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‘Sometimes we just have to trust our gut feeling and hope the reporting is good’.

Healthcare providers’ experiences of pro re nata medication decision-making in sheltered housing

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Abstract

Objective: Pro re nata (as needed) medications are widely used among older patients in long-term care. Current knowledge of healthcare providers’ administration of these medications and the decisions involving these medications is scarce and mainly relies on data from nursing homes. This study aims to explore how healthcare providers who work in sheltered housing for older people, experience pro re nata decision-making.

Design, setting and subjects: This study used qualitative interviews of healthcare providers working in sheltered housing in mid- and eastern Norway (n=8). Data analysis was based on qualitative, latent, content analysis.

Results: The analysis showed that the main experiences of the informants in the study involved the challenge of making decisions that give the professionals a good feeling about their decision, the main theme being *Searching for comfort when making pro re nata medication decisions*. Three sub-themes were identified within this theme: *Taking, sharing and shifting responsibility, striving between resident autonomy and appropriate medication use*, and *struggling with and/or embracing the system*.

Conclusions: The healthcare providers in this study experienced PRNM decision-making differently. The informants experienced this decision-making to sometimes be challenging, due to the informants wanting to make decisions that are acceptable to both the residents and themselves.

Keywords
as needed medications; long term care; older adults; content analysis

What do we already know about this topic?

- Pro re nata medications are widely used among older patients in long-term care.
- Medication management by healthcare providers in sheltered housing may be challenged by contextual factors and lack of continuity.

What does this study add to existing knowledge?

- Pro re nata decision-making in sheltered housing was found to involve healthcare provider challenges. Healthcare providers furthermore strive to feel comfortable about the decisions they make.
- There is a need to support the healthcare provider decision-making process for pro re nata medications through, for example, providing up-to-date medication lists and functional documentation systems.

Introduction

Data from the Norwegian Prescription Database shows that 92% of people aged 65 years or older were dispensed at least one prescription medicine in 2017; 58% of these on average being dispensed five or more medications (Berg et al., 2018). Older people's pharmacokinetics and dynamics varies, the risk of drug-related problems increasing with polypharmacy (Devik et al., 2018), it also being suggested that greater use of regularly prescribed medications leads to greater use of pro re nata medications (PRNMs) (also termed 'as needed' or 'as required' medications) (Dörks et al., 2016; Stasinopoulos et al., 2018). PRNMs are prescribed to be taken only as needed and as indicated by the resident's condition (e.g. symptoms of insomnia, pain or anxiety). Inappropriate polypharmacy is, however, a major public health challenge (Payne & Avery, 2011; World Health Organization, 2019), older people living in care homes being particularly at risk (Davies & O'Mahony, 2015; World Health Organization, 2019).

The medication management of medication administered regularly and when needed, is a healthcare provider (HCP) responsibility. Medication management is complex (Carayon et al., 2006; Odberg et al., 2020) and involves judgment-based decisions throughout the different phases of administration – ordering, transcribing, dispensing, preparing, administering and observing medication effects (Odberg et al., 2020; Forskrift om legemiddelhåndtering, 2008). Judgment-based decisions for administering PRNMs to those requiring assistance with their medication management are, however, based on the HCP and patient's thinking (Stokes et al., 2004).

The thinking and decision-making process in clinical practice is a multi-layered, multicomponent capability that enables HCPs to make judgments and decisions in the complex healthcare setting area (Benner, 1984; Tanner, 2006). Clinical decision-making in caregiving is a situated and nonlinear process, decision-making involving arriving at a judgement-based decision on a course of action, based on the HCPs' explicit and tacit knowledge of the context, resident and medication (Gillespie & Peterson, 2009; Tanner 2006). Clinical decision-making in the administering of PRNMs involves deciding when medication should be administered, which medication should be administered and how much (Usher et al., 2009).

PRNMs are widely used among older patients in long-term care. Current knowledge on providers' management of these medications is, however, scarce and primarily relies on data from nursing homes. PRNM safety issues are furthermore recognized as being an under-researched area (Vaismoradi et al., 2018). Providing long-term care at a level that is lower than that of nursing homes (i.e. sheltered housing) is a defined policy in Norway (Daatland et al., 2015). There is, however, little knowledge on medication management in sheltered housing (Melby et al., 2019).

