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'We just have to make it work': a qualitative study on assistant nurses' experiences of patient safety performance in home care services using forum play scenarios

Mirjam Ekstedt ,[1,2] Kristina Schildmeijer ,[1] Sofia Backåberg,[1,3] Linda Ljungholm,[1] Cecilia Fagerström[1]

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[1]Faculty of Life and Health Sciences, Linnaeus University, Kalmar, Sweden
[2]Department of Learning Informatics Management and Ethics, Karolinska Institute, Stockholm, Sweden
[3]Faculty of Kinesiology, University of Calgary, Calgary, Alberta, Canada

Correspondence to
Professor Mirjam Ekstedt; mirjam.ekstedt@lnu.se

ABSTRACT

Objective Safety is essential to support independent living among the rising number of people with long-term healthcare and social care needs. Safety performance in home care leans heavily on the capacity of unlicensed staff to respond to problems and changes in the older patients' functioning and health. The aim of this study is to explore assistant nurses' adaptive responses to everyday work to ensure safe care in the home care context.

Design A qualitative approach using the drama-based learning and reflection technique forum play with subsequent group interviews. The audio-recorded interviews were transcribed and analysed with thematic analysis.

Setting Home care services organisations providing care to older people in their private homes in two municipalities in southern Sweden.

Participants Purposeful sampling of 24 assistant nurses and three managers from municipal home care services and a local geriatric hospital clinic.

Results Home care workers' adaptive responses to provide safe home care were driven by an ambition to 'make it work in the best interests of the person' by adjusting to and accommodating care recipient needs and making autonomous decisions that expanded the room for manoeuvrability, while weighing risks of a trade-off between care standards and the benefits for the community-dwelling older people's independent living. Adaptations to ensure information transfer and knowledge acquisition across disciplines and borders required reciprocity.

Conclusions Safety performance in home care service is dependent on the staff closest to the older people, who deal with safety risks and ethical dilemmas on a day-to-day basis and their access to information, competence, and resources that fit the demands. A proactive leadership characterised by mutual trust and adequate support for decision making is suggested. Managers and decision-makers across healthcare and social care need to consider how they can develop interprofessional collaborations and adaptive routines supporting safety from a broader perspective.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The qualitative approach, using forum play scenarios, allows for a deepened understanding of the adaptations and hidden work performed by assistant nurses in home care services.
⇒ Forum play, a drama-based method for learning and reflection with subsequent group interviews, was useful for visualisation of and reflection on the complexity of providing safe care services in care recipients' homes.
⇒ The use of an inductive, thematic method of analysis, recurring peer-checking and discussions with the multiprofessional research team resulted in a rich and trustworthy account of data.
⇒ The study was conducted in two municipalities in Sweden, which might limit the transferability of outcomes to other contexts.

INTRODUCTION

The rising prevalence of comorbid long-term illnesses in a growing older population is challenging healthcare systems worldwide[1] and more attention is being paid to the need of rethinking the allocation and delivery of services in older people's homes.[2 3] The transfer of highly specialised care from hospitals to the home care arena increases demands on the competence, education levels,and distribution of responsibility in home care.[4] The conditions for mobilising safety in home care services for older people are challenging.[5 6] Deficiencies in quality and safety can rarely be attributed to lacking standards and routines, which are often transferred from in-hospital care, but rather to a lack of fit and support in home care practices.[4 7] This may lead to individual adjustments and workarounds in everyday work. Although research on home care safety for older people is developing steadily, the focus thus far is mainly

on safety in medication management and prevention of falls.[7–11] A large research gap remains on the broader safety perspective, encompassing the older person's behaviour and lifestyle, the social and physical home environment, and provision of both medical healthcare and social care, which have been identified as important domains of safety in home care.[4 12 13] A literature review on home care in European countries showed that there is limited information on how practical care models are related to outcomes such as safety in home care and that information about home care services is skewed, both within and across countries.[14]

Given the increasing number of people receiving home care services, the need to address social and environmental risks related thereto is growing. The home care environment is fundamentally different from that of hospital care in several ways.[15] It is not physically adapted to care, and the recipient himself/herself and informal caregivers are engaged in performing self-care that ranges in complexity, and requires physical, cognitive and perceptual skills. Activities of daily living may be physically challenging, requiring a sense of balance and certain levels of mobility, strength and flexibility.[4] Many older people have complex medication regimens that are cognitively demanding and require compounded knowledge about side effects and changes in health status.

