

Prescribing of Psychoactive Drugs for Older People in Nursing Homes: An Analysis of Treatment Culture

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Abstract

Background There is increasing interest in how culture may affect the quality of healthcare services, and previous research has shown that ‘treatment culture’—of which there are three categories (resident centred, ambiguous and traditional)—in a nursing home may influence prescribing of psychoactive medications.

Objective The objective of this study was to explore and understand treatment culture in prescribing of psychoactive medications for older people with dementia in nursing homes.

Method Six nursing homes—two from each treatment culture category—participated in this study. Qualitative data were collected through semi-structured interviews with nursing home staff and general practitioners (GPs), which sought to determine participants’ views on prescribing and administration of psychoactive medication, and their understanding of treatment culture and its potential influence on prescribing of psychoactive drugs. Following verbatim transcription, the data were analysed and themes were identified, facilitated by NVivo[®] and discussion within the research team.

Results Interviews took place with five managers, seven nurses, 13 care assistants and two GPs. Four themes

emerged: the characteristics of the setting, the characteristics of the individual, relationships and decision making. The characteristics of the setting were exemplified by views of the setting, daily routines and staff training. The characteristics of the individual were demonstrated by views on the personhood of residents and staff attitudes. Relationships varied between staff within and outside the home. These relationships appeared to influence decision making about prescribing of medications. The data analysis found that each home exhibited traits that were indicative of its respective assigned treatment culture.

Conclusion Nursing home treatment culture appeared to be influenced by four main themes. Modification of these factors may lead to a shift in culture towards a more flexible, resident-centred culture and a reduction in prescribing and use of psychoactive medication.

Key Points

This study examined treatment culture with respect to prescribing and administration of psychoactive medication.

Culture appeared to be influenced by the characteristics of the setting, the characteristics of the individual, relationships and decision making.

These themes were linked, and each one depicted differences between the three treatment cultures that were examined.

Modification of culture may lead to a more person-centred approach to prescribing and use of psychoactive medications.

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1 Introduction

Prescribing of psychoactive medications (antipsychotics, hypnotics and anxiolytics) for older residents in nursing homes has been a cause for concern, as such medications have been used in older people when they are not always required. This has led to them to being described as ‘chemical restraints’ [1–4]. Use of these drugs has been associated with management of behavioural and psychological symptoms of dementia (BPSD), but prescribing of these agents—particularly antipsychotics—is considered unsuitable for these symptoms [5–8]. Use of antipsychotics can increase older people’s susceptibility to adverse events—such as deep venous thrombosis, pulmonary thromboembolism and falls—as a consequence of the common side effect of sedation [9–11]. Additionally, patients who have Lewy-body dementia are particularly susceptible to the deleterious effects of antipsychotics [12]. A recent guidance issued by the National Institute for Health and Care Excellence (NICE) in the UK [13] advises against the use of any antipsychotics for non-cognitive symptoms or challenging behaviour of dementia unless the person is severely distressed or there is an immediate risk of harm to them or others. However, despite these concerns, antipsychotics and other psychoactive agents continue to be prescribed widely in nursing homes [14].

A study by Chen et al. [15] attempted to account for variations in patterns of antipsychotic prescribing across US nursing homes and suggested that factors such as ‘organisational culture’ may play a role in medication prescribing. There has been considerable interest in the concept of ‘organisational culture’ and its role in the quality of healthcare delivery [16]. One paper has described organisational culture as “the way things are understood, judged, and valued” or the “shared beliefs, attitudes, values and norms of behaviour within an organization” [17]. A common definition that is often used is “the way we do things around here” [18].

Schein [19] has provided a more detailed definition:

...the pattern of shared basic assumptions—invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration—that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Schein has categorised organisational culture as having three levels. Level 1—artefacts—is the most visible manifestation of culture [17, 19]. Level 2—beliefs and values—is concerned with the conscious strategies, goals and philosophies that organisations have, which may be used to

justify certain behavioural patterns [17, 19]. Level 3—basic underlying assumptions—is the hardest level to access. This difficulty arises because underlying assumptions often exist at an unconscious level [17, 19] and can be difficult to discern.

