

# Person-centred deprescribing for patients living with frailty: a qualitative interview study and proposal of a collaborative model

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## Abstract

**Objectives** (1) Present deprescribing experiences of patients living with frailty, their informal carers and healthcare professionals; (2) interpret whether their experiences are reflective of person-centred/collaborative care; (3) complement our findings with existing evidence to present a model for person-centred deprescribing for patients living with frailty, based on a previous collaborative care model.

**Methods** Qualitative design in English primary care (general practice). Semi-structured interviews were undertaken immediately post-deprescribing and 5/6 weeks later with nine patients aged 65+ living with frailty and three informal carers of patients living with frailty. Fourteen primary care professionals with experience in deprescribing were also interviewed. In total, 38 interviews were conducted. A two-staged approach to data analysis was undertaken.

**Key findings** Three themes were developed: attitudes, beliefs and understanding of medicines management and responsibility; attributes of a collaborative, person-centred deprescribing consultation; organisational factors to support person-centred deprescribing. Based on these findings and complementary to existing evidence, we offer a model for person-centred deprescribing for patients living with frailty.

**Conclusions** Previous models of deprescribing for patients living with frailty while, of value, do not consider the contextual factors that govern the implementation and success of models in practice. In this paper, we propose a novel person-centred model for deprescribing for people living with frailty, based on our own empirical findings, and the wider evidence base.

## Introduction

Frailty is a health state associated with a decreased physiological reserve and is commonly associated with older people.<sup>[1]</sup> Older people living with frailty often have multiple morbidities and one-third take five or more medicines regularly, rising to 50% in those over 85s.<sup>[2]</sup> Taking five or more medicines is commonly referred to as ‘polypharmacy’.<sup>[3]</sup> If well managed, polypharmacy can be appropriate to support the management of multiple conditions. Polypharmacy can also become inappropriate, particularly for patients living with frailty because physiological changes associated with frailty, and the higher prevalence of multi-morbidity, can mean medicines are less effective and can cause adverse drug reactions (ADRs). ADRs can result in falls, cognitive impairment, functional decline and hospitalisation that can each contribute to frailty.<sup>[4]</sup> One intervention to reduce the prevalence of ADRs is to reduce or stop medicines that are inappropriate, termed ‘deprescribing’.<sup>[5]</sup>

Primary care is an appropriate setting to implement deprescribing for patients living with frailty in the UK and internationally because general practice is the first point of contact for this population.<sup>[6]</sup> Under a recent National Health

Service (NHS) policy, primary care services in England are now delivered within Primary Care Networks (PCNs). A core aim of PCNs is to deliver seven national service specifications, one of which is to tackle problematic polypharmacy using structured medication reviews (SMR), with a target cohort of patients living with frailty.<sup>[7]</sup>

Studies have explored deprescribing strategies in primary care including decision support tools (e.g. STOPPFrail, Beers criteria), guidelines and approaches such as medication reviews, as well as the various factors that promote or hinder the success of deprescribing.<sup>[8–10]</sup> There is an acknowledgement that deprescribing of inappropriate medicines for patients living with frailty is a complex process that should be underpinned by a person-centred approach.<sup>[11–14]</sup>

Person-centred care or collaborative care is advocated as a holistic and empowering approach that tailors care to the needs and priorities of individuals<sup>[15]</sup>. In practice, patients should have the opportunity to ask questions, provide opinions and discuss care preferences with their healthcare professionals.<sup>[16]</sup> Person-centred care is recognised as a prerequisite for successful medication reviews, both in national

and international guidelines.<sup>[17]</sup> However, applying a person-centred approach to deprescribing with patients living with frailty is not straightforward. Practitioner-reported barriers include time limitations, competing demands and a lack of knowledge about how and when to deprescribe, with a paucity of deprescribing guidelines a contributing factor.<sup>[9,10]</sup> From a patient perspective, involvement in medicines decisions can vary greatly, influenced by factors such as knowledge, beliefs and attitudes towards their medicines, relationship with clinician and their health.<sup>[11,18]</sup> Consequently, person-centred deprescribing with patients living with frailty is challenging and complex.