Home care staff (eg, nurse aides, assistant nurses (ANs)) who provide day-to-day assistance with basic needs are the most likely to be familiar with a patient and his/her situation. The unique knowledge that comes from daily conversations may be necessary to detect deteriorations, psychosocial and environmental risks, or therapeutic side effects. However, Strømme *et al*[16] identified a gap between the contents of home care staff's conversations and the assessments they made: vague symptoms described by patients did not always lead to increased awareness and vital signs were seldom monitored in the early stages of health deterioration. Past research shows how guidelines and assessments aimed at supporting the staff at the front-line in home care services actually constrained their work[6] or did not cover changes in patients' health status.[16] Staff with little formal competence and limited access to documentation about therapeutic regimens, risk assessments or details about the severity of a patient's illness[17] may jeopardise quality of care and patient safety in the home care environment.

Although older people encounter limitations in multiple domains of life, creating a need to view safety at home from a wider perspective,[13] research on patient safety has traditionally focused on the 'prevention of errors and adverse effects associated with healthcare'.[18] Resilient healthcare is a theoretical approach to safety with principles for understanding safety and quality in complex systems. Wiig *et al*[19] describe healthcare resilience as: 'the capacity to adapt to challenges and changes at different system levels to maintain high-quality care.' Adaptive responses in everyday work are often performed within the framework of standards and policies, while deviations are made to prevent risks from manifesting into harm.[20] Thus, adaptations in everyday care must rely on the staff's knowledge, skills and expertise, which may differ depending on levels of competence, roles and autonomy.[16]

In promoting safety in home care environment, it is crucial to understand the performance of everyday work, as it is likely to differ from how work is planned in standards and frameworks. Thus, it is vital to listen to the experiences of staff who work closely with informal caregivers and care recipients. Little is known about home care staff's experiences of performing safe home care service in patient's homes and how they make decisions and respond to problems and changes in the older patients' functioning and health in everyday work. Through this study, we aimed to explore ANs' adaptive responses in everyday work to ensure safe care in the home care context.

METHODS

Design setting and participants

In this qualitative study, we used forum play and group interviews with ANs to capture their lived experiences and capture their strategies and needs regarding creation of safety and quality in the home care service setting. These methods have shown validity for such purposes.[21] The manuscript was prepared in accordance with the Standards for Reporting Qualitative Research guidelines.[22]

The study was conducted within home care in two municipalities in southern Sweden. Under the Swedish Health and Medical Service Act (2017:30),[23] municipalities are responsible for medication administration and management, care, and rehabilitation in home care, while the regions are responsible for physicians in primary care and acute and specialised care. The municipalities are also responsible for providing care and meeting the needs of older people in their private homes, tasks that are governed by the Social Services Act.[24] ANs provide day-to-day home care services, with support and supervision from a registered nurse (RN) in the municipality. RNs have the formal competence and responsibility to perform skilled nursing tasks. ANs often have a delegation to perform routine healthcare tasks in the municipal home care services, such as wound care and medication management, under the direction and supervision of RNs.[4] A purposive sample of ANs (n=24), and managers (n=3), all female, working in municipal home healthcare and a geriatric hospital ward was used. The three managers included worked as a social care manager in one of the two municipalities, an operation manager at a primary healthcare centre, and the head of department at the geriatric clinic, respectively. The managers participated in the forum play and focus groups to gain insight into the daily work in the home care context. As formal leaders, they also had the mandate to implement changes in routines and work processes that emerged as necessary during the forum play and focus group sessions. The ANs

were recruited by managers in decision-making positions in municipal home care and at the geriatric clinic, respectively. Written and verbal information about the study, including information about informed consent, confidentiality and that participation was voluntary, was shared with the participants and they gave written informed consent before the study started.

Patient and public involvement

A reference group with representatives from the included organisations collaborated with the researchers in the planning and design of this study. The reference group consisted of the operation managers (general practitioners, n=3) from three primary healthcare centres, the social care managers (n=2) from the two municipalities, and the operation manager (nurse, n=1), a geriatric specialist (n=1), and the head of the department (geriatrician) (n=1) from the geriatric clinic. The results were returned to the participants through discussions of preliminary findings in the reference group for further dissemination to their respective organisations. Patient and public involvement was not applied.