Svarstad et al. [20] conducted the first study to establish differences in psychoactive drug prescribing, resulting from different nursing homes having different cultures—in this case, ‘treatment culture’ [20]. This is a narrower description of culture and focuses on the treatment beliefs, values and normative practices associated with medication prescribing and administration (particularly psychoactive medications), interactions with residents and interactions with other healthcare professionals. Nursing homes have been defined as resident centred (least likely to use psychoactive medication), traditional (most likely to use psychoactive medication) or ambiguous in terms of treatment culture [20]. The study by Svarstad et al. [20] demonstrated that homes that were categorised as being resident centred had lower levels of prescribing of antipsychotic medications than homes in the other culture categories [20]. Previous work has measured treatment culture by using a survey method in nursing homes in Northern Ireland and New Zealand [21]. However, what is not clear from the research conducted to date is how different cultures are manifested in nursing homes. Therefore, the aim of this project was to explore and understand treatment culture in nursing homes for older people with dementia in respect of prescribing of antipsychotics, hypnotics and anxiolytics.

2 Methods

2.1 Design

This study employed semi-structured interviews with nursing home staff and general practitioners (GPs) in order to explore treatment culture in more depth.

There is no permanent medical staff in UK nursing homes. Nursing homes usually liaise with a number of GPs, who provide care to residents and are responsible for most prescribing services. GPs are usually the main instigators of prescriptions for psychoactive medications.

2.2 Setting and Participants

Following on from a preceding study, which categorised nursing homes according to treatment culture [21], six homes that had indicated interest in future research were recruited—two from each culture category (Table 1). All nursing homes were located in Northern Ireland. The study began in November 2012 (after ethical approval was

Table 1 Nursing home characteristics

Nursing home	Ownership status of nursing home	No. of residents in nursing home	No. of residents with dementia
Traditional (t1)	Private	73	15
Traditional (t2)	Private	20	3
Ambiguous (a1)	Private	15	4
Ambiguous (a2)	Private	64	13
Resident centred (r1)	Private	29	7
Resident centred (r2)	Private	22	3

Explanation for codes: (*t*) nursing home with a traditional treatment culture; (*a*) nursing home with an ambiguous treatment culture; (*r*) nursing home with a resident-centred treatment culture. The homes are numbered sequentially as 1 or 2

granted), with initial sampling and recruitment, and ended in September 2013 when the analysis was complete.

2.3 Data Collection

The data were collected by one researcher (CS) via semi-structured interviews with staff (managers, nurses or care assistants) and GPs. A topic guide (see the outlines of the interview schedules for nurses, nursing home managers and care assistants in the Electronic Supplementary Material) based on Schein's Framework [19] was developed, comprising common questions for all participants, and was amended slightly to take account of the participant's role within the home (manager, nurse, care assistant) or as the GP. All interviews were recorded digitally, after each participant gave written informed consent for participation.

2.4 Data Analysis

The data analysis began with verbatim transcription of each interview, and transcripts were checked for accuracy against the original recordings. At the end of each interview, the researcher made notes detailing the prominent points, with the aim of assisting future data analysis. This allowed the researcher to recall any important information regarding each individual interview. Each participant was given an identification code denoting the nursing home they belonged to in terms of culture (traditional [t1, t2], resident centred [r1, r2] or ambiguous [a1, a2]) and their job title (manager [M], nurse [N] or care assistant [CA]) and, within these groups, each interview was numbered sequentially. These codes also preserved anonymity. Each transcript was uploaded to NVivo® software. The data were coded according to Schein's Framework [19] and, in addition to this framework analysis, thematic analysis was carried out, facilitated by NVivo®. As described previously, it was anticipated that the interviews would not uncover the third level of culture—the basic underlying assumptions—therefore, only level 1 and level 2 of Schein's Framework were considered during the analysis.

Quotes were examined and coded as an artefact (level 1) or as a belief or value (level 2), and each quote was then re-examined and coded as describing a traditional, ambiguous or resident-centred culture. This decision was made by the researcher on the basis of reading and re-reading of the data, and was guided by the principles of each type of nursing home culture, derived from the literature and previous work [20].

Following this initial categorisation, all data were grouped together under the three culture categories. Themes were coded, condensed and re-classified throughout the process independently by the researcher (CS), within and between transcripts, and consensus was reached by discussion within the research team. An overview of the analysis stages is provided in Fig. 1.

To reduce bias, discussion regarding analysis took place within the research team (consisting of two pharmacists and one nurse), themes that had been derived independently were validated via this discussion and a consensus was reached. It was also concluded that data saturation had occurred and thus bias was minimised [22]. In order to exercise reflexivity, the researcher (CS) was vigilant in viewing each home independently of their treatment culture category so as not to influence the analysis of the data.

3 Results

Forty-nine nursing home staff and eight GPs were approached and invited to take part in the study. Interviews took place with 25 nursing home staff (51 %; five managers, seven nurses, 13 care assistants [equivalent to certified nursing assistants (CNAs)]) and two GPs (25 %). The interviews lasted a mean of 33 minutes. Participant characteristics are shown in Table 2; codes were assigned to preserve anonymity.