Few models for person-centred deprescribing exist. Notable exceptions include those developed by Barnett *et al.*,<sup>[14]</sup> Brunet *et al.*<sup>[19]</sup> and Scott *et al.*<sup>[20]</sup> These models aim to support person-centred decisions about medicines through offering 'stepped' processes for deprescribing. While these models offer a valuable contribution to supporting deprescribing in primary care, they do not consider the broader contextual factors such as commissioning and organisational processes. Recent thinking in implementation science posits the importance of such contextual factors that affect and explain the success of intervention implementation.<sup>[21]</sup> Consequently, there is a requirement to translate empirical findings into an actionable model for person-centred deprescribing for patients living with frailty, to assist practitioners in considering the components necessary to enact person-centred deprescribing in practice.

Models for collaborative person-centred care have increased in recent years, in line with policy initiatives that recognise its importance, both nationally and internationally.<sup>[7]</sup> For example, a recent systematic review identified 40 unique models.<sup>[22]</sup> One such model is the House of Care (Figure 1). Developed to support patients with long-term conditions and healthcare professionals to work together to shape support to enable patients to live well with their condition, it draws on the metaphor of a house to illustrate the requirement for a whole-system approach to person-centred care.<sup>[23]</sup> For example, while it connects with other models in acknowledging the significance of engaging and informing patients (left wall), and partnership working (right wall), it also argues that without further components such as tools and organisational processes (the roof) and commissioning (the foundation), the delivery of person-centred care is compromised. Therefore, the House of Care offers a useful template model upon which to translate empirical findings on deprescribing to develop a person-centred collaborative model specifically for patients living with frailty living in the community. In this paper, we aim to (1) present deprescribing experiences of patients living with frailty, their informal carers and healthcare professionals; (2) interpret whether their experiences are reflective of person-centred/collaborative care; (3) compliment our findings with existing evidence to present a model for person-centred deprescribing for patients living with frailty based on a previous model for collaborative care.

## Methods

This study is part of a programme of work to enhance the process of deprescribing patients living with frailty in primary care in England. The methods are also reported elsewhere.<sup>[24]</sup> Approval was obtained from the Health Research Authority (HRA) and NHS Research Ethics Committee (Ref. 18/YH/0140).

## Study design, setting and sampling (inclusion/exclusion)

A qualitative approach was adopted with recruitment taking place at four General Practices (GPs) across Yorkshire and Humber, England. Patients were eligible to participate if they were community dwelling, >65 years old, living with frailty and attended a consultation where a medicine/s was deprescribed. Frailty was either diagnosed formally and registered in the electronic health record or deemed at risk of frailty according to the Electronic Frailty Index (eFI), a system embedded into UK GP prescribing systems.<sup>[25]</sup> We also invited informal carers of patients to participate. Clinicians involved in the deprescribing consultation first invited patients to take part – by providing them with an invitation letter and information sheet. Participants provided informed consent to participate.

To develop a holistic understanding of deprescribing with patients living with frailty in primary care, we also recruited clinicians, including GPs, pharmacists, nurses and pharmacy technicians with deprescribing experience. A practice representative from each participating practice recruited clinicians and provided them with an invitation letter and information sheet. Participating clinicians provided signed informed consent.

## Data collection

Data collection took place between September 2018 and February 2019 and used semi-structured interviewing. Interviews were conducted by an experienced team of researchers with experience in pharmacy practice and patient safety research. Two interview guides ([Supplementary material](#)), developed in consultation with a patient-public involvement representative and informed by deprescribing literature, were designed to capture experiences of deprescribing to interpret the presence (or absence) of person-centred collaborative care. Clinicians were interviewed once at their practice. Patients and their informal carers were interviewed twice in their homes. The first interview took place up to a week after their deprescribing consultation, with a second interview 5–6 weeks later. Interviewing at two separate time points facilitated the elicitation of the patient's immediate perceptions, as well as their reflective interpretations of their experience of deprescribing beyond the consultation. Interview durations were on average 30 min.

## Data analysis

A two-staged data analysis process was undertaken. Stage 1 was informed by the five stages of Framework Analysis.<sup>[26]</sup> Authors first familiarised themselves with the data before developing a framework based on a sample of transcripts and the interview guides to support data management. Each individual transcript was then coded and indexed to the framework categories before data within each category was summarised, resulting in the thematic map (Figure 2). A final layer of analysis then followed (Stage 2), whereby the House of Care model<sup>[23]</sup> was drawn on to develop a model for person-centred deprescribing for patients living with frailty (Figure 3). Data were managed using Microsoft Excel.