Data collection and analysis

The drama-based learning and reflection technique forum play was chosen as a preparation to facilitate the group interviews. Forum play serves to engage participants in reflection through the use of scenarios of lived experiences. The method originally derives from the pedagogical tradition of Forum Theatre developed by Boal[25] and Freire.[26] The forum play was facilitated by a person from the research team, well educated in the method (SB).

The forum play sessions began with warm-up exercises to create an open and permissive atmosphere. The participants then shared their experiences of unsafe scenarios from clinical practice in smaller groups. The scenarios were shown one by one to the whole group, and each scenario was acted out repeatedly in a collaborative process, to encourage the participants to practice potential alternative courses of action. The group were continuously encouraged to reflect on what happened in the different scenarios (online supplemental appendix 1).

The larger group was then randomly divided into three interview groups with eight participants in each group. Three of the authors, two RNs and one physiotherapist, with experiences from home care and skilled in performing qualitative interviews and focus group discussions, acted as moderators, one for each group. The moderators (LL, SB and ME) were in charge of asking open-ended questions from an interview guide developed to provide a basic structure to the interviews (online supplemental appendix 1).[21] The guide had an overarching topic: To clarify how the most important and closest link to the patients in the home care setting (ie, the AN) deals with emerging situations in everyday work to ensure safety. Follow-up questions of the type 'What do you mean when you say…' and 'In what way …' were used to guide and deepen the discussions. The interviews were conducted in Swedish and lasted for 40–51 min. All interviews were audiorecorded and transcribed verbatim. Data collection was conducted in October 2019.

The analysis was conducted by four of the researchers (KS, CF, LL and ME), following the guide for thematic analysis created by Braun and Clarke.[27] Initially, the interviews were read to ensure familiarity with the data. With the study aim in mind, the four researchers individually extracted meaningful data and labelled them with codes to describe their contents. The codes were then organised into patterns and potential themes were created. Then, the potential themes and their relevance for the coded extracts were discussed in the full research group until consensus was reached. Next, the interviews were read again; the final labels of the themes were formulated as the analysis was written down. The analysis moved back and forth between the entire text, the coded extracts, and the creation of themes in a lively discourse between the researchers, to control for preunderstandings and decrease the risk of overinterpretation.

RESULTS

The analysis yielded three categories that together formed an overarching theme: We just have to solve it in the best interests of the person—derived from local decision making manifested in adjustments and accommodations based on care recipient needs at the sharp end of care, and making autonomous decisions that expand the room for manoeuvrability. This was ensured through the professionals' Adaptations to ensure information transfer and knowledge acquisition across disciplines and borders.

Adjustments and accommodations based on care recipient needs

Ahead of each work shift, ANs got schedules of the home visits they were responsible for and the tasks that were planned. The schedules were made by a computerised planner that estimated the time spent on each task, but did not take carer continuity into account. Although it was not their duty, the ANs used morning meetings as an opportunity to coordinate their work schedules, so the care recipients would meet as few people as possible during the day. Knowledge about each patient as a person was a determinant for the decisions made in changing the planning. The ANs tried to arrange their schedules so that care recipients with dementia and those with a high care burden would receive help from staff who had an established relationship with them.

> Yesterday, I had a morning visit [to a person with dementia], and another nurse had a ten-minute monitoring visit, and a third nurse was supposed to bring food. But when we were sitting there in the morning and going over our schedules, we could switch, so that I got all the pre-lunch visits. It's not supposed to

work like that, but we do that for the patients' sake. (D5)

As the ANs met many different people with unique habits and needs, they needed to be creative and inventive in finding solutions. Having personal knowledge about a person's preferences, worries and special needs and peculiarities facilitated care delivery and made work meaningful. Home care staff said that they would look at every given situation from the patient's perspective and adapt their day based on the situations that arose. For instance, if a patient needed to go for a walk instead of taking a shower (as scheduled), the staff would switch the order of visits and tasks and postpone the shower to another day. It was also important to be able to share the knowledge they had at their fingertips about the older people and their needs, to ease handovers between shifts.