Background

The use of PRNMs in long-term care has been related to a number of factors including the level of patient dependence in day-to-day living (Stasinopoulos et al., 2018), patient age and cognitive status (Dörks et al., 2016), underlying health conditions and needs (Vaismoradi et al., 2019). Recent hospitalisation (Stokes et al., 2004) and the length of stay at an institution are also factors (Dörks et al., 2016). A number of PRNMs seem to be included on the medication lists of many sheltered housing patients, the most commonly used PRNMs being mild painkillers and laxatives. PRNMs may not significantly increase the medication-burden (Stasinopoulos et al., 2018).

Studies indicate that the role of HCPs in PRNM decision-making is significant in both care homes and nursing homes (Johansson-Pajala et al., 2016; Odberg et al., 2020). The role providers play in this decision-making is potentially influenced by which HCPs are on duty, the work environment and the collaboration culture (Murray, 2017). Medication management is, however, affected by multiple and inter-related factors (Carayon et al., 2006; Odberg et al., 2020). The management of PRNMs is furthermore reported in sheltered housing to be affected by factors such as the medication, the resident, the HCP and the organisation (Nilsen et al., 2020). Studies indicate that providers, when making PRNM decisions, wish to protect resident autonomy but are, at the same time, responsible for interpreting sets of symptoms (Carder, 2012) and following guidelines (Ryder et al., 2009). HCPs in sheltered housing are part of homecare nursing services. Medication management may therefore be challenged by contextual factors such as poor communication between GPs and HCPs, workplace policies and systems, and poor staff continuity (Lee et al., 2018; Nilsen et al., 2020). HCPs bear a professional responsibility when making medication decisions. Judgements therefore incorporate aspects such as ethical responsibility, clinical judgement, complying with standards of practice and patient knowledge, to ensure that the best decision for the patient is arrived at (Gillespie & Peterson, 2009; Tanner 2006).

The context: Sheltered housing in Norway

Residential care for older people is provided by institutional care (nursing homes) and sheltered housing (assisted housing) (Daatland et al., 2015; Helse- og omsorgstjenesteloven, 2011). Sheltered housing for older people is primarily provided to those over 65 years of age, residents receiving help with day-to-day living, including help with managing medications if required. The number of staff and level of care provided in sheltered housing differs. Sheltered housing residents live independently in their own apartment, rented or purchased from the municipality, where HCPs provide home-based services (Daatland et al., 2015; Melby et al., 2019). Nurses primarily and in principle have overall responsibility for medication management. The task of managing medications may, however, be delegated to other HCPs, such as nurse assistants. The head of the unit is responsible for delegation of medication administration and for verifying that providers have the competence required to carry this out (Forskrift om legemiddelhåndtering, 2008). There are similarities between sheltered housing and nursing homes. They however differ in juridical management (Daatland et al., 2015; Melby et al., 2019). For example, in sheltered housing PRNMs cannot be administered from general medication lists, but can be in nursing homes. In sheltered housing, PRNMs must be prescribed on the individual resident's medication list to be permitted to be administered. Sheltered housing residents therefore relate directly to their general practitioner (GP), no specialist physicians being assigned to sheltered housing (Forskrift for sykehjem og boform for heldøgns omsorg og pleie, 1988).

The crucial role of HCPs in the PRNM decision-making process has led this study to the aim of wishing to expand our knowledge on the experiences of this practice in sheltered housing for older people. The following research question has therefore guided the study: How do HCPs experience PRNM decision-making practice for residents living in sheltered housing?

Materials and methods

This study used a qualitative design. Individual interviews were used to collect data, this method being well-suited to the restructuring of perceptions and experiences of healthcare services (DiCicco-Bloom & Crabtree, 2006).