Four major themes were found in the data, which contributed to the shaping of the treatment culture in the homes in respect of prescribing of psychoactive medicines:

Fig. 1 Diagrammatic representation of the analysis. CA(r2)2 care assistant no. 2 from resident-centred home no. 2, GP general practitioner

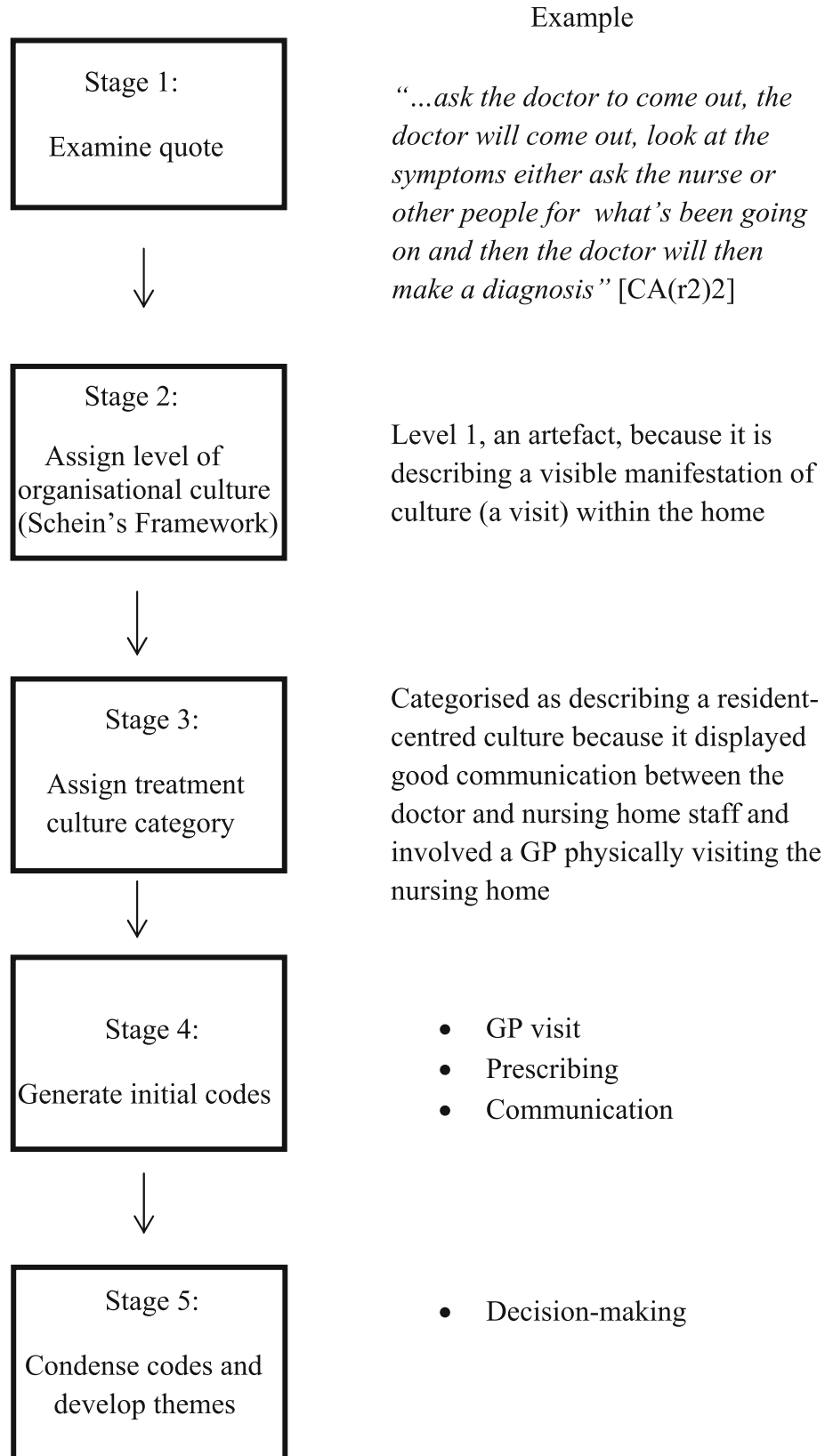


Table 2 Participant characteristics

Participant	Sex	Year of registration as a manager or nurse	No. of years working as a care assistant	Year of registration as a GP
M(t1)	Male	1998		
M(t2)	Female	1992		
M(a1)	Female	1981		
M(a2)	Female	1972		
M(r1)	Female	1981		
N(t1)1	Female	1993		
N(t1)2	Female	1995		
N(t1)3	Female	2007		
N(a1)1	Female	1981		
N(a2)1	Female	2012		
N(r1)1	Male	2013		
N(r2)1	Female	2010		
CA(t1)1	Male		2	
CA(t1)2	Female		2	
CA(t2)1	Female		13	
CA(t2)2	Female		19	
CA(t2)3	Female		18	
CA(a1)1	Female		2	
CA(a1)2	Female		10	
CA(a2)1	Female		2	
CA(a2)2	Female		1	
CA(a2)3	Female		1	
CA(r1)1	Female		33	
CA(r2)1	Female		4	
CA(r2)2	Female		10	
GP(1)	Female			1994
GP(2)	Male			1985

Explanation for codes: *M(t)* manager from traditional home; *M(r)* manager from resident-centred home; *M(a)* manager from ambiguous home; *N(t)* nurse from traditional home; *N(r)* nurse from resident-centred home; *N(a)* nurse from ambiguous home; *CA(t)* care assistant from traditional home; *CA(r)* care assistant from resident-centred home; *CA(a)* care assistant from ambiguous home; *GP* general practitioner. The homes and interviewees are numbered sequentially as 1 or 2

1. Characteristics of the setting.
2. Characteristics of the individual.
3. Relationships.
4. Decision making.

These themes and their supporting quotes are outlined in the subsequent text.

3.1 Characteristics of the Setting

Participants in traditional and ambiguous homes placed importance on the everyday routines within the nursing home, while resident-centred homes seemed to demonstrate a more flexible approach:

[Nursing homes] always need to have some sort of routine...so if one person does one thing that way, then everybody else will participate and do exactly

the same thing...and, to be honest with you, I think it's good for them, the residents, to have routine as well [CA(t2)1].

There should be the same routine [N(a1)1].

Everybody doesn't have to be up for 9 o'clock...if people want to have a lie on, they can, they have their choice of food...they have the choice of what they want to do [M(r1)].

In both ambiguous and resident-centred homes, it was felt by some participants that there were insufficient staff to deal with behavioural disturbances:

If short staffed, we have to work harder...and the resident might not get exactly the same attention that we usually give to them, you know? [CA(a1)1]

If they just would put an extra member of staff on each shift, it would make an awful lot of difference [CA(r1)1].