X or Y know exactly how to calm that person down, because they're used to seeing that. That you find those communication channels because that's kind of what we have identified. Knowing—what can I do so that this turns out for the best? (87)

The ANs talked about tailoring their routines to match reality. Accordingly, meetings and team conferences were scheduled for times when the patients did not need as much support. The nurses tried to adjust their ways of doing things rather than forcing the patients to adapt to the staff's routines. They felt that this would seldom go wrong.

Making autonomous decisions that expand the room for maneuverability

ANs stated that they prioritised tasks and planned their days based on what they believed would be best for the patients. They were prepared to work 'outside the box,' as the schedules did not take into account that new situations could arise. A planned visit for assistance might have to end as the staff had to drop everything and deal with an emerging event. In such unexpected situations, home care professionals had to improvise and make rapid decisions about what to do and whom to call, which was not always straightforward. They described how they used their creativity to find solutions, even if this meant taking a bike and going to the hospital with urine samples on a Friday afternoon or persuading a primary care nurse to visit a patient, even though this person was not enrolled in home care services.

The person in question had a heavy nosebleed and I called [the nurse at] home care services:

No, they only have home help [are not enrolled in home care services], so we can't come out. But okay, I'll come anyway. And it was, like, a real veteran who came out that time. (331)

The ANs stated that they sometimes performed tasks that fell outside their responsibilities, such as shopping for medicine when a person came home from hospital, calling the nurse to renew prescriptions although it is the nurse who should follow-up on such things during monthly visits, or changing dressings. As they worked close to the older people, they felt responsible for solving emerging problems, keeping each person's best interests in mind. Further, they described the importance of working together to feel secure in proposing ideas related to emerging situations or to contact a nurse in primary healthcare. The rules were sometimes obstructive and did not fit an older person's wants, behaviours, or social and physical environment. A lack of decision support related to the thousands of everyday events that occurred caused frustration. The ANs often needed to make decisions on their own, not seldom based on limited information. Staff with long work experience were more likely to think outside the box and stretch boundaries to solve situations in collaboration with other healthcare staff.

So, I got in touch with the son and the nurse called [the ambulance] and informed the others within home care. And the ambulance crew said 'but we can't do that, we don't take people who are that poorly from where they are living.' But we got them to work it out, so the man could go to his summer home and look at the sea, like he wanted. He got maybe a day or two. That's really working outside the box, thinking about quality of life. Until the very end. (D1)

Adaptations to ensure information transfer and knowledge acquisition across disciplines and borders

Commonly, professionals on both sides of the 'caregiver borders' went beyond their mandates and routines to deal with problems in the best interests of the patients. Discharge information was rarely available to the ANs. They described how they took on the responsibility of exchanging information and having proper handovers when patients were transferred to hospital. On some occasions, they went a step further and made direct contact with specialised care to ensure that they got the information needed. This interaction sometimes went in the other direction as well:

This past summer, I was working at AVA, with the advisory team, but then I actually called the home care group as well as care homes and next-of-kin to find out how things were working at home. How much help do they need? Can they stand upright on their own? (D1)

The ANs described how they were pushing boundaries upwards in the system. They described instances when the decision had been made to reduce services to a person with dementia without the home care staff being consulted. In many cases, when the ANs knew that patients could not express their needs themselves, they insisted on being present when decisions were made. Sometimes, they took responsibility for ensuring decisions made at the management level were in the best interests of a patient.

Well, sometimes we find out that there will be a care planning meeting and then we'll demand to be present. Because I've gone to the homes of people with dementia where dinner visits and monitoring visits have been ended because they've said that they cook with their sister and then … there is no sister. (D2)

DISCUSSION

The dramatic increase in the number of older people managing multiple chronic conditions at home has significant implications for the home care system's capacity to maintain safe, high-quality care in everyday work. In this study, ANs in home care were found to deal with unexpected situations during routine care by using existing resources innovatively, with the overarching goal to solve every situation in the best interests of the affected person. Their capacity to adjust and accommodate based on care recipient needs was usually of a self-organising type. The driving force was consideration of individual needs, combined with in-depth knowledge about the nature of their work, as has been found among nurses in specialised home care.[28] Adaptations did not occur only in response to emerging events; they could also be preemptive and proactive. For example, exchanges of work tasks were performed during morning meetings to achieve care continuity and provide the best possible care. In some cases, ANs even dropped some tasks in favour of others, deemed to have a higher priority. These findings indicated that the ANs had the capability to use the room for manoeuvrability to reorganise work autonomously.