Study setting, participants and sampling

Informants were recruited from five sheltered housing units in five different municipalities in mid- and eastern Norway. Each sheltered housing unit housed 10 to 60 residents. All HCPs were affiliated to the homecare nursing services, the services available at each sheltered housing unit however varying. At some locations, residents were frequently visited by HCPs. At others, they only came when the resident called for assistance.

The sampling strategy was therefore designed to reflect the heterogeneity of the sheltered housing units, some being large and some small, localised in both small and large municipalities. Healthcare providers also had different levels of experience and positions. Inclusion criteria were: people working in sheltered housing units, certified for (PRN) medication management. A purposeful strategy was applied to informant recruitment (Patton, 2015). Sampling primarily included key informants, who were HCPs with a special interest in PRNM, sourced through self-recruitment. The lack of informants led, however, to the strategy being changed stepwise as shown in Figure 1.

The informants had between 2 and 30 years of experience. Four were registered nurses, three were nurse assistants, and one was a trainee nurse, working in the role of a nurse assistant. Nurse assistants have an upper secondary school education in healthcare. Most of the informants held a 90–100% position in sheltered housing, one holding a 13% position; the informants had 2–25 years of experience in sheltered housing. Some also had experience from other healthcare services and some nurses had further education in geriatric and palliative care. All eight informants were women.

Participation was voluntary, written informed consent being obtained from each informant before becoming involved in the study, and the informants were consent competent.

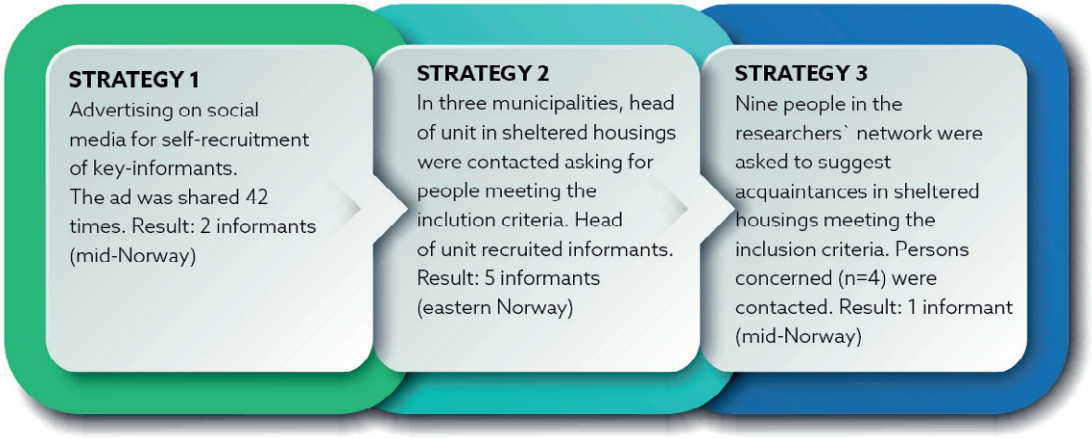

Figure 1 Informant recruitment

Data collection

Semi-structured interviews with each informant were conducted by the first author between February and May 2019. The informants selected the interview location. Seven interviews were held at the HCP's workplace, and one in MKN's office.

MKN developed a semi-structured interview guide of themes based on findings from another study (Nilsen et al., 2020) and on literature in the field. The interview began by asking for background information (education, experience, position, size of housing unit). The informants were then asked to talk about the last time they administered a PRNM and to describe how they made decisions. Follow-up questions were used to encourage participants to clarify or elaborate on their responses, interviews ending with a focus on the HCP's role in the decision-making process. The same interview guide was used for all interviews. Follow-up questions were, however, tailored to the answers and to the new understanding gathered during the interview, which is a natural process in qualitative research (Kvale & Brinkmann, 2009).

The interviews lasted between 26 and 54 minutes, only one informant and MKN participating in each interview. The interviews were audio-recorded and transcribed verbatim by MKN and were deidentified and anonymized when transcribed. The audio recordings were encrypted when stored, and were deleted after the analysis was completed.

All informants received their own transcript to go through, to validate the interviews. One of the informants provided an additional comment that was not included in the analysis.