However, staff in traditional homes reported that staffing levels were adequate:

We all have enough staff [CA(t1)2].

3.2 Characteristics of the Individual

This was demonstrated by views on the personhood of residents and staff attitudes to medication and non-pharmacological intervention. Throughout all interviews, it was apparent that attitudes towards residents and behaviours of nursing home staff differed across the three treatment cultures. A participant from a traditional home admitted to not knowing the residents well, whereas a manager from a resident-centred home reported good interaction and familiarity between staff and residents:

We don't know what our residents are like [N(t1)1].

The families, the patients and the staff, they are all, they are familiar, they know each other and...they all interact well [M(r1)].

A participant from a traditional home stated that they found the behaviour of residents with dementia irritating, while those in resident-centred and ambiguous nursing homes appeared more understanding of behavioural problems:

Their behaviour is just, like, really annoying [N(t1)2].

They have lost their communication skills, they could be frustrated, so you just don't dive in straight away with medication [N(a1)1].

...really does depend on the resident because some of them, you know, if they are getting agitated, it's better to bring them into company, for example [N(r2)1].

Staff views differed across the three treatment cultures with regard to the reasons for giving a psychoactive medication. Those from traditional and ambiguous homes were less likely to report an accepted indication and generally reported that its use was beneficial. This contrasted with those from resident-centred homes, where participants stated that use was justified in some situations but also recognised that these medicines were not always needed:

...any time you need it [N(t1)1].

Yes, it would be convenience...they could be given diazepam to keep quiet...because, maybe, I think, that it's not enough time...it's sometimes easier to give a tablet [N(a1)1].

...ongoing, repeated unsettled behaviour, poor sleep pattern [M(r1)].

The attitudes of the staff varied slightly when they were asked if residents with dementia needed psychoactive drugs:

Yeah, they are really beneficial for all of them [N(t1)2].

I don't mind them [psychoactive medications]. I don't mind giving them to them [residents] [CA(t2)3].

...not always, no [CA(r2)2].

Staff across all three treatment cultures reported that a non-pharmacological treatment should be tried in the first instance. Examples included distractions, reminiscence and gardening. Individuals had the following views as to when psychoactive medication should be given:

A resident that I had last year, he would kick off a lot, but if you brought him out and did a bit of gardening with him, that would be him settled for two or three hours [CA(t1)1].