The results point to several organisational risks and ethical dilemmas. For instance, making detailed time plans and accurate decisions about how to carry out care at the local level required insight into each person's needs and practical circumstances, something that is acknowledged by Johannessen *et al*.[29] Top-down management focusing on practical details in everyday work restricts decision-making autonomy and is known to increase stress and job dissatisfaction.[30–32] The misalignment between demands and the adaptive responses needed to ensure safe care in the home care context is outlined in the Concepts for Applying Resilience model as the discrepancy between 'work as imagined' in routines and plans and 'work as done'.[33] In practice, this discrepancy occurs as the nature of work makes it impossible to precisely predict and align necessary resources. The current study calls for proactive leadership characterised by mutual trust and increased decision-making autonomy at the sharp end, increasing ANs' and RNs' influence and control over their work. This may in turn increase work engagement and performance, with long-term effects such as lowering sick leave rates and making workers less likely to leave their job.[34–36] However, increased decision-making autonomy has to be accompanied by functional resources and decision support through multiprofessional teams.[34]

Although the ANs were generally confident in their capacity to deal with arising situations and provide care that met the patients' needs, they were often left alone with decisions about adaptations and prioritisation of tasks, commonly driven by time pressure and emerging events. One consequence might be that essential care tasks must be abandoned, leading to an increased risk of patient and staff dissatisfaction and adverse events.[37 38] Although any direct consequences of omitted home care are unclear in our findings, omitted care should be highlighted as an essential quality indicator for managers to assess and emphasise.

One complexity related to a system's adaptivity is the capacity to select the most appropriate adaptive strategy.[39] Adaptive coordination and performance have been extensively studied in acute care systems such as anaesthesia care,[40] operating rooms,[41] emergency departments,[42 43] intensive care units,[44] where professionals must adjust to unforeseen changes and make decisions in situations with high levels of uncertainty. In such tightly coupled complex systems,[45] the communication lines between front-line staff and management should be short, so that information can be transferred and exchanged rapidly. Further, care should be delivered in a highly supportive medical environment with professionals (eg, physicians, RNs and allied professionals) who have the competence and mandate to make decisions autonomously, outside the protocol if needed. In contrast, home care services are predominately provided by ANs who also adapt to situations of uncertainty at the frontline and must act at a distance from the support and supervision of nurses, physicians and multidisciplinary teams.[15] Interprofessional collaborations and organisational clarity are shown to moderate emotional demands in ANs.[34] As home care becomes increasingly advanced, further training and new skills are needed among the staff working closest to the patients, and the need for the competence to routinely assess each patient's health status is apparent.[16]

Safety at home must be managed while taking the individual's integrity, independence, and specific home environment into account.[13 46] The ambition of home care staff in this study was not to reach 'absolute safety,' but to make it work in the best interest of each patient, meaning that adaptive responses to risks were weighed against the benefits of, for example, an individual growing old independently at home. Grote *et al*[47] put forward that successful adaptation requires striking a balance between flexibility and stability, where flexibility is traditionally viewed as a facilitator of creativity and innovation, while stability promotes structure and predictability.[48] In the current study, the ANs were familiar with standards on how work should be performed safely, and balanced what was desirable with what was possible. While they made adaptations with the patients' best interests in mind, little is known about the severity of adverse effects depending on the distance between such adaptations and standards.[4] Standards and guidelines can support decisions and free up resources from decision-making, but can also become

impractical and constrain the delivery of good care if they do not fit the actual practices.[6 49] Front-line staff not adhering to standards may be a form of personal risk-taking, as they can be held responsible if something goes wrong, creating stress or qualms of conscience for the individual. Frequent adaptations of standards should signal to managers that they need to analyse if these standards are effective, achievable and tailored to the context in which care is delivered. Lyng *et al*[48] showed that frequent short-term adaptations can mask system deficiencies and brittleness as the system relies on a few individuals' efforts and 'quick fixes' in urgent situations. It should also be kept in mind that many adverse events arise from an accumulation of issues over time and across multiple contexts.[50] Thus, adaptations at the microlevel must be reported upwards in the system to inform decision-makers and encourage long-term adaptations and proactive reorganisation of routines and practices across the entire health and social care continuum, taking contextual and individual conditions into account.