Data analysis

The data was analysed using the inductive qualitative approach (Patton, 2015) and latent content analysis inspired by Graneheim and Lundman (Graneheim et al., 2017; Graneheim & Lundman, 2004).

The transcribed interview texts were analysed stepwise. The transcripts were first read through to obtain a comprehensive understanding of the entire material, and to determine the main topics. The transcripts were then divided into meaning units made up of words, sentences or paragraphs related through their content. The meaning units were then condensed, abstracted and labelled using a code that describes the content, the codes finally being grouped into sub-themes and themes describing the latent meaning of the data (Graneheim & Lundman, 2004).

The authors' preunderstanding was that medication management by healthcare providers in sheltered housing may be challenged by several factors. This was considered and discussed during the whole process in order to enhance the credibility of the results. The authors' professional background varied, including two pharmacists (MKN, HS) with experiences from pharmacy, and one nurse (RMO) with clinical experience from nursing homes. All had many years of teaching experience from higher education. However, none had clinical experiences from sheltered housings.

MKN and RMO created meaning sub-themes and themes (Graneheim et al., 2017). Triangulation (Lincoln & Guba, 1986) was also performed to ensure the trustworthiness of the analysis research, all three authors discussing the findings repetitively. Table 1 shows themes, sub-themes and examples of codes, condensed meaning units and meaning units (coding tree).

The NVivo 12 and MindManager computer programs were used in the organisation, review and analysis of the data.

Table 1 Coding tree. Summary of theme and sub-themes, with examples of codes, condensed meaning units and meaning units

Meaning unit*	Condensed meaning unit (initial interpretation)*	Code*	Sub-theme	Theme
Sometimes, I wished I had become a health worker (…) and did not have the responsibility. But the responsibility also makes the day exciting.	Wishing not to have responsibility but realising responsibility is exciting.	Feeling of taking responsibility varies.	***Taking, sharing and shifting responsibility***	***Searching for comfort when making PRNM decisions***
It's safe when the medication list is evaluated and approved.	Feeling safe when medication lists are updated.	Sharing responsibility with the GPs.		
If they have the medication as a PRNM, it is for a reason; then, I should not make any decision (…) they can decide themselves. It is their body.	The patient can make PRNM decisions themself.	Shifting responsibility (to the resident).		
I really want to tell the GP about the situation (..) but I can't when the resident says no (…) then, I feel helpless. We continue to give painkillers even if it doesn't help, because the resident wants us to.	If the resident says no to conveying onwards information, we have to respect it, even if it results in inappropriate medication use.	Resident autonomy has greater impact than professional knowledge.	***Striving between resident autonomy and appropriate medication use***	
It's different (compared with nursing homes) when you come into their homes, it shouldn't be, but it is. (…) at home, they can mostly do what they want to do.	In sheltered housing, resident autonomy is stronger than in nursing homes.	Resident autonomy is dependent on context.		
We have medication reviews once a year (…) the GPs examine blood tests and review the medication list, also looking for interactions (…) here, the old people are in safe hands.	Frequent follow-up from GPs makes the patient safe.	A systematic collaboration with GPs is essential.	***Struggling with and/or embracing the system***	
We have a so-called 'black-book' (a notebook) where we write messages on things to remember from day to day (….) When I wrote that we should give feedback to the GP regarding a patient's use of painkillers, we followed up the PRNM.	A notebook used for messages ensures that the PRNM is followed up.	Informal information structures replace a failing documentation system.		

*Examples, not a complete overview

Results

We identified, from the analysis, one main theme and three sub-themes (see Table 1) from all the informant descriptions of PRNM decision-making experiences. Informants' thinking and reflection are influenced by work and by life experiences. PRNM decision-making

could occasionally be challenging, when and in which the circumstances this arose differed. The theme and sub-themes are described and illustrated in the next section, which includes quotes from the interviews.

Searching for comfort when making PRNM decisions

The main theme 'Searching for comfort when making PRNM decisions' relates to HCPs' desire and commitment to make PRNM decisions they can vouch for. The informants experienced that they wanted to make decisions that gave them a good feeling. This includes confirmation from colleagues that their decision was right. Straightforward decision-making was, however, often disrupted by conflicts within them between autonomy and professional practice and grade of responsibility. The organisational system also affected PRNM decision making.