## Patient and public involvement

All patient-facing recruitment materials, including the topic guides, were reviewed by a Patient and public involvement (PPI) representative who was an experienced lay leader



**Figure 1** The House of Care model.<sup>[23]</sup>

within the National Institute for Health Research (NIHR) Yorkshire and Humber Patient Safety Translational Research Centre.

## Results

In total, 38 interviews were undertaken.

- Nine patients were interviewed on two separate occasions, up to one week post-appointment and 5–6 weeks later, along with three informal carers (Table 1).
- A total of 14 clinicians were interviewed once, including 6 GPs, 2 practice pharmacists, 5 practice nurses and advanced care practitioners and 1 pharmacy technician (Table 2).

Three themes were developed (Figure 2).

- Theme 1 describes patients’ attitudes and belief systems related to medicines management and responsibility.
- Theme 2 presents the attributes of person-centred collaborative deprescribing.
- Theme 3 outlines the organisational factors necessary for person-centred collaborative deprescribing.

**Theme 1:** Attitudes, beliefs and understanding of medicines management and responsibility.

**Sub-theme 1:** Patient understanding of their medicines.

Most patients expressed a limited understanding of their medicines and the reasons for taking them ‘I haven’t a clue’ (P4). Healthcare professionals were aware that some patients had little understanding of their medicines, and cited causal

factors such as the absence of clear dialogue about medicines when first prescribed:

It is almost like we’re so used to giving people medicines and re-assuring them that it’s fine to take it ... we don’t really like to tell them what those medicines can do to them. HCP13

The impact of a patient’s understanding of their medicines on their ability to engage in discussion about deprescribing was acknowledged. Healthcare professionals cited educating patients about their medicines as key to supporting subsequent conversations about whether stopping those medicines was appropriate.

**Sub-theme 2:** Beliefs and attitudes on decisions about medicines.

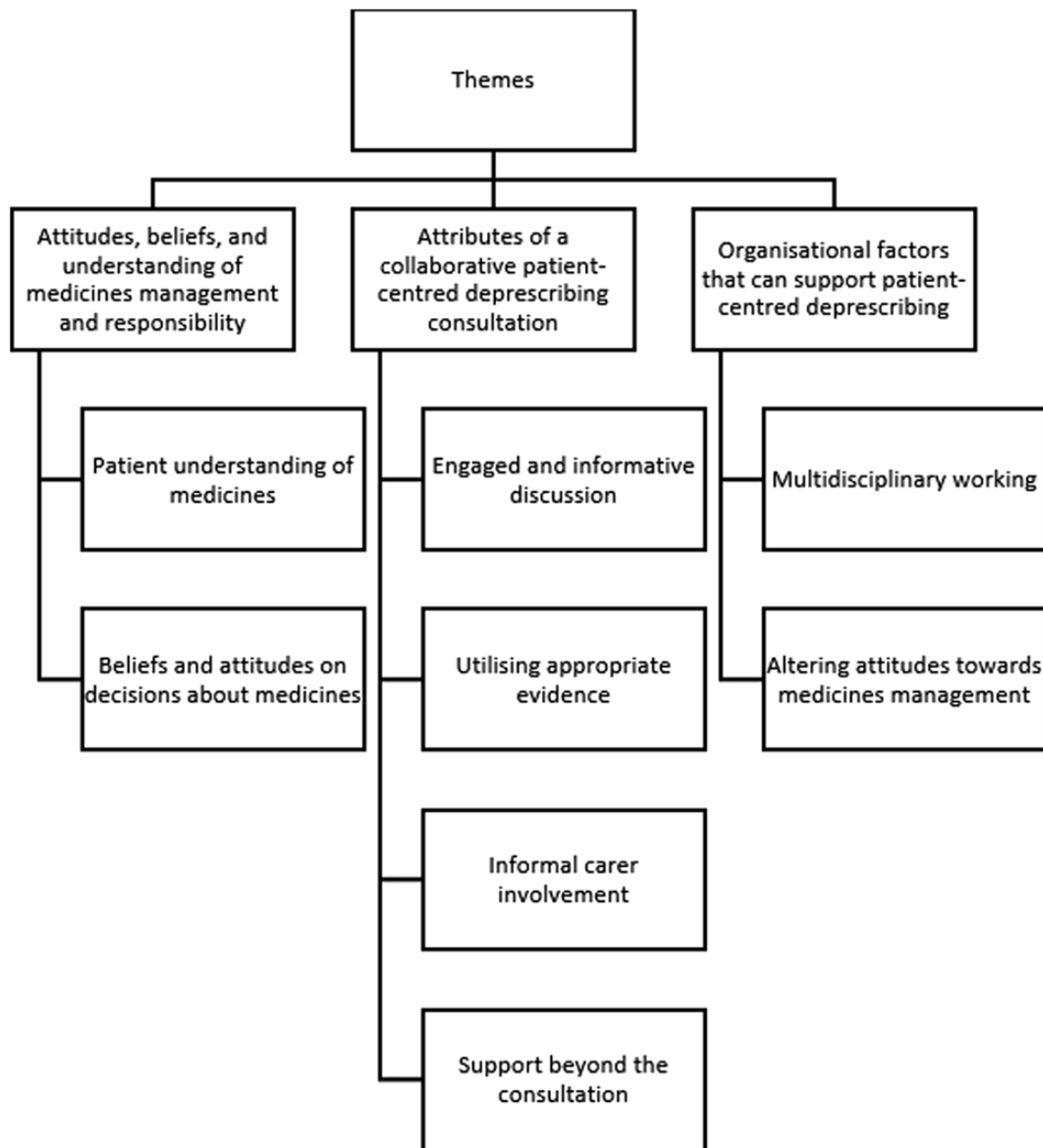
Few patients felt it appropriate to offer their opinion on decisions made about their medicines. Patients undervalued their own expertise as patients, instead, trusting decisions to their healthcare professional on account of their ‘expertise’ and that they had ‘done all the training’ (P2) An apparent preference for a paternalistic approach was recognised by healthcare professionals, who cited a belief that patients living with frailty were reluctant to engage in a collaborative consultation based on hierarchical beliefs about expertise:

I think a lot of older patients like the more prescriptive approach from a practitioner; they like to be told what to do. HCP4

**Theme 2:** Attributes of a collaborative, person-centred deprescribing consultation

**Sub-theme 1:** Engaged and informed discussion

While most patients and their informal carers were content to defer the decision about deprescribing to their healthcare



**Figure 2** Thematic map.

professional, they were keen to understand why a medicine was being deprescribed, and what the process would be. For example, patients wanted to be able to ‘sit and discuss what would happen’ (P3)

I think they should ... talk to you more about it, instead of just going in and saying, ‘now we’re stopping your medication’. And that was it, that’s all they said. IC3

Healthcare professionals described the importance of offering a clear rationale for deprescribing, noting a failure to do so would likely result in poor adherence to the patient’s new regimen. However, several patients felt they did not receive sufficient information about deprescribing ‘They don’t explain’. (P6).

#### Sub-theme 2: Utilising appropriate evidence

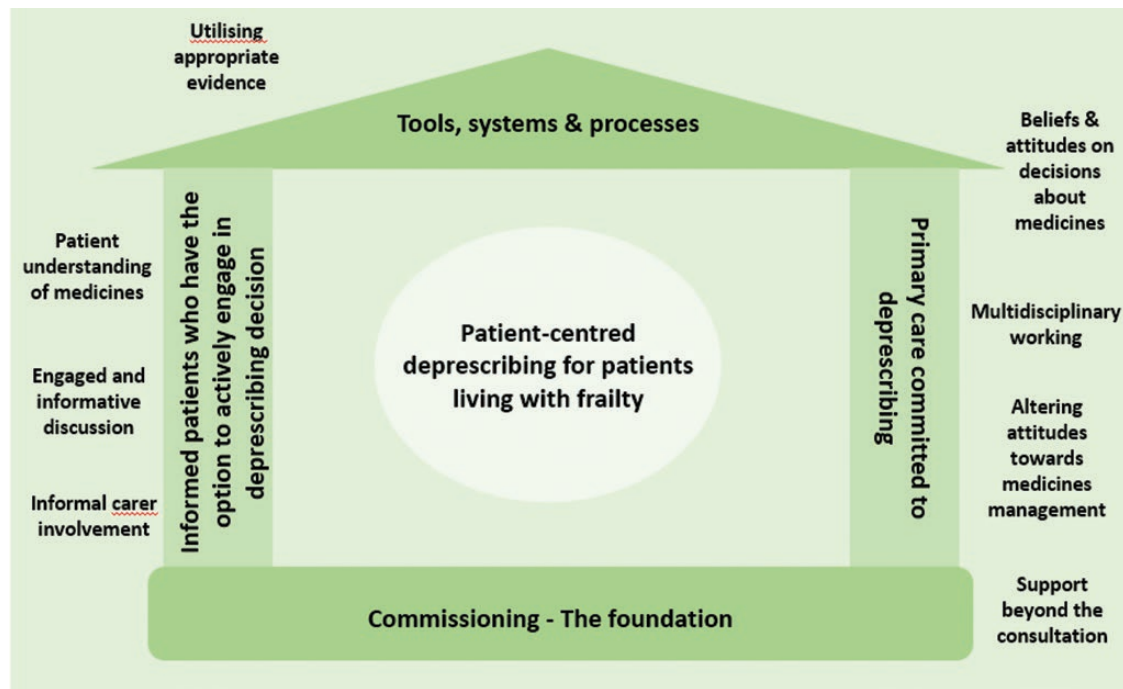
Participants described the benefits of using evidence to inform deprescribing discussions. Drawing on evidence was particularly important with patients who had been prescribed medicines for significant periods. Participants also

