE-LEAD project development, and collaborated with the project team as co-researchers throughout the project period, including recruitment, data collection, analysis, and dissemination. The results will be disseminated to the participating units through oral presentations, and as a published article.

RESULTS

Analysis revealed relevant perspectives on how contextual factors influence managers' quality and safety work in nursing homes and home care and how managers maneuver in their work practice to accomplish their tasks. The participants stated that lack of time and money interfered with their work with quality and safety, and that these resources required careful allocation. They also emphasized the importance of networks and competence. Delegation of responsibility among employees helped create motivation, engagement and improved competence in quality and safety work, and ensured that new knowledge reached all employees. External guidelines and demands helped to systematize their work and legitimize the necessity of quality and safety work to their employees, if they were in accordance with daily clinical practice in the organization. These findings will be elaborated below. Quotations are assigned pseudonyms.

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Lack of resources is a major barrier for managers' work with quality and safety and requires careful prioritization

Many participants mentioned lack of time and money as important barriers to quality and safety work. Many participants stated that they did not have enough time to comply with the legal requirements, for example regarding documentation, reporting, and patient follow-up. Some said that the time spend on documentation and the need for cost saving often came at the expense of both patient care and quality and safety work. We should be able to take care of patients and stay within the budget, they said. Money was tight and there was little available for anything outside of daily operations. One participant said that their unit had $2390 to spend on the health, safety and working environment, but a person lift alone costs $2014. Many participants observed that staffing was difficult and that they could not hire temporary personnel for night shifts. Nor did they have the funds to purchase the systems they wanted. The participants wanted a slightly larger budget so that they could add a few more hours each month in order to meet the demands of their quality and safety work. A manager in a small rural municipality expressed it as follows:

> "There is limited time for care. The other things are also important, but when one is given more and more tasks and fewer resources, some things clash, and then it is only half done". (Director of health and care services).

Several of the participants emphasized that despite being under-resourced, they got a great deal done because they were good at allocating resources. They made the best use of their personnel, such as allowing an employee to work with care plans by moving tasks from that employee to another. Some participants told they had to work systematically with the resources that they had and to set realistic goals. For example, they were not able to hold large professional seminars as often as they liked, so instead they concentrated on quality and safety in the day-to-day care work. A few of the participants stated that despite operating deficits in the municipalities, they had their budgets and their employees, and thus it did not cost more or less, but depended on themselves initiating the quality and safety improvement efforts. Many emphasized the importance of working creatively within the economic scope they had. As long as they adhered to the total budget, they could use funds as they saw fit. For example, one of the participants said that based on complaints from patients and next of kin in one department, they bought furniture and flowers with money that had actually been reserved for another department that did not need it. It was all about doing the right things at the right

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time, as illustrated by a quote from a participant working at a short-term rehabilitation and palliative care department:

> "Sometimes I think this intervention could be good, but then there is so much else going on in the department that it is not the right time to do it. You have to pick your fights carefully. The right actions in the right time". (Department manager, nursing home).

Access to networks play an important role in the quality and safety work

Several of the participants reiterated the importance of networks and support for professional and academic development. We are not born managers, one of them said, and many others stressed the need for professional input, more and better skills and competence in quality and safety work, and someone to offer encouragement. They reported several ways of working with competence development in their unit or department, such as hosting in-house seminars and workshops with quality and safety work on the agenda. Others had brought all of the unit managers together to collaborate on quality and safety issues. One of the participants said that in their last manager meeting they discussed how to handle aggressive patients. The solution was to give some of the staff special training.

The participants also stressed the importance of support from networks and resource persons in the municipality, such as professional development nurses, nursing home doctors, and the Center for Development of Institutional and Home Care Services in each county. The nursing home doctor led the dialogue with patients/users and next of kin, and was an important discussion partner when it came to quality and safety challenges. The nursing home doctor was also responsible for much of the in-house teaching and new employee training. The professional development nurse was a driving force in quality improvement that kept the managers up-to-date. Most of the participants had an interdepartmental quality committee, with professional development nurses under supervision of the District Medical Officer in the municipality (the highest-ranked doctor in the municipal structure). However, sometimes the committee proposed too many activities that took time away from their daily work, resulting in time pressure and stress. When this happened, the committee became more of a burden than a support, they said. The participants did note the value of having support services such as physiotherapists, ergonomics, psychiatry and the medical center nearby, and some even had it in the same building. During a busy workday, this was a timesaver for participants who could just stop by as needed. Likewise, the informal meeting arenas between the unit managers,

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such as meeting for lunch or coffee was an important support. A participant with 10 years of experience as a healthcare manager describes the importance of collaborating with other managers and employees:

> "I believe that we have to work together. As a manager, I can have the vision, but when I, as a manager, am responsible for the shifts and many other things, it is important for someone else to pull me up so that we can discuss things". (Department manager, nursing home).