Taking, sharing and shifting responsibility

This sub-theme includes informants' experiences of managing their responsibilities in the PRNM decision-making process. The HCPs wanted to take responsibility. They would, however, like to share this with someone such as a colleague or the GP. They sometimes also wanted to transfer responsibility to someone else and so no longer be responsible for the decision. The informants constructed their responsibility differently. How responsibility was experienced also seemed to be context-dependent. Some informants felt that PRNM decision-making responsibility was a burden. Others found the responsibility helped make their work exciting. This is exemplified by a nurse saying: "*Sometimes I wished I was a nurse assistant (…) and did not have the responsibility. But the responsibility also makes the day exciting.*" (Nurse, 19 years' experience [YE]). A number of informants expressed that the roles of nurse assistants and nurses in decision-making were clear and established. They, however, admitted that nurse assistant practice varied, nurse assistants sometimes taking independent responsibility and sometimes consulting with a nurse before deciding to administer PRNMs. The nurses' expectations of how much responsibility health workers should take on differed. Some nurses thought nurse assistants should always ask a nurse before deciding anything. Others believed they could act independently. The roles of HCP in PRNM decision-making were clear and established. The responsibility each HCP actually took on, however, depended on personality rather than profession.

The nurses felt a responsibility to follow up PRNM use. They, however, wanted to share this responsibility with the GP, to feel more comfortable about this. One informant said: "*It's safe when the medication list is evaluated and approved.*" (Nurse, 24 YE). The informants also mentioned the GP's responsibility, and thought GPs didn't follow up resident medication use in the way they should. Some of the informants stated that it was the GPs that should have overall responsibility, because they prescribed the medication. HCPs appeared to take on more responsibility than they really wanted to because someone had to, even though it led to a certain degree of uncertainty.

Some informants commented that administration of PRNMs involved more responsibility than the administration of regular medication. This was exemplified by the quotation: "*It's a responsibility, whether my observations and clinical judgement are correct, if the resident is in pain or if it is something else.*" (Nurse assistant, 13 YE). Some of the HCPs felt insecure about the role, not because of the responsibility of administering the medication itself, but because of the need to exercise clinical judgement.

Lack of knowledge about the patient combined with inadequate patient record documentation could lead to uncertainty in the decision-making process. One informant with a small

position describes this as follows: "*I depend on discussing the case because I'm rarely in the unit. With this resident, there is something new each time I am there (…) I can't make the decision on my own, at least not whether he should have more oxazepam or not*". (Nurse student, 2 YE).

Being uncertain about a decision made the responsibility more burdensome. One strategy the HCPs used to manage the uncertainty in decision-making, was to share responsibility with or shift responsibility to a colleague or the GP. A feeling of shared responsibility would furthermore mean that a wrong decision would be viewed less severely if their judgement had been endorsed by someone else, or if the GP was consulted. The following quotation describes a situation:

> "On one occasion a resident had pain in his neck, and didn't have painkillers as a PRNM; we called the emergency room, and the doctor told us to give paracetamol (…) The next day, the resident was dead. (…) We were glad we had called for medical advice, that someone else had judged the situation with us." (Nurse, 19 YE).

The opportunity to share responsibility was less likely on night shifts, the burden of making the right decision feeling heavier.

Responsibility was primarily shared with a colleague. Exchanging experiences and decisions made the informants more comfortable, one commenting that this approach created a more consistent practice, even if it also could lead to the disavowing of responsibility.

Responsibility for PRNM decision-making was sometimes shared with the resident, if they had good cognition and were able to communicate well with the HCPs, and could therefore participate in the decision-making process. The following quotation illustrates a nurse's belief that their judgement was not required when residents asked for PRNMs on their list: "*If the medication is a PRNM, then this is for a reason. I should not then make any decision*" (Nurse, 24 YE).