...reassurance...talking with them...sometimes reminiscence helps [M(a1)].

In place of zopiclone or temazepam, it would be repositioning them overnight, checking incontinence is cared for, that the room is comfortable, things like that [N(r2)1].

One of the GPs connected to a traditional home had the following view of non-pharmacological interventions:

Well, you can suggest them...yes, it's an option, but it's on a practical basis, it's not one that we are afforded and we can use [GP2].

3.3 Relationships

Relationships were seen to vary between staff within a home and with those outside the home, especially GPs. Those from traditional homes reported a good working relationship with staff within their unit but talked about "clashes" in other units in the same home. Resident-centred and ambiguous homes reported good working relationships with colleagues:

In my unit, anyway, it's [relationships between staff] very, very strong, we all get along well, but there has been other problems with other people not getting along [in other units] [CA(t1)1].

Staff work very well together in the home [N(a2)1].

The staff, the patients, the families and everybody interact together with the patient as the main focus [M(r1)].

Participants reported mixed opinions with regard to relationships with other healthcare professionals. Those from an ambiguous and resident-centred culture had good working relationships, whereas participants from a traditional culture indicated a less positive relationship and slight mistrust of other healthcare professionals, especially in the context of prescribing:

We have a good relationship with them [GPs] [M(a1)].

Overall, the relationship with the care managers, the GPs, physios, OTs [occupational therapists], podiatrist, dentist, it's all very good [M(r1)].

There are some GPs who is not well versed with the dementia...they prescribe anything and everything under the sun [M(t1)].

These relationships, particularly the latter, seemed to influence decision making about prescribing of medications, which represented the final theme.

3.4 Decision Making

Prescribing decisions in nursing homes with a traditional culture were made by healthcare professionals who, according to staff accounts, visited rarely. Staff felt unable to question a prescribing decision made by a GP, perhaps as a result of a less positive relationship and less face-to-face contact:

No [would not question the GP's decision]...the GP wouldn't, wouldn't change anything of our residents' medications, when it comes to psychotropic medications, because most of our residents have already tried those medications from before [N(t1)2].

The thing is, as nurses, we could only suggest and document our suggestion, and at the end of the day, it's up to the GP or the doctor to prescribe [M(t1)].

No, we need to phone them [the GP] if it's really needed [a visit] [N(t1)1].

I would really have to follow what the doctor orders [N(t1)3].

According to staff in ambiguous cultures, prescribing decisions were made by GPs who visited sometimes, but staff also felt unable to question a decision, despite reporting a good relationship with the GP:

Well, if it's a patient that's known to them and it's something that's reoccurring, they would do it over the phone, but if it's the signs and symptoms they are presenting with are new, they will come out to see them [N(a1)1].

The patient would be seen all of the time whenever, you know, a psychoactive drug is prescribed, but obviously if it's something like Movicol[®] or laxative, the GP sometimes prescribes that over the phone and there's not so much of a process as such [N(a2)1].

It'd be my saying...that I don't think this is right for this person...but who are we to argue with the higher [prescribers]? [M(a1)]

In contrast, staff in resident-centred homes reported that prescribing decisions were made by GPs who visited often. All staff felt able to discuss these decisions, which may have been due to a better relationship and more face-to-face contact with the GP:

The GP visits here every week on a weekly basis and sees everybody [M(r1)].

They [nurses] would ring the doctor and the doctor would have to come out to prescribe them [medication] and to see if that is what they need [CA(r2)1].

I would discuss it with the GP and I would say, look, this is not really appropriate, you're giving her this and, you know, discuss it [M(r1)].

4 Discussion

Organisational theorists have emphasised the importance of being aware of the culture in an organisation in order to obtain success in change processes [23–26]. Miller et al. [27] have suggested that introduction of nursing home culture changes may result in significant improvements in some care processes and outcomes in nursing homes that demonstrate commitment to the culture change. However, in order to initiate a change in culture, there must be an understanding of what contributes to that culture.

This study examined the treatment cultures of the nursing homes with respect to prescribing and administration of psychoactive medication, using Schein's Framework [19], with a particular focus on level 2, i.e. beliefs and values. At this level, the ways in which beliefs, values and goals are expressed are considered by Schein to be espoused justifications for characteristics of the culture and the way these characteristics shape practice. From that perspective, the culture appeared to be influenced by the characteristics of the setting and individual, relationships

and decision making. These themes were linked, and each one depicted the differences between the three treatment cultures that were examined. However, in some cases, there was a greater overlap between resident-centred and ambiguous homes in terms of culture and how this was manifested, in comparison with traditional homes, which seemed quite distinct.