Strengths and limitations

The qualitative approach allowed for a deeper understanding of the adaptations and hidden work performed by ANs in care delivered in older people's private homes. The use of forum play was considered successful in this study and contributed to the participants' ability to visualise problems and reflect on their own actions and feelings. The participants were selected to achieve as rich a variety of data as possible, by including people from different teams in both hospital and home care settings with different roles, work experiences, ages and ethnicity. One limitation could be that the groups included both ANs and managers, both in the forum play session and the group interviews. This might have impacted on the participants' willingness to express their thoughts and feelings. On the other hand, including both ANs and managers in the group created awareness and reflections about previously unknown challenges and risks in the ANs' daily work which could result in changed routines. The managers' participation added value to the discussions about problematic and unsafe situations, which was appreciated by the ANs.

To minimise the risk of participants feeling uncomfortable, SB—who is a physiotherapist and experienced in the forum play methodology—put great effort into creating a permissive and safe environment for the participants and guided them in warm-up drama exercises. The amount of time (3 hours) set aside for the sessions encouraged participants to discuss any relevant problems that occurred in the scenarios, meaning that the sessions were guided by participants. Trustworthiness[51] during data analysis was addressed by recurring peer-checking and discussions between the four authors and within the larger research group. Transferability was addressed by leaving an audit trail of quotations from the interviews in the report, so that readers can evaluate if the results are transferable to their respective contexts.

Implications

Safety performance in home care requires that the staff closest to the patient dealing with safety risks and ethical dilemmas on a daily basis have access to information, competence, and resources in line with task-related requirements. The adjustments and decision-making that ANs perform in home care must be governed by locally distributed management, collaborative structures and accountability across care providers and professional boundaries, so that care is not left to the goodwill and awareness of individual employees who may or may not lack the relevant competence. When redesigning healthcare systems, from episodic hospital care to home-based care, adaptations of decision support and standards are needed to fit the reality of the home care environment, using a broader safety perspective. This should be accompanied by further development of leading indicators to enable evaluation of safety performance across each older person's entire chain of care.

CONCLUSION

The findings of this study illustrate that ANs have the ambition to solve the situations that arise in home care, in the best interests of the patients. Their adaptive responses require competence, skills, proactive and supportive management, and knowledge of each patient and his/her situation and circumstances. From a safety perspective, this requires striking a balance between flexibility and stability in the home care environment. Frequent short-term adaptations can mask system deficiencies and create reliance on individuals' efforts and moral responsibility, leading to staff burn-out. Therefore, they should be a signal to managers higher up in the system to perform proactive long-term adaptations of guidelines and routines.

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Contributors ME, KS, LL and CF conceived the study, SB was responsible for the forum play session. ME, LL and SB conducted the group interviews, ME, KS, LL and CF analyzed data. ME, KS, SB, LL and CF drafted and revised the manuscript. ME takes full responsibility for the overall content and the conduct of the study.as the guarantor of the study. All authors approved the final version and are accountable for the accuracy of the work and the integrity of participants.

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2020-01219). The study was performed in accordance with the World Medical Association Declaration of Helsinki's ethical principles for medical research involving human subjects. The study did not require ethical approval as it did not involve sensitive personal information, as specified in the EU Data Protection Regulation and Swedish law regulating ethical approval for research concerning humans(50).

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ORCID iDs
Mirjam Ekstedt http://orcid.org/0000-0002-4108-391X
Kristina Schildmeijer http://orcid.org/0000-0002-0895-674X