Delegation of responsibility ensures that new knowledge reaches the employees

The participants mentioned the delegation of roles and responsibility to employees as important to create motivation, engagement and improved competence in quality and safety work. Since the participants did not have the capacity to teach all of the employees how to implement new procedures, they gave employees responsibility for different areas. The participants then facilitated and made sure that the employees got time to take courses and training in their areas of responsibility. To get responsibility for an area, the employee had to communicate well with his/her colleagues, take courses, keep updated and introduce new competences and routines to the department. Several participants said they were confident in knowing that there was a person with special competence in a certain area. One participant stated that it was not the manager but the employees who were the experts, because they were on the floor every day. In this connection, several mentioned the importance of having a highly qualified professional staff. Many participants had put together a resource group to work on new routines and interventions, which were then discussed in the quality committee. For example, one participant told that they lacked a clear routine regarding the rinsing rooms, and then challenged the hygiene group to make a proposal. The participants also stressed the importance of engaging the employees from the beginning when implementing something. For example, they encountered resistance when patients wanted to change a mealtime from afternoon to midday. The managers then had to collaborate with the employees, give them more time, and work with attitudes and information to ensure that the employees accepted the change. As one participant said, change cannot be imposed from the top but has to be driven from the bottom. The director of health and care services in a small municipality reiterated the importance of giving employees an area of responsibility:

> "Most have their area of responsibility. It is nutrition, medical reviews, palliative care, diabetes. As such, the vast majority have their area, but we try to give them an area of

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> interest. And then we see that it becomes engagement around this". (Director of Health and Care Services).

Despite making the best use of the resources at hand, the participants stressed the problem posed by the lack of proper professional competence. One participant had worked in a hospital setting before, where she could consult with an outpatient clinic nearby, but such services were nonexistent in the municipalities. Many participants said they strived to have the right competence at the right place, for instance, not assigning medical tasks to assistants. Some considered not using assistants at all in home care services. However, when many employees were out on sick leave it was harder to get nurses or healthcare workers instead of assistants to take extra shifts. This was a serious problem, they said, since the assistants did not know the routine. A few participants even stressed the importance of having professionally trained staff, insisting that it was unacceptable to have only unskilled workers on duty. One of the participants recounted an incident in which an assistant had failed to notice that a patient was having difficulty breathing. The assistant mistakenly believed that eating blueberries had turned the patient's lips blue. Several participants wanted to replace some of the assistants with nurses who were capable of handling most of the departmental tasks. There was a problem, however, with recruiting nurses, especially for temporary positions, as shown in a quote from a manager who had worked in the same nursing home for 18 years:

> "Nurses do not grow on trees, so to speak. It's hard to recruit. September last year was the first time since I started as a manager that we had full nursing coverage (…). But it did not last long. Things happen all the time. If we lose nurses, we also loose the competence they have. And then one must start all over again". (Nursing home manager).

External demands can facilitate oversight and a systematic approach in improvement work if they are in accordance with daily clinical practice in the organization

Participants reported that external demands such as national guidelines and regulations contributed to systematize their work, and justified the necessity of the quality and safety work. They explained the benefits of the national patient safety program, dashboard meetings, ethical reflection, and development of checklists. Some pointed out that working with checklists was demanding but necessary for high-quality service provision. Furthermore, structured documentation was necessary to show the local politicians that they had tried

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everything else, and was often the only way to make their elected officials understand their needs and allocate more resources, they said.

When governmental white papers were specific i.e. stated what skills would most likely be needed in the future, the participants found it easier to act upon it. They experienced greater understanding among local politicians, employees, and users when they had support from white papers and reports. For example regarding changes in the use of health technology, the participants experienced increased compliance among employees when they could cite a white paper. A participant working in a large rural home care explained how implementation of new guidelines anchored in a white paper helped her focus on quality improvement:

> "I feel it helps me a lot that it is decided from the top level [Parliament] that Norway wants it that way. That's true. Yes, we just have to adjust and then change practice according to this. Now it is decided that the patient shall receive more [services], and then we have to work towards it and help employees to cope with these changes". (Department manager, home care).

The participants stated that political decisions in the municipality and administration affected them because there were not enough resources and a lack of understanding of what was required. Participants talked about the mismatch between legal requirements and daily practice and the contextual factors at their workplace, which could lead to misunderstandings and substandard quality. For example, some participants reported that the municipality wanted consistent standard procedures for medication throughout the municipality so that it would be easier to rotate employees. However, the participants did not find it useful since each unit had its own routine. Some said they would like to meet the politicians to talk about how they did their daily work "on the shop floor" which was often quite different from what the politicians imagined. The participants expressed that politicians should be better informed about what is happening in the clinical practice, not promising too much, but rather have an open door and listen to arguments. Many stated that there is a need for more qualified professionals in the future to work smarter and more efficiently, and that politicians have to say something about what to do less of. A participant working in a middle-sized urban nursing home expressed this as follows:

> "I wish the politicians were clear about what they really expect and what to achieve to ensure the quality they seek. I feel that if a politician says something, others are just jumping after". (Nursing home manager)

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DISCUSSION

Our analysis demonstrated that lack of resources is a major barrier for managers' quality and safety work, and requires careful prioritizing. Access to networks and necessary competence play an important role in quality and safety work, and delegation of responsibility ensures that new knowledge reaches all employees. External guidelines and demands help to systematize managers' quality and safety work, as long as they are in accordance with daily clinical practice in the organization. Below, we discuss the impact of these findings and the strengths and limitations of our study design.

The contextual factors that the managers in our study emphasized as important for quality and safety work are similar to those reported in other studies, reviews and implementation frameworks [1, 5, 6, 17, 18]. However, we explore the role of contextual factors in relation to managers' daily quality and safety work, not specifically according to quality improvement initiatives. Most of the previous research on quality and safety work in healthcare was conducted in hospitals [3, 19]. Our study explores the perspectives of managers at different levels in the primary care setting, including units varying in size and location. Furthermore, most previous studies are either quantitative, or reviews of quantitative studies [4]. Our study adds new qualitative knowledge regarding *how* managers in primary care find different contextual factors influencing their quality and safety work, and how they shape the context in which they work. This shows that context is not independent from the actors within the different primary care units, but is actually something that can be changed, acted upon and negotiated to improve the environmental conditions for quality and safety. Rosness et al. [20] describes this as a "sender-receiver metaphor" in which managers can be considered as actors who may resist, co-create or re-create the environmental conditions for their own quality and safety work.