Striving between resident autonomy and appropriate medication use

This sub-theme relates to the HCP dilemma that arises between conceding to the residents' wishes versus ensuring safe and appropriate medication use. They referred to PRNMs as analgesics (e.g. paracetamol and morphine) and tranquilisers (e.g. oxazepam) and wished to limit their use. HCPs furthermore wanted to limit the administration of tranquilisers due to the danger of addiction. Treating residents' pain was important to the HCPs, even if some analgesics were addictive, which they refer to as 'strong medications'. It was also important to the informants to believe in and trust the residents, and to take into consideration their wellbeing. As one informant noted: "*Sometimes a resident asks repeatedly for a PRNM, and you may get weary of their badgering. Then, a good attitude is important. You should still believe the resident.*" (Nurse, 25 YE).

One of the informants talked about a resident whose inappropriate use of painkillers challenged her nursing competence. She wanted to consult the GP about an alternative intervention. The resident, however, refused to talk about their physical condition: "*I really want to tell the GP about the situation (…) but I can't when the resident says no (…) then, I feel helpless. We continue to give painkillers because the resident wants us to, even if it doesn't help*" (Nurse, 19 YE).

A number of informants claimed that autonomy was important, because the residents lived in their own home and not in a nursing home. This is exemplified by this quotation: "*It's different (from a nursing home) when you go into their homes. It shouldn't be, but it is. (…). At home, they can mostly do what they want.*" (Nurse assistant, 25 YE). Some informants

commented that it was occasionally acceptable to use a mild form of pressure to encourage a resident to take PRNMs: "*Maybe I gently pressurised the resident to take paracetamol. But I saw how bad he felt during care the evening before.*" (Nurse assistant, 13 YE). The HCP's knowledge implied that there was a need, in these situations, for a PRNM because they for example expected the resident to be in some pain. The use of PRNMs was on such occasions justified in the interests of the wellbeing of the resident.

The informants felt caught in the middle between what they believed to be the correct use of a medication, and the resident's wishes. HCPs often administered a PRNM even if they didn't want to, because the resident asked for it. This situation gave the HCPs a feeling of helplessness, because residents did not listen to their professional advice. Informants sometimes experience decision-making as an ethical dilemma, such as when they must choose between resident autonomy and appropriate medication.

Struggling with and/or embracing the system

This sub-theme refers to the HCPs' efforts to make the right PRNM decision within an organisational system of decision-making barriers and facilitators.

It is clear, based on the informant's statements, that two of the municipalities included in the study had established systematic medication reviews and visits by GPs. This helped the HCPs in their decision-making. The informants from these municipalities embraced this approach because it made their job easier, as described by this quotation: "*We have medication reviews once a year (…) the GPs look at blood tests and review the medication list, also looking for interactions (…) here, the old people are in safe hands*" (Nurse, 25 YE). The medication review led to fewer PRNMs on the medication list. This, combined with a good relationship with the GP, made the HCPs feel more comfortable when making decisions. Informants from the other three municipalities gave the impression that system barriers existed in these municipalities, making HCP decisions more challenging. The main barriers were a lack of collaboration with the GP on maintaining medication lists, and poor documentation systems. This is illustrated by the following quotation:

> "I think good collaboration between us HCPs and GPs, residents with relatives, is important. Today I feel that the residents are prescribed a medication, and that it remains on the medication list for years without being assessed or discussed." (Nurse student, 2 YE).

Poor control of which medication should be administered, due to there being a number of medications on the medication list to choose from, represented a challenge. Outdated medication lists required greater medication competence. Sometimes the informants would go beyond what they were authorised to do in their care of the residents, because the medication lists were not updated, as this example shows:

> "A dying person should receive morphine, and instructions were given orally. But when I came to the person, the medication list was incorrect, and morphine was not listed as a PRNM.(…) I chose to give morphine (…) It could have had an impact on my licence." (Nurse, 11 YE).