raised the would-be benefit of providing written information to patients to support their decision-making. Drawing on associations between certain medicines and frailty was useful in supporting healthcare professionals’ decisions to deprescribe:

It was a positive discussion because we were able to say ... these drugs aren’t necessary, they’re preventative drugs but for you with your health conditions at your age and your degree of frailty they’re not well evidenced ... HCP6

#### Sub-theme 3: Informal carer involvement

The presence of informal carers during discussions supported some patients to deprescribe, particularly when the patient lacked capacity to have an informed discussion due to their condition (e.g. dementia). In instances where informal carers attended a deprescribing appointment, participants felt key information was not always suitably relayed to informal carers:



**Figure 3** Person-centred deprescribing for patients living with frailty model (based on the House of Care model<sup>[23]</sup>).

**Table 1** Demographics: patients and informal carers

#	Patient code	Age	Gender	Ethnicity	Number of medicines before deprescribing	Informal carers	
						Code	Relationship
1	P1	Early 70s	Male	White British	5	N/a	
2	P2	Late 80s	Male	White British	15	N/a	
3	P3	Late 80s	Male	White British	8	N/a	
4	P4	Early 90s	Male	White British	7	N/a	
5	P5	Mid 80s	Male	White British	5	N/a	
6	P6	Early 70s	Female	White British	15	N/a	
7	P7	Late 70s	Female	White British	9	Practice 3-IC3	Daughter
8	P8	Late 70s	Female	White British	16	Practice 4-IC1	Daughter-in-law
9	P9	Late 70s	Male	White British	14	Practice 4-IC3	Wife

**Table 2** Demographics: clinicians

#	HCP code	Gender	Ethnicity	Job role	Prescriber
1	HCP1	Female	White British	GP	Yes
2	HCP2	Female	White British	Practice Pharmacist	No
3	HCP3	Female	White British	Practice Nurse	Yes
4	HCP4	Female	White British	GP	Yes
5	HCP5	Female	White British	Pharmacy Technician	No
6	HCP6	Female	White British	Advanced Nurse Practitioner	Yes
7	HCP7	Female	White British	Advanced Nurse Practitioner	No
8	HCP8	Female	White British	GP	Yes
9	HCP9	Male	White British	GP	Yes
10	HCP10	Female	White British	GP	Yes
11	HCP11	Female	White British	GP	Yes
12	HCP12	Female	White British	Practice Nurse	Yes
13	HCP13	Female	White British	Practice Nurse	Yes
14	HCP14	Female	White British	Practice Pharmacist	No



It was the patient's daughter who rang on her behalf. The patient had been having some dizzy spells ... and so I talked to her daughter about what we were going to do ... we agreed that it would be sensible to try and stop one of her anti-hypertensive medications and see how she went with that. HCP10

... but I tell them all my information really should go down to her (informal carer), which they should be telling her more. P4

#### Sub-theme 4: Support beyond the consultation

Healthcare professionals described the importance of continuing support for patients beyond the initial deprescribing consultation, ensuring patients knew what to 'watch out for' in terms of symptom management, and ensuring they knew 'how to contact and who to contact if they run into any problems' were described as important post-consultation support (HCP10). Healthcare professionals also stressed the importance of reassuring patients of support and follow-up, including a planned review where applicable.