Our findings are in accordance with those in the systematic review by Kaplan et al. [4], who found that associations between funding and quality improvement were often not significant. In light of our findings, this might be because managers' ability to prioritize the available resources is more important than the resources themselves. Our findings indicate that managers' strategies and skills in prioritizing resources, partly by involving and listening to their staff's opinions on how resources should be used, are more important than the actual amount of resources available. The importance of managers' capabilities to change, negotiate, or act upon their context is also revealed in our findings about how managers delegated

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responsibility for specific fields to different employees, ensuring motivation and knowledge sharing among staff. The managers' role in acting upon their surrounding context was also evident in their interaction with politicians, and the way they used the local budget to fit their needs. This is consistent with Bovenkamp et al. [21] who use the concept of institutional work when describing how managers both influence and are influenced by their institutional context.

Many studies about the role of contextual factors for quality and safety improvement have found that external guidelines and demands are important factors [5, 18, 22]. The absence of such guidelines is an impediment to the implementation of improvement interventions [18]. The current study adds to this body of knowledge, by showing that external guidelines and demands should be consistent with daily clinical practice in the organization to contribute to the managers' quality and safety work. Carlfjord et al. [22] also found that routines should be taken into account when incorporating new methods, guidelines or tools into primary health care to ensure compatibility.

Strengths and limitations

This study context could have resulted in positive response bias, especially regarding individual factors in which the managers have a responsibility and a possibility to influence. However, we highlighted that the purpose of our study was not to evaluate their quality and safety practices, but to generate knowledge of contextual factors important for their daily quality and safety work.

Despite the small sample, the participants had specific experiences and perceptions about the research question, which provided rich data and sufficient information power [15]. Our sample was diverse in age, position, work experience, type of unit (home care and nursing home), the size and location of both the municipalities and the units in which the managers worked. This diversity brought a range of perspectives and nuances to the data. We did not include employees, who might have held opinions that differed from the managers'. We limited the scope of our study to managers because they have the main responsibility for daily quality and safety practices. We recommend that further studies explore employees' perspectives.

Given the qualitative nature of our study, the list of important contextual factors addressed is not exhaustive. However, the factors described are in accordance with other studies of the role

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of contextual factors for quality and safety work, illustrating that these factors are found across settings and samples. Thus the contextual factors described by the participants as promoting or inhibiting their quality work are probably transferable to other units and healthcare services.

Conclusions and implications

This study shows how contextual factors influence quality and safety work. The findings indicate that managers play an important role in acting upon and negotiating the contextual environment in which their daily quality and safety work are carried out. The healthcare sector is in constantly pressure of time and limited resources, and some units might be better than others at making the best use of these limited resources, for quality work. Through this study, we have generated knowledge on how contextual factors might influence the way in which managers perform high-quality work despite contextual barriers, and how they are actors in shaping the context in which they work. Such knowledge can be useful to other primary care units, and to other healthcare services. Research on quality and safety work in the Norwegian primary care context is still limited, and more studies should be conducted to explore how managers and employees in the primary care setting act upon their contextual environment and shape the context in favor of care quality and safety.

Qualitative studies can contribute to a more complete understanding of how context influence quality and safety work, and how healthcare units can manage contextual barriers at the local level. Knowledge of these issues is important for understanding daily work practices, for identifying possible barriers and facilitators, and when preparing and conducting improvement interventions, to increase the probability of sustainable and transferable effects of improvement efforts.

DECLARATIONS

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors contributed to the conception and design of the manuscript. TJ collected the data, together with other researchers (Lene Schibevaag and Torunn Strømme) and a co-researcher (Berit Ullebust) in the SAFE-LEAD project. ER and TJ conducted the systematic text condensation analysis, although SW was involved in step 1 of the analysis, in addition to discussion and refining of the results. ER made the first draft of the manuscript, while TJ and SW have critically reviewed and revised the subsequent drafts. All authors read and approved the final manuscript.

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Availability of data and material

Anonymized data of the study will be stored at the Norwegian Social Science Data Services until the project is completed, and will then be available on request.

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COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	5, 15
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	N/A
Occupation	3	What was their occupation at the time of the study?	N/A
Gender	4	Was the researcher male or female?	1
Experience and training	5	What experience or training did the researcher have?	N/A
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	4
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	5
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	13
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	4
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	4
Sample size	12	How many participants were in the study?	4
Non-participation	13	How many people refused to participate or dropped out? Reasons?	N/A
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	5
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	N/A
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	5
Field notes	20	Were field notes made during and/or after the inter view or focus group?	N/A
Duration	21	What was the duration of the inter views or focus group?	5
Data saturation	22	Was data saturation discussed?	5,13
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

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Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	6, 15
Description of the coding tree	25	Did authors provide a description of the coding tree?	5, 6
Derivation of themes	26	Were themes identified in advance or derived from the data?	5, 6
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	7-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	N/A
Clarity of major themes	31	Were major themes clearly presented in the findings?	7-11
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	N/A

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings? A qualitative study about managers' experiences

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How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings?

A qualitative study about managers' experiences

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Abstract

Objective: Although many contextual factors can facilitate or impede primary care managers' work with quality and safety, research on how these factors influences the managers' continuous improvement efforts is scarce. This study explored how primary care managers experience the impact of a variety of contextual factors on their daily quality and safety work.