REFERENCES

1 Barnett K, Mercer SW, Norbury M, *et al*. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet* 2012;380:37–43.
2 Braithwaite J, Vincent C, Nicklin W, *et al*. Coping with more people with more illness. Part 2: new generation of standards for enabling healthcare system transformation and sustainability. *Int J Qual Health Care* 2019;31:159–63.
3 WHO. World report on ageing and health. Available: http://www.who.int/ageing/events/world-report-2015-launch/en/2015 [Accessed 21 Apr 2018].
4 Beer JM, McBride SE, Mitzner TL, *et al*. Understanding challenges in the front lines of home health care: a human-systems approach. *Appl Ergon* 2014;45:1687–99.
5 Aase I, Ree E, Johannessen T, *et al*. Talking about quality: how 'quality' is conceptualized in nursing homes and homecare. *BMC Health Serv Res* 2021;21:104.
6 Lindblad M, Flink M, Ekstedt M. Exploring patient safety in Swedish specialised home healthcare: an interview study with multidisciplinary teams and clinical managers. *BMJ Open* 2018;8:e024068.
7 Blais R, Sears NA, Doran D, *et al*. Assessing adverse events among home care clients in three Canadian provinces using chart review. *BMJ Qual Saf* 2013;22:989–97.
8 Cao S, Huang H, Xiao M, *et al*. Research on safety in home care for older adults: a bibliometric analysis. *Nurs Open* 2021;8:1720–30.
9 Lindblad M, Unbeck M, Nilsson L, *et al*. Identifying no-harm incidents in home healthcare: a cohort study using trigger tool methodology. *BMC Health Serv Res* 2020;20:289.
10 Schildmeijer KGI, Unbeck M, Ekstedt M, *et al*. Adverse events in patients in home healthcare: a retrospective record review using trigger tool methodology. *BMJ Open* 2018;8:e019267.
11 Lindblad M, Flink M, Ekstedt M. Safe medication management in specialized home healthcare - an observational study. *BMC Health Serv Res* 2017;17:598.
12 Jones S. Alternative perspectives of safety in home delivered health care: a sequential exploratory mixed method study. *J Adv Nurs* 2016;72:2536–46.
13 Lette M, Ambugo EA, Hagen TP, *et al*. Addressing safety risks in integrated care programs for older people living at home: a scoping review. *BMC Geriatr* 2020;20:81.
14 Genet N, Boerma WG, Kringos DS, *et al*. Home care in Europe: a systematic literature review. *BMC Health Serv Res* 2011;11:207.
15 Gray E, Currey J, Considine J. Hospital in the home nurses' assessment decision making: an integrative review of the literature. *Contemp Nurse* 2018;54:603–16.
16 Strømme T, Aase K, Tjoflåt I. Homecare professionals' observation of deteriorating, frail older patients: a mixed-methods study. *J Clin Nurs* 2020;29:2429–40.
17 Axelsson J, Elmståhl S. Home care aides in the administration of medication. *Int J Qual Health Care* 2004;16:237–43.
18 WHO. Patient safety. Available: www.euro.who.int/en/health-topics/Health-systems/patient-safety/patient-safety [Accessed 18 Jul 2021].
19 Wiig S, Aase K, Billett S, *et al*. Defining the boundaries and operational concepts of resilience in the resilience in healthcare research program. *BMC Health Serv Res* 2020;20:330.
20 Macrae C. Moments of resilience: time space and the organization of safety in complex sociotechnical systems. In: Wiig S, Fahlbruch B, eds. *Exploring resilience*. Cham: Springer Open, 2019.
21 Krueger C. *Focus groups: a practical guide for applied research*. Thousand Oaks: SAGE Publications, 2014.
22 O'Brien BC, Harris IB, Beckman TJ, *et al*. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med* 2014;89:1245–51.
23 Socialstyrelsen. Hälso- och sjukvårdslagen (2017:30). Available: https://patientsakerhet.socialstyrelsen.se/om-patientsakerhet/centrala-lagar-och-foreskrifter/halso-och-sjukvardslagen
24 Anell A, Glenngård AH, Merkur S. Sweden health system review. *Health Syst Transit* 2012;14:1–159.
25 Boal A. *Theater of the Oppressed*. Pluto: London, UK, 2000.
26 Freire P. *Pedagogy of the oppressed*. New York, NY, USA: Seabury Press, 1974.
27 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