When the setting characteristics were examined, it was clear that each home exhibited traits that were indicative of their dominant treatment culture, as described by Svarstad et al. [20]. Traditional homes' staff expressed the need for certain routines to be carried out (indicative of level 1 in the Schein Framework [19], i.e. artefacts). Participants placed importance on having set meal times and bed times, and showed a regimented approach to daily living, with little flexibility. A slightly different approach was seen in ambiguous homes, where participants acknowledged that a certain degree of flexibility around daily activities was necessary. The greatest difference was apparent in resident-centred nursing homes, where participants explained how day-to-day activities were based around the residents. They portrayed a more accommodating and adaptable approach, and residents' choices were respected and adhered to.

Staffing levels were generally seen as problematic, potentially leading to use of a psychoactive medication. This reflects previous findings, which suggested that homes used psychoactive medications to substitute for inadequate staffing levels [28–31].

The characteristics of the setting appeared to influence the characteristics of individuals. Staff in traditional homes appeared to have less of a rapport with residents than staff from resident-centred homes, who expressed a more caring attitude and acknowledged the need to view each resident as an individual. Kada et al. [32] found that there were significant differences in attitudes among nursing staff towards residents with dementia, which they attributed to varying levels of education, differing lengths of work experience, and presence or absence of further specialised training [32]. Furthermore, the attitudes of nursing home staff towards residents with dementia may influence how they are treated, as it has been shown that nursing home staff view residents with dementia in a negative way [33]. This seemed to be borne out by staff in traditional homes; one participant saw older people with dementia as “annoying” and went on to say they would be given a psychoactive medication, which was beneficial for them (level 2). Ambiguous and resident-centred home staff appeared to be more understanding of dementia and stated that they did not support psychoactive medication use in residents. Those from nursing homes with a traditional culture stated more often that these medicines were required and would be used “for convenience”, “any time you need it” or when there were not enough staff to deal

with the situation properly. This is consistent with previous findings, which suggested that use of psychoactive medication is for “chemical restraint” [1–4].

However, all participants reported that a non-pharmacological intervention should be tried in the first instance, reflecting an espoused belief or value [19] that was not always borne out in practice (level 2). Research in care homes has shown that cooking and music therapy have a beneficial effect on residents with dementia and help with decreasing the severity of behavioural disorders and caregiver distress [34]. McCurry et al. [35] found that teaching caregivers how to implement behaviour management techniques and how to increase pleasant events resulted in a decrease in four out of seven measures of behavioural symptoms [36]. The involvement of GPs in the study was insightful, as it was apparent that although they agreed with the benefits of non-pharmacological treatment, they reported that such approaches were not made available.

Overall, it was reported that staff within all of the homes worked well together. However, it was noted that working relationships in other units within a larger, traditional home seemed less positive because of difficulties between staff members. Evidence suggests that within an organisation, different cultures (known as ‘workplace’ or ‘idio’ cultures) can exist [36]. Thus, we surmise that treatment culture could differ between different floors and care units within the nursing homes. Furthermore, if each organisational unit is acknowledged as having its own workplace culture, each will have its own point of departure in terms of change and development [37].

Effective working relationships with physicians and other healthcare team members are critical to success [38]. Staff from resident-centred and ambiguous treatment cultures expressed a good working relationship with others, such as GPs and psycho-geriatricians; however, participants from traditional homes indicated slight mistrust of the GP, who was responsible for the majority of the prescribing within the home. These same participants went on to say they did not have regular contact with the GP. This contrasted with the situation in resident-centred homes, where participants reported a good working relationship with the GP, who visited on a weekly basis. This appeared to influence prescribing decision making, which is discussed below.

It has been reported that nurses value work environments that provide opportunities to make decisions based on their expertise and professional judgment, and to be involved in decisions that affect their working conditions [38]. Prescribing decisions in all three treatment cultures were made by the GP or psycho-geriatrician (based in hospital). However, in resident-centred homes, where the relationship with the prescriber was more positive, the nursing home staff felt able to have input into the decision-

making process and discuss prescribing outcomes. Participants from traditional nursing homes appeared to be dissatisfied with prescribing outcomes yet felt unable to approach the prescriber to discuss it, possibly because they had a poorer relationship with the prescriber. Thus, the quality of the relationship between the staff and the prescriber appeared to influence whether nursing home staff were involved in decision making. This clearly reflects the comment from Kirchler et al. [39] who stated that “the kind of decision-making process is determined by relationship quality”, albeit in a different setting [27].