Design: The study has a qualitative design. Nine semi-structured qualitative interviews were conducted at the participants' workplaces. Systematic Text Condensation was used for analysis.

Setting: Five nursing homes and three home care services in Norway.

Participants: Female primary care managers at different levels, working in different units and municipalities varying in size and location.

Results: The participants cited the lack of time and money as a significant impediment to quality and safety, and these resources had to be carefully allocated. They emphasized the importance of networks and competence for their quality and safety work. Delegation of responsibility among employees helped create engagement, improved competence, and ensured that new knowledge reached all employees. External guidelines and demands helped them to systematize their work and explain the necessity of quality and safety work to their employees, if they were compliant with daily clinical practice in the organization.

Conclusions: Numerous contextual factors influence the managers by determining the leeway that they have in quality and safety work, by setting the budgetary constraints and defining available competence, networks, and regulation. At first glance these factors appear fixed, but our findings underscore the importance of primary care managers acting upon and negotiating the environment in which they conduct their daily quality and safety work. More research is needed to understand how these managers strategize to overcome the impediments to quality and safety.

Strengths and limitations of this study

- Semi-structured interviews provided in-depth qualitative knowledge of primary care managers' perspectives.
- The study sample is diverse in terms of age, position, work experience, and type of unit (home care and nursing home).
- The sample was small, but provided sufficient information power and experiences that might be transferable to other primary healthcare settings.
- Data collection was conducted by several researchers with different backgrounds and perspectives.
- Analyst triangulation was applied in analyzing the data to ensure trustworthiness.

Keywords: quality improvement, patient safety, context, primary care, nursing homes, home care

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INTRODUCTION

Background

There is increased attention to quality and safety challenges (e.g., medication errors, lack of resources and competence, lack of continuity) and improvement initiatives (e.g., national patient safety campaigns) in the primary care setting [1-3]. However, research has shown that the results of improvement initiatives are inconsistent and often limited [4]. One of the pitfalls is that what is successful in one setting might fail in another [1]. The impact of quality and safety initiatives depend on contextual factors in the healthcare settings [4, 5].

Context can be either inner/internal (e.g., organizational culture and implementation climate) or outer/external (e.g., laws and regulations, external policies, and funding structures) settings of an organization [6]. The range of contextual factors across healthcare settings can influence the implementation of interventions and whether and how they affect quality and safety outcomes [4, 5, 7].

Several frameworks for healthcare improvement, such as the Consolidated Framework for Implementation Research (CFIR) [5] and Promoting Action on Research Implementation in Health Services (PARISH) [8], are designed to help researchers and practitioners who implement and conduct quality and safety improvement initiatives, to identify contextual factors in their setting [5, 6, 9-11]. The frameworks are often based on research from specialized healthcare. In contrast to specialized care, research and knowledge about contextual factors in the primary care setting are limited.

In Norway, the municipalities are responsible for primary care, including nursing homes and home care, midwife, rehabilitation, physiotherapy, and after-hours emergency services. The municipalities are by law required to improve healthcare quality and safety. Managers at all service levels are responsible for planning, implementing, and evaluating the improvement efforts [2]. Thus, managers are important in the effort to improve quality and safety in primary healthcare. A variety of contextual factors can facilitate or hinder primary care managers' work, such as external policies and incentives, the organizational culture, available resources, and access to social networks [5, 6]. Most of the research on the role of contextual factors for quality and safety work is related to quality improvement interventions and implementation. It is important to explore how contextual factors affect managers' daily quality and safety work, whether they are implementing specific improvement interventions

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or not. Given this research gap, exploring which contextual factors are salient for daily quality and safety work in the primary care setting is needed.

Aim and research question

The purpose of this study is to generate new knowledge about the contextual factors that influence managers' quality and safety work in Norwegian home care and nursing homes. This study answered the following research question: How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings? By answering this question, the study contributes to a better understanding of quality and safety improvement processes in Norwegian primary care as it occurs in everyday work.

METHODS

The study uses a qualitative explorative design [12].

Recruitment and sample

We recruited a purposive sample of nine middle- and top-level managers in primary care. The sample includes managers from five municipalities, located in three counties in different regions of Norway. The selection criteria were based on diversity in managerial role, responsibility, and a variety of counties and municipalities, to ensure that the sample represented a variety in contextual settings. Exclusion criteria was managers' representing municipalities that were going to take part in a planned intervention in the same project (see below). Our sample consisted of four managers from nursing homes, four from home care services, and one director of health and care services in a municipality (see Table 1). All participants were females aged 34-61 years, with three to 19 years of managerial experience. The municipalities, nursing homes, and home care services represented in our sample differ in size, location (urban/rural) and structure. The managerial levels span from the municipality level (one director of health and care services), followed by unit managers of the nursing home and home care services (n=2), and department managers with personnel responsibility of one or several departments within the nursing homes and home care service (n=4). Also included in the sample are professional development nurses with responsibility for the daily operations within specific departments (n=2). They do not manage personnel and or have administrative responsibility, but often play a key role in quality and safety.