Patients' experiences post-consultation were not always positive, with examples of limited contact from their healthcare provider beyond the consultation. Preferences for post-consultation support extended to services such as support groups, particularly for medicines such as morphine, providing a would-be space for patients to 'talk to each other and tell each other what stages we were all at' (P3).

Theme 3: Organisational factors to support person-centred deprescribing

##### Sub-theme 1: Multidisciplinary working

Participants recognised multidisciplinary working as supporting deprescribing in primary care. For example, community pharmacists were described as well positioned in the community to engage with patients living with frailty about deprescribing:

...using the local [community] pharmacists as well if they are the ones that are giving out the medication ... if they're [patient] going in every week for their repeat so they know that patient better, they've got chance to have a chat about things. HCP12

##### Sub-theme 2: Altering attitudes towards medicines management

Altering attitudes towards medicines management at a macro and micro level was deemed significant to supporting deprescribing. Participants voiced the requirement for a macro shift in how healthcare professionals conveyed prescribing to patients, moving towards embracing 'stopping medicines with as much emphasis as starting [medicines]' (HCP6). In practice, participants felt conversations when medicines were initiated needed to better reflect the dynamic nature of the decision. Participants recounted challenges engaging patients where the long-term importance of taking the medicine had been emphasised.

At a micro level, healthcare professionals described the impact of resource on deprescribing success. Where resource was limited, medication reviews were 'quick', with limited opportunity for patients to engage and ask questions. Conversely, where practices were able to manage resource to dedicate more time to medication reviews, better outcomes related to deprescribing were described. Consequently, developing a shared practice ethos towards deprescribing was a benefit to improving deprescribing success:

We did a survey of what the gaps were in terms of making deprescribing happen ... our clinicians felt that if they had the time they would be able to do this [deprescribing], so I said ok I will give you the time. HCP1

It reduces your number of prescriptions you're signing at the very minimum ... patients have an opportunity to then really plan and think about their care and that's really, really important ... HCP6

To support the translation of identified themes into practice, and with consideration of existing evidence, we present a novel model for person-centred deprescribing for patients living with frailty (based on the House of Care model<sup>[23]</sup>). In line with the principles of the House of Care model,<sup>[23]</sup> we propose that person-centred deprescribing with patients living with frailty in the primary care setting can only occur if an interdependent and relational dynamic exists between the foundation, both walls, and roof of the house. The significance of each component is discussed further in the discussion section.

## Discussion

This study provides valuable insight into the necessary factors and attributes to support person-centred deprescribing with patients living with frailty in primary care settings. These include the importance of multidisciplinary working and supporting patients and their informal carers to engage and feel informed throughout the deprescribing process. To support the translation of these findings into practice, the study offers a novel model for person-centred deprescribing for patients living with frailty. The model, based on the House of Care,<sup>[23]</sup> aims to support the implementation of national guidance on SMRs to provide practitioners with a visual representation of the necessary components essential to delivering person-centred deprescribing for patients living with frailty in primary care. The model extends those previously published [e.g.<sup>[19-21]</sup>], in reaffirming the significance of components such as patients feeling informed, whilst also introducing the importance of broader contextual factors integral to the implementation of person-centred deprescribing in practice.

A key limitation of this study was the relatively small qualitative sample. However, in drawing on complementary literature, we have been able to develop a model that reflects and is informed by empirical evidence. A further limitation was data on the level of frailty (e.g. moderate or severe) of participants was not collected. Future research may wish to focus on deprescribing practice for specific frailty groups.

Another limitation was the homogeneity of the sample, particularly relating to ethnicity. All recruited patients and informal carers identified as 'White British', therefore, the sample is not representative of patients from other ethnicities. Future research should recruit patients from a broader range of ethnicities, through approaches such as liaising with local community representatives to support recruitment. Our sample only included patients who had the capacity to consent, therefore excluding people with cognitive impairment, which older people living with frailty are of higher risk.<sup>[27]</sup> While a study limitation, a growing body of evidence exists to support deprescribing in older patients living with dementia (e.g.<sup>[28, 29]</sup>). Care home residents were

also excluded, therefore, our findings may not be transferable to long-term care settings where care is organised differently and involves other stakeholders, for example, care home staff.