28 Ekstedt M, Cook RI. The Stockholm Blizzard of 2012. In: Wears RL, Hollnagel E, Braithwaite J, eds. *The resilience of everyday clinical work*. Farnham, UK: Ashgate Publishing, 2015.
29 Johannessen T, Ree E, Aase I, *et al*. Exploring challenges in quality and safety work in nursing homes and home care - a case study as basis for theory development. *BMC Health Serv Res* 2020;20:277.
30 Broetje S, Jenny GJ, Bauer GF. The key job demands and resources of nursing staff: an integrative review of reviews. *Front Psychol* 2020;11:84.
31 Bakker AB, Demerouti E. Job demands-resources theory: taking stock and looking forward. *J Occup Health Psychol* 2017;22:273–85.
32 Fallman SL, Jutengren G, Dellve L. The impact of restricted decision-making autonomy on health care managers' health and work performance. *J Nurs Manag* 2019;27:706–14.
33 Anderson JE, Ross AJ, Macrae C, *et al*. Defining adaptive capacity in healthcare: a new framework for researching resilient performance. *Appl Ergon* 2020;87:103111.
34 Eriksson A, Jutengren G, Dellve L. Job demands and functional resources moderating assistant and registered nurses' intention to leave. *Nurs Open* 2021;8:870–81.
35 Dellve L. Tillitsskapande styrningspraktiker? En analys AV styrningspraktiker I sjukvården genom nyckeltal. *Socialmedicinsk tidskrift* 2018;95:298–310.
36 Jutengren G, Jaldestad E, Dellve L, *et al*. The potential importance of social capital and job crafting for work engagement and job satisfaction among health-care employees. *Int J Environ Res Public Health* 2020;17:4272.
37 Griffiths P, Recio-Saucedo A, Dall'Ora C, *et al*. The association between nurse staffing and omissions in nursing care: a systematic review. *J Adv Nurs* 2018;74:1474–87.
38 Recio-Saucedo A, Dall'Ora C, Maruotti A, *et al*. What impact does nursing care left undone have on patient outcomes? Review of the literature. *J Clin Nurs* 2018;27:2248–59.
39 Nyssen AS, Blavier A. Investigating expertise, flexibility and resilience in socio-technical environments: a case study in robotic surgery. In: Hollnagel E, Braithwaite J, Wears RL, eds. *Resilient health care*. Farnham, UK: Ashgate Publishing, 2013.
40 Furniss D, Robinson M, Cox A. Exploring resilience strategies in anaesthetists' work. In: Hollnagel E, Braithwaite J, Wears R, eds. *Delivering resilient health care*. Abingdon, Oxon: Routledge, 2019.
41 Göras C, Nilsson U, Ekstedt M, *et al*. Managing complexity in the operating room: a group interview study. *BMC Health Serv Res* 2020;20:440.
42 Hunte G, Marsden J. Engineering resilience in an urban emergency department. In: Hollnagel E, Braithwaite J, Wears R, eds. *Delivering resilient health care*. Abingdon, Oxon: Routledge, 2019.
43 Debono D, Braithwaite J. Workarounds in nursing practice in acute care: a case of a health care arms race? In: Wears R, Hollnagel E, Braithwaite J, eds. *The resilience of everyday clinical work*. Farnham, UK: Ashgate Publishing, 2015.
44 Hybinette K, Pukk Härenstam K, Ekstedt M. A first-line management team's strategies for sustaining resilience in a specialised

intensive care unit-a qualitative observational study. *BMJ Open* 2021;11:e040358.
45 Perrow C. *Normal accidents: living with high-risk technologies*. Basic, New York, 1984.
46 Vincent C, Amalberti R. *Safer healthcare. strategies for the real world*. Springer Cham Heidelberg New York Dordrecht London, 2016.
47 Grote G, Kolbe M, Waller MJ. The dual nature of adaptive coordination in teams: balancing demands for flexibility and stability. *Organizational Psychology Review* 2018;8:125–48.
48 Lyng HB, Macrae C, Guise V, *et al*. Balancing adaptation and innovation for resilience in healthcare - a metasynthesis of narratives. *BMC Health Serv Res* 2021;21:759.
49 Macrae C. Reconciling regulations and resilience in healthcare. In: Hollnagel E, Braithwhite J, Wears R, eds. *Resilient healthcare*. Surrey, UK: Ashgate Publishing Ltd, 2013.
50 Sveriges riksdag. lag (2003:460) Om etikprövning AV forskning SOM avser människor.
51 Elo S, Kyngäs H. The qualitative content analysis process. *J Adv Nurs* 2008;62:107–15.