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Table 1. Participant background information

P*	Unit	Professional title	Age group	Size of municipality (nr. of inhabitants)	Education/work experience
1	Municipality level	Director of health and care services (responsible for all municipality health care services, including nursing home and home care services)	45-50	< 5000	Education: Registered nurse. Years of experience: 24 Years in current position: 8
2	Nursing home	Unit manager	51-55	130-135000	Education: Registered nurse. Continuing professional education in geriatrics and management Years of experience: 27 Years in current position: 18
3	Nursing home	Department manager	46-50	15-20000	Education: Registered nurse. Years of experience: 22 (10 years in management) Years in current position: 1,5
4	Home care	Department manager	56-50	10-15000	Education: Registered nurse. Master's Degree in Organizational management Years of experience: 21 (many years as manager) Years in current position: 2
5	Home care	Professional development nurse	31-35	10-15000	Education: Registered nurse. Continuing professional education in cognitive therapy, geriatrics and management Years of experience: 7 Years in current position: 3
6	Nursing home	Department manager	51-55	75-80000	Education: Registered nurse. Continuing professional education in management. Years of experience: Not reported Years in current position: 19
7	Home care	Department manager	61-65	20-25000	Education: Registered nurse. Years of experience: Not reported Years in current position: 7
8	Nursing home	Unit manager	36-40	20-25000	Education: Registered nurse. Master's Degree in health informatics. Continuing professional education in health management. Years of experience: 15 (9 years in management) Years in current position: 0.5
9	Nursing Home	Professional development nurse	36-40	20-25000	Education: Registered nurse. Years of experience: Total not reported (12 years in management) Years in current position: 2

*participant number

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Three co-researchers from Center for Development of Institutional and Home Care services in three Norwegian municipalities recruited the participants through e-mail and telephone. Based on their knowledge of service provides in their counties, the co-researchers approached and recruited the managers according to our selection criteria. The researchers then contacted the participants to establish a relationship, agree upon the time, and place for the interviews. The study is a part of the larger project: *Improving Quality and Safety in Primary Care – Implementing a Leadership Intervention in Nursing Homes and Home care (SAFE-LEAD)* that aims at building leadership competence and guide primary care managers in their efforts to advance and improve vital quality and safety strategies, attitudes, and practices in their organizations. The participants in the current study were recruited as a part of a first phase in the SAFE-LEAD project, to explore the role of contextual factors for quality and safety work in primary care (see Wiig et al. [13] for study protocol) and as a basis for intervention planning in the project. The participants were informed about the SAFE-LEAD project and the aim of the current study before participating.

Data collection

Data were drawn from semi-structured individual interviews of the nine managers, conducted in May/June 2017. The interviews took place at the institutions where the managers worked and were carried out by the author (TJ), two researchers and one co-researcher in the SAFE-LEAD project. The interview guide included open questions about managers' quality and safety work, and more specific questions on the importance of factors such as external demands, economy, and structure inspired by Bate et al.'s [14] Organizing for Quality framework. We developed the interview guide in close collaboration with co-researchers who have extensive experience from municipal healthcare services to ensure fit with the contextual setting. Each interview lasted for about 45 minutes. Only the researcher and the participant were present during the interview. The interviewer invited the managers to share experiences and tell stories about how different contextual factors affect their work with quality and safety. To decide on the sample size we assessed information power by considering the specificity of the research question, use of theory, the quality of the interviews and the analysis strategy [15]. The research question in our sample was specific addressing different contextual factors, and the sample was relevant to explore the question as it consisted of managers with different backgrounds from different counties and municipalities across Norway, in addition to varying managerial background and role from nursing homes, home care, and management levels. Most interviews were information-rich, providing numerous

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perspectives and nuances on how different contextual factors influence the managers' work with quality and safety. After nine interviews, we found sufficient information power for a responsible analysis to explore our study question. Then we had obtained information from different kind of managerial positions, different types of municipalities, different types of services, including managers with both long and short work experience. The interviews were audio-recorded, encrypted and transcribed by the authors and co-researchers. The names of all participants were removed from their statements prior to transcription.

Analysis

To analyze the data, we used Systematic Text Condensation (STC), a thematic, cross-case analysis strategy [16]. The analysis comprised four steps: (1) reading the transcribed interviews to obtain a sense of the material and identify preliminary themes, (2) developing code groups based on the preliminary themes and identify units of meaning related to each code group, (3) establishing sub-groups in the code groups and condensing the content in each code group, and (4) synthesizing the content in each code group to reconceptualized descriptions of how contextual factors influence the participants' work with quality and safety.

In step 1, all project members involved in the data collection, including co-researchers, participated in identifying the preliminary themes. ER and TJ completed the analysis in steps 2-4 with input and discussion with SW. An excerpt of the analytical process is shown in Table 2.

Ethics

The Regional Committees for Research Ethics in Norway found that the study was not regulated by the Health Research Act. The Norwegian Social Science Data Services approved the study (NSD, ID 52324). The study followed the Helsinki Declaration, and all participants gave their written informed consent.

Patient and public involvement

Patients were not involved in this study, but patients' and their next-of-kin's perspectives are central to the SAFE-LEAD project [13]. Patients, service users, and next-of-kin representatives participated in the SAFE-LEAD project development, and collaborated with the project team as co-researchers throughout the project period, including recruitment, data

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collection, analysis, and dissemination. The results will be disseminated to the participating units through oral presentations, and as a published article.