A key strength of this study is that it offers a novel model for factors to consider when implementing person-centred deprescribing for patients living with frailty. This is not discounting the relevance of previous models (e.g.<sup>[14, 19, 20]</sup>). However, to our best knowledge, this is the first UK study to propose a model for person-centred collaborative deprescribing with patients living with frailty, drawing on the testimony of patients themselves, their informal carers, and a range of healthcare professionals.

In reference to the left wall of the house (Figure 3). A key finding was that some patients and their informal carers were content for healthcare professionals to manage their medicines. Variation in attitudes towards involvement in decisions about medicines has been reported elsewhere.<sup>[11]</sup> However, it should not be presumed that all patients living with frailty adopt this stance, or, that this preference is fixed. Furthermore, a preference for healthcare professionals to manage a patient's medicines should not negate the importance of sufficiently informing patients about decisions. We found that patients and their informal carers, both immediately after their consultation, and 5–6 weeks later, had not received sufficient information for them to feel informed about the deprescribing decision(s) made (theme 2, sub-themes 1 and 4).

Guidance on SMRs details the importance of supporting patients living with frailty to feel informed about their review.<sup>[17]</sup> It is recommended that patients receive an invite letter to the SMR to prompt the patient to consider any issues they wish to raise and outline what the consultation will entail. Our findings support the use of prompts such as invite letters to assist patients to feel informed about deprescribing consultations. However, the value of prompts reduces should the consultation not adequately inform the patient about any decision made. Ultimately, healthcare professionals need to feel confident to deprescribe in a manner that incorporates and acknowledges the goals, concerns and preferences of patients.<sup>[30]</sup>

The right wall (Figure 3) represents the value of primary care practitioners working collaboratively to share the deprescribing agenda and foster a shared learning environment. Our findings highlight good practice whereby healthcare professionals enacted person-centred deprescribing, ensuring patient needs and preferences were factored in the decision. Conversely, we identified poor deprescribing experiences. These included patients not understanding why their medicine had been deprescribed, or experiencing limited contact post-deprescribing appointment. Creating a cross-practice learning environment supported by PCNs can support the sharing of good practice strategies. Likewise, a shared primary care ethos towards deprescribing may also support practices such as introducing the prospect of deprescribing at the point of prescribing.

Case-finding of patients living with frailty and at risk of ADRs is essential to ensure that patients have their medicines routinely reviewed. Furthermore, the use of efficient systems and processes is necessary to patients remaining informed throughout their deprescribing journey. Therefore, the roof of the house represents the role of tools, systems, and processes in supporting patients living with the frailty

to deprescribe. For example, tools can be designed to support the deployment of deprescribing consultations to meet mandated agendas (e.g. SMR guidance<sup>[17]</sup>). Likewise, tools can also be used to facilitate decision-making with respect to stopping medicines, for example, STOPP, STOPPfrail, Beers criteria.<sup>[8]</sup>

Resource, or a lack thereof, can heavily influence the presence of person-centred deprescribing.<sup>[9, 10]</sup> The placement of commissioning at the house's foundation, illustrates that without adequate commissioning, the walls of the house and its roof are weakened.<sup>[23]</sup> The introduction of SMRs to be delivered by PCNs should support practices to commission the necessary time and resources for deprescribing in England. Furthermore, guidance on SMRs specifically states the importance of shared decision-making practice.<sup>[17]</sup> Such commissioning would be required in other countries to ensure this foundation.

## Conclusion

This paper offers a novel model for person-centred deprescribing for patients living with frailty. This addresses the requirement to translate empirical findings on deprescribing into a model that can be utilised by commissioners and practitioners, to effectively implement NHS policy relating to SMRs and deprescribing for this priority population.

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## Authors Contributions

G.P. led data analysis and the writing of the manuscript. B.F., L.B., and D.K.R. were involved in formulating the research question, designing the study, data analysis, and writing the manuscript. J.O. was involved in data collection and reviewing the manuscript. D.P.A. was involved in the writing of the manuscript.

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## Conflict of Interest Statement

The author(s) declare that there are no conflicts of interest.

## Data Availability Statement

The data underlying this article are available in the article and in its online supplementary material.

## Data Access Statement

Data supporting this study are included within the article and supplementary material.

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