This study had certain limitations. We recruited only privately owned nursing homes, all of which had expressed an interest in participating in research, on the basis of contact through a previous study [21]. However, all of the participants we recruited were open and honest during the interviews, and the analysis revealed that there was a clear link between the treatment culture category and the results of this study. Our approach of using interviews to compare culture across facilities has been used in previous studies [40]. However, we were unable to access the third level of organisational culture (which exists at an unconscious level), because of the nature of the data collection—yet this is probably the most important in terms of trying to understand action and behaviour, and, in the context of this study, the prescribing of psychoactive medication. Our future work, using appropriate methodologies, will focus on trying to penetrate the largely unconscious beliefs, values and expectations held and shared by individuals [19] about psychoactive medication, thereby providing a comprehensive elucidation of treatment culture. In order to exercise reflexivity, the researcher was vigilant in viewing each home independently of its treatment culture category, so as not to influence the analysis of the data. Furthermore, the participants were unaware of the researcher’s professional status as a pharmacist, therefore eliminating any influence such knowledge might have had on their responses when they discussed psychoactive medication and prescribing. Although only a small number of GPs participated in the study, their inclusion provided a different perspective, but we accept that this may have represented a selection bias.

5 Conclusion

This study attempted to compare treatment cultures and to understand how they may be manifested in respect of prescribing. The characteristics of the setting, the characteristics of the individuals working in the setting, relationships within the setting and decision making appeared important in shaping culture. Their modification may lead to a shift towards a more flexible, person-centred culture

and a reduction in prescribing and use of psychoactive medication.

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Author contributions Carmel Hughes and Brendan McCormack conceived the study and obtained the grant funding. Catherine Shaw undertook the data collection, and all authors contributed to the interpretation of the data. Catherine Shaw wrote the first draft of the paper, and Carmel Hughes and Brendan McCormack commented on and contributed to subsequent drafts.

Compliance with Ethical Standards

Ethical approval Ethical approval for this study was granted by the relevant research ethics committee (Approval No. 13/NI/0171), and each participant gave their informed consent to take part in the study.

Conflict of interest Catherine Shaw, Brendan McCormack and Carmel Hughes declare that they have no conflicts of interest that are directly relevant to the content of this paper.

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References

1. Osborne AC, Hooper R, Li KC, et al. An indicator of appropriate neuroleptic prescribing in nursing homes. *Age Ageing*. 2002;31:435–9.
2. Feng Z, Hirdes JP, Smith TF, et al. Use of physical restraints and antipsychotic medications in nursing homes: a cross-national study. *Int J Geriatr Psychiatry*. 2009;24:1110–8.
3. Mann E, Keopke S, Haastert B, et al. Psychotropic medication use among nursing home residents in Austria: a cross-sectional study. *BMC Geriatr*. 2009;9:18–25.
4. Inouye S, Marcantonio E, Metzger E. Doing damage in delirium: the hazards of antipsychotic treatment in elderly people. *Lancet Psychiatry*. 2014;1:312–5.
5. Ray W, Federspiel C, Schaffner W. A study of antipsychotic drug use in nursing homes: epidemiologic evidence suggesting misuse. *Am J Public Health*. 1980;70:485–91.
6. Beers M, Avorn J, Soumerai SB, et al. Psychoactive medication use in intermediate-care facility residents. *J Am Med Assoc*. 1988;260:3016–20.
7. Lee P, Gill S, Freedman M, et al. Atypical antipsychotic drugs in the treatment of behavioural and psychological symptoms of dementia: systematic review. *BMJ*. 2004;329:75.
8. Allred DP, Petty DR, Bowie P, et al. Antipsychotic prescribing patterns in care homes and relationship with dementia. *Psychiatr Bull*. 2007;31:329–32.