Table 2. Excerpt of the analysis process using Systematic Text Condensation

Preliminary themes	**Code group**	**Subgroups**	**Condensate**	**Result section**
Time Economy Resources Capacity	Lack of resources is a major barrier for managers' work with quality and safety and requires careful prioritization	Lack of time and money is a barrier Prioritizing is necessary	Excerpt from the subgroup "Prioritizing is necessary: *I think we get a lot done with the resources we have, what matters is how we prioritize our time. Someone has to have something extra on their list for others to be allowed to work with nursing plans for instance, but we take turns, and then they are positive to work a little extra.*	Excerpt from the subgroup "Prioritizing is necessary: *Several of the participants emphasized that despite being under-resourced, they got a great deal done because they were good at allocating resources. They made the best use of their personnel, such as allowing an employee to work with care plans by moving tasks from that employee to another.*

*Excerpt from the full text section

RESULTS

Analysis revealed relevant perspectives on how contextual factors influence managers' quality and safety work in nursing homes and home care and how managers maneuver in their work practice to accomplish their tasks. The participants stated that lack of time and money interfered with their work with quality and safety work in Norwegian nursing homes and home care, and that these resources required careful allocation. They also emphasized the importance of networks and competence. Delegation of responsibility among employees helped create motivation, engagement and improved competence in quality and safety work, and ensured that new knowledge reached all employees. External guidelines and demands helped to systematize their work and legitimize the necessity of quality and safety work to their employees, if they were in accordance with daily clinical practice in the organization. These findings will be elaborated below. The section headings refer to the main findings from our study. Quotations are assigned pseudonyms.

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Lack of resources is a major barrier for managers' work with quality and safety and requires careful prioritization

Many participants mentioned lack of time and money as important barriers to quality and safety work. Many participants stated that they did not have enough time to comply with the legal requirements, for example regarding documentation, reporting, and patient follow-up. Some said that the time spend on documentation and the need for cost saving often came at the expense of both patient care and quality and safety work. We should be able to take care of patients and stay within the budget, they said. Money was tight and there was little available for anything outside of daily operations. One participant said that their unit had $2390 to spend on the health, safety and working environment, but a person lift alone costs $2014. Many participants observed that staffing was difficult and that they could not hire temporary personnel for night shifts. Nor did they have the funds to purchase the technological systems they wanted. The participants wanted a slightly larger budget so that they could add a few more hours each month in order to meet the demands of their quality and safety work. A participant working for eight years as Director of health and care services for eight years in a small rural municipality expressed it as follows:

> "There is limited time for care. The other things are also important, but when one is given more and more tasks and fewer resources, some things clash, and then it is only half done". (Participant 1).

Several of the participants emphasized that despite being under-resourced, they got a great deal done because they were good at allocating resources. They made the best use of their personnel, such as allowing an employee to work with care plans by moving tasks from that employee to another. Some participants told they had to work systematically with the resources that they had and to set realistic goals. For example, they were not able to hold large professional seminars as often as they liked, so instead they concentrated on quality and safety in the day-to-day care work. A few of the participants stated that despite operating deficits in the municipalities, they had their budgets and their employees, and thus it did not cost more or less, but depended on themselves initiating the quality and safety improvement efforts. Many emphasized the importance of working creatively within the economic scope they had. As long as they adhered to the total budget, they could use funds as they saw fit. For example, one of the participants said that based on complaints from patients and next of kin in one department, they bought furniture and flowers with money that had actually been reserved

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for another department that did not need it. It was all about doing the right things at the right time, as illustrated by a quote from a participant working at a short-term rehabilitation and palliative care department:

> "Sometimes I think this intervention could be good, but then there is so much else going on in the department that it is not the right time to do it. You have to pick your fights carefully. The right actions in the right time". (Participant 3).

Access to networks play an important role in the quality and safety work

Several of the participants reiterated the importance of networks and support for professional and academic development. We are not born managers, one of them said, and many others stressed the need for professional input, more and better skills and competence in quality and safety work, and someone to offer encouragement. They reported several ways of working with competence development in their unit or department, such as hosting in-house seminars and workshops with quality and safety work on the agenda. Others had brought all of the unit managers together to collaborate on quality and safety issues. One of the participants said that in their last manager meeting they discussed how to handle aggressive patients. The solution was to give some of the staff special training.

The participants also stressed the importance of support from networks and resource persons in the municipality, such as professional development nurses, nursing home doctors, and the Center for Development of Institutional and Home Care Services in each county. The nursing home doctor led the dialogue with patients/users and next of kin, and was an important discussion partner when it came to quality and safety challenges. The nursing home doctor was also responsible for much of the in-house teaching and new employee training. The professional development nurse was a driving force in quality improvement that kept the managers up-to-date. Most of the participants had an interdepartmental quality committee, with professional development nurses under supervision of the District Medical Officer in the municipality (the highest-ranked doctor in the municipal structure). However, sometimes the committee proposed too many activities that took time away from their daily work, resulting in time pressure and stress. When this happened, the committee became more of a burden than a support, they said. The participants did note the value of having support services such as physiotherapists, ergonomics, psychiatry and the medical center nearby, and some even had it in the same building. During a busy workday, this was a timesaver for participants who could just stop by as needed. Likewise, the informal meeting arenas between the unit

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managers, such as meeting for lunch or coffee was an important support. A participant with 10 years of experience as a healthcare manager describes the importance of collaborating with other managers and employees:

> "I believe that we have to work together. As a manager, I can have the vision, but when I, as a manager, am responsible for the shifts and many other things, it is important for someone else to pull me up so that we can discuss things". (Participant 3).