Information about the health-status of the patient and the effects of medications on him/her should be kept in the patient record. Several informants mentioned, however, poor documentation systems, particularly for PRNMs. The informants talked about notebooks for writing down different types of messages. These also seemed to be an important information source for PRNM follow-up, this quote illustrating the use of a notebook for documentation:

> "We have so-called 'black-books' (a notebook) where we write messages on things to remember from day to day (…) When I wrote in the book that we should give feedback to the GP on a patient's use of painkillers, we followed this up on the PRNM". (Nurse, 19 YE).

The HCPs could not trust the documentation system and had to compensate through relational continuity – the HCPs' one-to-one knowledge of the residents. The HCPs also had to rely on their own knowledge, experience, and informal information and documentation systems because the formal system did not meet the requirements for safely providing/managing PRNMs.

The informants described organisational systems, such as documentation systems and medication reviews, as leading to variations in the decision-making practices. These differences could lead to uncomfortable decisions for the informants. The current PRNM practice, therefore, seems to substantially rely upon HCP experience, attitudes and knowledge, informants being concerned that residents were not receiving the best possible and safe medical care. This quotation describes the feeling of one informant: "*Sometimes we simply have to trust our gut feeling and hope the reporting is good*" (Nurse, 11 YE). Decision-making practice based on gut feeling was not preferred by the informants. This was, however, the only remaining reliable resource when other knowledge sources in the system were absent.

Discussion

We, in this study, found PRNM decision-making experiences to involve responsibility, autonomy versus professional judgements and organisational conditions, and HCPs seeking to feel comfortable about their decisions. The informants in this study considered practice was better and safer for the residents when they felt safe about their decision-making.

The informants in this study considered experiences of responsibility during PRNM decision-making process to be important. The roles of the HCP were, in principle, clear and established. Most HCPs were, however, reluctant to carry the burden of their decisions alone. A stronger involvement of GPs was in particular wanted by the HCPs in this study, how municipalities organise access to physicians in sheltered housing also being problematised in a report on medical competence in nursing homes and sheltered housing. This report shows variations in the organisation of GP services, and sheltered housing units having to relate to numerous GPs (Melby et al., 2019). HCPs experienced taking responsibility differently, the experience depending on their personalities and self-awareness, which is an important part of clinical decision-making (Gillespie & Peterson, 2009). Sharing responsibility with colleagues was wanted by the informants, to create a safer environment for the decision-making process. Studies from hospital settings have found that knowledge sharing is positively correlated with patient safety (Chang et al., 2012; Strömgren et al., 2016). The exchange of experience between colleagues was also an important element in symptom interpretation. HCPs have an individual responsibility to provide professional care to patients that ensures quality in health care and patient safety. There is also a duty to call for assistance if the patient's needs require this (Helsepersonelloven, 1999). Systems that promote information sharing were an important element in ensuring comfort when making PRNM decisions and can help or hinder the HCPs in their practice. Information sharing should be facilitated, to provide opportunities for collaboration and interaction between practitioners.

Challenges around resident autonomy and appropriate use of PRNMs influenced the decision-making practice, a finding that is in line with previous studies in assisted living settings (Carder, 2012; Ryder et al., 2009). The informants were focused on limiting the

use of medications and, at the same time, on providing patient-centred care. Knowing the patient and the case were one of the essential factors in HCP clinical decision-making. This clinical decision-making should also consider cues, judgments and consequences (Gillespie & Peterson, 2009). Decision-making could be difficult if relevant factors pulled in different directions, as in the example given in this study of HCPs who felt obliged to continue to administering painkillers and the resident not agreeing to the GP being informed of the resident's physical status. Several informants in our study claimed that respecting the residents' autonomy was more important in sheltered housing than in nursing homes, because the residents lived in their own homes. Context therefore seems to play a role in autonomy-power, even if the Patient and User Rights Act does not distinguish between health care settings (Pasient- og brukerrettighetsloven, 1999).