9. Evans JG. Drugs and falls in later life. *Lancet*. 2003;361:448.
10. Hosia-Randall H, Pitkala K. Use of psychotropic drugs in elderly nursing home residents with and without dementia in Helsinki, Finland. *Drugs Aging*. 2005;22:793–800.
11. Liperoti R, Gambassi G, Lapane KL, Chinag C, Pedone C, Mor V, Bernabei R. Conventional and atypical antipsychotics and the risk of hospitalization for ventricular arrhythmias or cardiac arrest. *Arch Intern Med*. 2005;165:696–701.
12. Rongve A, Vossius C, Nore S, Testad I, Aarsland D. Time until nursing home admission in people with mild dementia: comparison of dementia with Lewy bodies and Alzheimer's disease. *Int J Geriatr Psychiatry*. 2013;29:392–8.
13. National Institute for Health and Care Excellence. Low-dose antipsychotics in people with dementia [NICE advice KTT7]. London: National Institute for Health and Care Excellence; 2015. <https://www.nice.org.uk/advice/kt7>. Accessed 12 Mar 2016.
14. Mitka M. CMS seeks to reduce antipsychotic use in nursing home residents with dementia. *JAMA*. 2012;308:119–20.
15. Chen Y, Briesacher BA, Field TS, et al. Unexplained variation across us nursing homes in antipsychotic prescribing rates. *Arch Intern Med*. 2010;170:89–95.
16. Mannion R, Davies HTO, Marshall MN. *Cultures for performance in health care*. Maidenhead: Open University; 2005.
17. Davies HTD, Nutley SM, Mannion R. Organisational culture and quality of health care. *Qual Health Care*. 2000;9:111–9.
18. Drennan D. *Transforming company culture: getting your company from where you are now to where you want to be*. London: McGraw-Hill; 1990.
19. Schein EH. *Organizational culture and leadership*. San Francisco: Wiley; 1985.
20. Svarstad B, Mount J, Bigelow W. Variations in the treatment culture of nursing homes and responses to regulations to reduce drug use. *Psychiatr Serv*. 2001;52:666–72.
21. Hughes CM, Donnelly A, Moyes SA, et al. The way we do things around here: an international comparison of treatment culture in nursing homes. *J Am Med Dir Assoc*. 2012;13:360–7.
22. Pope C, Ziebland S, Mays N. Analysing qualitative data. *BMJ*. 2000;320:114–6.
23. Peters T, Waterman R. *In search of excellence*. New York: Harper & Row; 1982.
24. Wilkins A, Ouchi W. Efficient cultures: exploring the relationship between culture and organizational performance. *Admin Sci Q*. 1983;28:468–81.
25. Denison DR. What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Acad Manage Rev*. 1996;21:619–54.
26. Hemmelgarn AL, Glisson C, James LR. Organizational culture and climate: implications for services and interventions research. *Clin Psychol Sci Pract*. 2006;13:73–89.
27. Miller S, Lepore M, Lima J, et al. Does the introduction of nursing home culture change practices improve quality? *J Am Geriatr Soc*. 2014;62:1675–82.
28. Institute of Medicine. *Improving the quality of care in nursing homes*. Washington, DC: National Academy Press; 1986.
29. Buck JA. Psychotropic drug practice in nursing homes. *J Am Geriatr Soc*. 1988;36:409–18.
30. Svarstad BL, Mount JK. Nursing home resources and tranquilizer use among the institutionalized elderly. *J Am Geriatr Soc*. 1991;39:724–6.
31. Hughes CM, Lapane KL, Mor V. The impact of legislation on psychotropic drug use in nursing homes: a cross-national perspective. *J Am Geriatr Soc*. 2000;48:931–7.
32. Kada S, Nygaard HA, Mukesh BN, et al. Staff attitudes towards institutionalised dementia residents. *J Clin Nurs*. 2009;18:2383–92.
33. Brodaty H, Green A, Koschera A. Meta-analysis of psychosocial interventions for caregivers of people with dementia. *J Am Geriatr Soc*. 2003;51:657–64.
34. Clement S, Tonini A, Khatir F, et al. Short and longer term effects of musical intervention in severe Alzheimer's disease: musical Intervention in Alzheimer's disease. *Music Percept*. 2011;29:533–41.
35. McCurry SM, Gibbons LE, Logsdon RG, et al. Nighttime insomnia treatment and education for Alzheimer's disease: a randomized, controlled trial. *J Am Geriatr Soc*. 2005;53:793–802.
36. Manley K. Workplace culture: is your workplace effective? How would you know? *Nurs Crit Care*. 2004;9:1–3.
37. McCormack B, Dewing J, McCance T. Developing person-centred care: addressing contextual challenges through practice development. *Online J Issues Nurs* 2011;16:manuscript 3.
38. Spence-Laschinger H, Almost J, Tuer-Hodes D. Workplace empowerment and magnet hospital characteristics: making the link. *J Nurs Admin*. 2003;33:410–22.
39. Kirchler E, Rodler C, Holzl E, et al. Conflict and decision-making in close relationships: love, money and daily routines. *European Monographs in Social Psychology*. Hove: Psychology Press; 2001.
40. Konteh FH, Mannion R, Davies HTO. Understanding culture and culture management in the English NHS: a comparison of professional and patient perspectives. *J Eval Clin Pract*. 2010;17:111–7.