Delegation of responsibility ensures that new knowledge reaches the employees

The participants mentioned the delegation of roles and responsibility to employees as important to create motivation, engagement and improved competence in quality and safety work. Since the participants did not have the capacity to teach all of the employees how to implement new procedures, they gave employees responsibility for different areas. The participants then facilitated and made sure that the employees got time to take courses and training in their areas of responsibility. To get responsibility for an area, the employee had to communicate well with his/her colleagues, take courses, keep updated and introduce new competences and routines to the department. Several participants said they were confident in knowing that there was a person with special competence in a certain area. One participant stated that it was not the manager but the employees who were the experts, because they were on the floor every day. In this connection, several mentioned the importance of having a highly qualified professional staff. Many participants had put together a resource group to work on new routines and interventions, which were then discussed in the quality committee. For example, one participant told that they lacked a clear routine regarding the rinsing rooms, and then challenged the hygiene group to make a proposal. The participants also stressed the importance of engaging the employees from the beginning when implementing something. For example, they encountered resistance when patients wanted to change a mealtime from afternoon to midday. The managers then had to collaborate with the employees, give them more time, and work with attitudes and information to ensure that the employees accepted the change. As one participant said, change cannot be imposed from the top but has to be driven from the bottom. The director of health and care services in a small municipality reiterated the importance of giving employees an area of responsibility:

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> "Most have their area of responsibility. It is nutrition, medical reviews, palliative care, diabetes. As such, the vast majority have their area, but we try to give them an area of interest. And then we see that it becomes engagement around this". (Participant 1).

Despite making the best use of the resources at hand, the participants stressed the problem posed by the lack of proper professional competence. One participant had worked in a hospital setting before, where she could consult with an outpatient clinic nearby, but such services were nonexistent in the municipalities. Many participants said they strived to have the right competence at the right place, for instance, not assigning medical tasks to assistants. Some considered not using assistants at all in home care services. However, when many employees were out on sick leave it was harder to get nurses or healthcare workers instead of assistants to take extra shifts. This was a serious problem, they said, since the assistants did not know the routine. A few participants even stressed the importance of having professionally trained staff, insisting that it was unacceptable to have only unskilled workers on duty. One of the participants recounted an incident in which an assistant had failed to notice that a patient was having difficulty breathing. The assistant mistakenly believed that eating blueberries had turned the patient's lips blue. Several participants wanted to replace some of the assistants with nurses who were capable of handling most of the departmental tasks. There was a problem, however, with recruiting nurses, especially for temporary positions, as shown in a quote from a manager who had worked in the same nursing home for 18 years:

> "Nurses do not grow on trees, so to speak. It's hard to recruit. September last year was the first time since I started as a manager that we had full nursing coverage (…). But it did not last long. Things happen all the time. If we lose nurses, we also loose the competence they have. And then one must start all over again". (Participant 2).

External demands can facilitate oversight and a systematic approach in improvement work if they are in accordance with daily clinical practice in the organization

Participants reported that external demands such as national guidelines and regulations contributed to systematize their work, and justified the necessity of the quality and safety work. They explained the benefits of the national patient safety program, dashboard meetings, ethical reflection, and development of checklists. Some pointed out that working with checklists was demanding but necessary for high-quality service provision. Furthermore, structured documentation was necessary to show the local politicians that they had tried

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everything else, and was often the only way to make their elected officials understand their needs and allocate more resources, they said.

When governmental white papers were specific i.e. stated what skills would most likely be needed in the future, the participants found it easier to act upon it. They experienced greater understanding among local politicians, employees, and users when they had support from white papers and reports. For example regarding changes in the use of health technology, the participants experienced increased compliance among employees when they could cite a white paper. A participant working in a rural home care explained how implementation of new guidelines anchored in a white paper helped her focus on quality improvement:

> "I feel it helps me a lot that it is decided from the top level [Parliament] that Norway wants it that way. That's true. Yes, we just have to adjust and then change practice according to this. Now it is decided that the patient shall receive more [services], and then we have to work towards it and help employees to cope with these changes". (Participant 4).

The participants stated that political decisions in the municipality and administration affected them because there were not enough resources and a lack of understanding of what was required. Participants talked about the mismatch between legal requirements and daily practice and the contextual factors at their workplace, which could lead to misunderstandings and substandard quality. For example, some participants reported that the municipality wanted consistent standard procedures for medication throughout the municipality so that it would be easier to rotate employees. However, the participants did not find it useful since each unit had its own routine. Some said they would like to meet the politicians to talk about how they did their daily work "on the shop floor" which was often quite different from what the politicians imagined. The participants expressed that politicians should be better informed about what is happening in the clinical practice, not promising too much, but rather have an open door and listen to arguments. Many stated that there is a need for more qualified professionals in the future to work smarter and more efficiently, and that politicians have to say something about what to do less of. A participant working in a middle-sized urban nursing home expressed this as follows:

> "I wish the politicians were clear about what they really expect and what to achieve to ensure the quality they seek. I feel that if a politician says something, others are just jumping after". (Participant 2).

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DISCUSSION

This study explored how contextual factors influence quality and safety work in the Norwegian home care and nursing home settings. Our analysis demonstrated that lack of resources is a major barrier for managers' quality and safety work, and requires careful prioritizing. Access to networks and necessary competence play an important role in quality and safety work, and delegation of responsibility ensures that new knowledge reaches all employees. External guidelines and demands help to systematize managers' quality and safety work, as long as they are in accordance with daily clinical practice in the organization.

The contextual factors that the managers in our study emphasized as important for quality and safety work are similar to those reported in other studies, reviews and implementation frameworks [1, 5, 6, 17, 18]. However, we explore the role of contextual factors in relation to managers' daily quality and safety work, not specifically according to quality improvement initiatives. Most of the previous research on quality and safety work in healthcare was conducted in hospitals [3, 19]. Our study explores the perspectives of managers at different levels in the primary care setting, including units varying in size and location. Furthermore, most previous studies are either quantitative, or reviews of quantitative studies [4]. Our study adds new qualitative knowledge regarding *how* managers in primary care find different contextual factors influencing their quality and safety work, and how they shape the context in which they work. This shows that context is not independent from the actors within the different primary care units, but is actually something that can be changed, acted upon and negotiated to improve the environmental conditions for quality and safety. Rosness et al. [20] describes this as a "sender-receiver metaphor" in which managers can be considered as actors who may resist, co-create or re-create the environmental conditions for their own quality and safety work.