Two organisational systems were highlighted in this study, documentation systems and systematic medication reviews. Drug-related problems due to unclear documentation (Devik et al., 2018) and to the use of informal documentation systems (Bjerkan et al.; Olsen et al., 2014) are well documented challenges. An informant in this study said that decision-making was easier for residents that had undergone systematic medication reviews. They felt safe, they knew the lists were correct and there were a limited number of medications to choose between. A multi-disciplinary medication review is recommended for safer medication management, particularly for older patients (Meld. St. 28, 2014–2015). Medication reviews may furthermore improve both the practice and quality of medication management (Bell et al., 2017; Halvorsen et al., 2010) and reduce inappropriate polypharmacy (Lenander et al., 2018). HCP mistakes are rarely due to negligence. Mistakes are due to dysfunctional or inadequate systems, processes or procedures resulting in the risk of medication errors (World Health Organization, 2017; Reason, 2000). Medication errors are therefore avoidable. Improving the systems and practices of PRNM management in sheltered housing is therefore crucial in ensuring HCPs make safe PRNM decisions.

This study describes decision-making practice as taking place in a context in which HCPs depend on others (colleagues or GPs) to make what they believe to be the best PRNM decision. This practice is, however, characterised by a number of challenges. The practice may be experienced by residents as being good when the level of patient-centred care is high. The results presented here, however, point to a system and practice of medication management that may rise concerns in terms of patient safety.

Implications

PRNM decision-making practice should not need to be based on gut feeling. There is a need for functional systems supporting HCPs decision-making. Heads of units should therefore take this into account when organising the service. Functional and easily accessible formal documentation systems and formalised interprofessional medication reviews can help ensure HCP tasks are carried out correctly, and their implementation should be considered. This approach would be in line with the recommendations from the Norwegian patient safety program (Helsedirektoratet, 2020). A formalised collaboration with GPs could, according to some of this study's informants, also save the municipality time and reduce costs.

PRNM management is a significant part of HCP responsibilities. The exchange of experiences and knowledge to support the decision-making process, is also important to avoid unsafe practices. Shared or shifted responsibility does not, however, relieve HCPs from their individual decision-making responsibility (Helsepersonelloven, 1999). Legislation implies that facilitating the necessary collaboration for safeguarding HCP practices is a system responsibility. HCPs should, as a part of their independent responsibility, document neces-

sary information on PRNM administration and follow-up, preferably using formal documentation systems.

Strengths and weaknesses

This study's findings provide novel insights into HCP experiences in PRNM decision-making in sheltered housing. The sampling resulted in the inclusion of HCPs employed in municipalities that organised their services differently. We find this variation to be a study strength. A limitation of this study is the relatively small sample that only included women. We nevertheless succeeded in achieving variations between the informants, and their positions, experience and education, this variation reflecting the profiles of the sheltered housing staff. We have made an effort to collect thick descriptive data, in the interests of transferability (Lincoln & Guba, 1986).

Mixing the sampling strategy may contribute to some bias, the prerequisites for participation differing. The two informants we recruited through social media were more interested in pro re nata medication than the other informants. Contacting informants via a network may also affect the informants included in a study. There was, however, no direct connection between the informants included and the researchers.

Member-checking is one way of ensuring trustworthiness (Lincoln & Guba, 1986). The informants read and validated their own transcripts, which is a strength. Not involving them in the analysis is, however, a limitation. Research triangulation (Lincoln & Guba, 1986) was performed in the analysis and involved all authors, their experiences and backgrounds differing.

Conclusion

Healthcare providers in this study experienced PRNM decision-making practice in sheltered housing differently. Our findings indicate that PRNM decision-making may involve challenges for the HCPs, who strive to feel comfortable with the decisions they make. The challenges relate to the efforts made by HCPs to manage their decision-making process responsibilities. HCPs are positioned between respecting residents' autonomy, ensuring appropriate mediation use and efforts to make the right decisions within an organisational system that supports or disrupts decision-making. The informants in this study experienced that conflicting interests often disrupted straightforward decision-making. Examples are the balancing act between professional knowledge and resident autonomy, whether the system is reliable or whether gut feeling becomes the information source to use. HCPs associated feeling uncomfortable with the PRNM decision with unsafe medication practice. Stronger involvement of GPs could furthermore act as a safety net for HCPs.

The Norwegian Centre for Research Data (NSD) was notified (no. 57803), and the ethical principles emphasised in the Declaration of Helsinki were followed.

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