Our findings are in accordance with those in the systematic review by Kaplan et al. [4], who found that associations between funding and quality improvement were often not significant. In light of our findings, this might be because managers' ability to prioritize the available resources is more important than the resources themselves. Our findings indicate that managers' strategies and skills in prioritizing resources, partly by involving and listening to their staff's opinions on how resources should be used, are more important than the actual amount of resources available. The importance of managers' capabilities to change, negotiate, or act upon their context is also revealed in our findings about how managers delegated

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responsibility for specific fields to different employees, ensuring motivation and knowledge sharing among staff. The managers' role in acting upon their surrounding context was also evident in their interaction with politicians, and the way they used the local budget to fit their needs. This is consistent with Bovenkamp et al. [21] who use the concept of institutional work when describing how managers both influence and are influenced by their institutional context.

Many studies about the role of contextual factors for quality and safety improvement have found that external guidelines and demands play an important role [5, 18, 22]. The absence of such guidelines is an impediment to the implementation of improvement interventions [18]. The current study adds to this body of knowledge, by showing that external guidelines and demands should be consistent with daily clinical practice in the organization to contribute to the managers' quality and safety work. Carlfjord et al. [22] also found that routines should be taken into account when incorporating new methods, guidelines or tools into primary health care to ensure compatibility.

Strengths and limitations

This study context could have resulted in positive response bias, especially regarding individual factors in which the managers have a responsibility and a possibility to influence. However, we highlighted that the purpose of our study was not to evaluate their quality and safety practices, but to generate knowledge of contextual factors important for their daily quality and safety work.

Despite the small sample, the participants had specific experiences and perceptions about the research question, which provided rich data and sufficient information power [15]. A larger sample could potentially added more and stronger information if we had approached additional municipalities or other service types beyond nursing homes and home care, but it is our assessment that the sample was acceptable for exploring the scope of our study. The sample was diverse in age, position, work experience, type of unit (home care and nursing home), the size and location of both the municipalities and the units in which the managers worked. This diversity brought a range of perspectives and nuances to the data. We did not include employees, who might have held opinions that differed from the managers'. We limited the scope of our study to managers because they have the main responsibility for daily quality and safety practices. We recommend that further studies explore employees' perspectives.

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Given the qualitative nature of our study, the list of important contextual factors addressed is not exhaustive. However, the factors described are in accordance with other studies of the role of contextual factors for quality and safety work, illustrating that these factors are found across settings and samples. Thus the contextual factors described by the participants as promoting or inhibiting their quality work are probably transferable to other units and healthcare services.

Conclusions and implications

This study shows how contextual factors influence quality and safety work in nursing homes and home care services. The study contributes to a better understanding of quality and safety improvement processes in Norwegian primary care as it occurs in everyday work. The findings indicate that managers play an important role in acting upon and negotiating the contextual environment in which their daily quality and safety work are carried out. The healthcare sector is in constantly pressure of time and limited resources, and some units might be better than others at making the best use of these limited resources, for quality work. Through this study, we have generated knowledge on how contextual factors might influence the way in which managers perform high-quality work despite contextual barriers, and how they are actors in shaping the context in which they work. Such knowledge can be useful to other primary care units, and to other healthcare services. Research on quality and safety work in the Norwegian primary care context is still limited, and more studies should be conducted to explore how managers and employees in the primary care setting act upon their contextual environment and shape the context in favor of care quality and safety.

Qualitative studies can contribute to a more complete understanding of how context influence quality and safety work, and how healthcare units can manage contextual barriers at the local level. Knowledge of these issues is important for understanding daily work practices, for identifying possible barriers and facilitators, and when preparing and conducting improvement interventions, to increase the probability of sustainable and transferable effects of improvement efforts.

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DECLARATIONS

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors contributed to the conception and design of the manuscript. TJ collected the data. ER and TJ conducted the systematic text condensation analysis, although SW was involved in step 1 of the analysis, in addition to discussion and refining of the results. ER made the first draft of the manuscript, while TJ and SW have critically reviewed and revised the subsequent drafts. All authors read and approved the final manuscript.

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Availability of data and material

Anonymized data of the study will be stored at the Norwegian Social Science Data Services until the project is completed, and will then be available on request.

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COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	6, 17
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	N/A
Occupation	3	What was their occupation at the time of the study?	N/A
Gender	4	Was the researcher male or female?	1
Experience and training	5	What experience or training did the researcher have?	N/A
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	4, 6
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	6
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	15
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	7
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	4
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	6
Sample size	12	How many participants were in the study?	4, 5
Non-participation	13	How many people refused to participate or dropped out? Reasons?	N/A
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	6
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	6
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4, 5
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	N/A
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	7
Field notes	20	Were field notes made during and/or after the inter view or focus group?	N/A
Duration	21	What was the duration of the inter views or focus group?	6
Data saturation	22	Was data saturation discussed?	7,15
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

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Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	7, 17
Description of the coding tree	25	Did authors provide a description of the coding tree?	7, 8
Derivation of themes	26	Were themes identified in advance or derived from the data?	7, 8
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	8-13
Data and findings consistent	30	Was there consistency between the data presented and the findings?	N/A
Clarity of major themes	31	Were major themes clearly presented in the findings?	8-13
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	N/A

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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