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Experience of hospital-initiated medication changes in older people with multimorbidity: a multicentre mixed-methods study embedded in the OPtimising thERapy to prevent Avoidable hospital admissions in Multimorbid older people (OPERAM) trial

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► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/bmjqs-2021-014372).

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Received 31 October 2021
Accepted 24 February 2022
Published Online First 29 March 2022

Linked

► http://dx.doi.org/10.1136/bmjqs-2022-014882

Check for updates

To cite: Thevelin S, Pétein C, Metry B, *et al*. *BMJ Qual Saf* 2022;**31**:888–898.

ABSTRACT

Background A patient-centred approach to medicines optimisation is considered essential. The OPtimising thERapy to prevent Avoidable hospital admissions in Multimorbid older people (OPERAM) trial evaluated the effectiveness of medication review with shared decision-making (SDM) in older people with multimorbidity. Beyond evaluating the clinical effectiveness, exploring the patient experience facilitates a better understanding of contextual factors and mechanisms affecting medication review effectiveness.

Objective To explore experiences of hospital-initiated medication changes in older people with multimorbidity.

Methods We conducted a multicentre mixed-methods study, embedded in the OPERAM trial, combining semi-structured interviews and the Beliefs about Medicines Questionnaire (BMQ) with a purposive sample of 48 patients (70–94 years) from four European countries. Interviews were analysed using the Framework approach. Trial implementation data on SDM were collected and the 9-item SDM questionnaire was conducted with 17 clinicians.

Results Patients generally displayed positive attitudes towards medication review, yet emphasised the importance of long-term, trusting relationships such as with their general practitioners for medication review. Many patients reported a lack of information and communication about medication changes and predominantly experienced paternalistic decision-making. Patients' beliefs that 'doctors know best', 'blind trust', having limited opportunities for questions, use of jargon terms by clinicians, 'feeling too ill', dismissive clinicians, etc highlight the powerlessness some patients felt during hospitalisation, all representing barriers to SDM. Conversely, involvement of companions, health literacy, empathetic and trusting patient-doctor relationships, facilitated SDM. Paradoxical to patients' experiential accounts, clinicians reported high levels of SDM. The

Key messages

What is already known on this topic

⇒ A patient-centred approach to medicines optimisation is considered essential.

What this study adds

⇒ This multicentre mixed-methods study, embedded in the OPERAM trial, provides an in-depth understanding of experiences of hospital-initiated medication changes in older people with multimorbidity and identified barriers, facilitators and patients' needs in relation to medication review.

How this study might affect research, practice or policy

⇒ To meet patients' needs, medicines optimisation services should enhance information exchange, better prepare patients and clinicians for partnership in care and foster collaborative medication reviews across care settings.

BMQ showed that most patients had high necessity and low concern beliefs about medicines. Beliefs about medicines, experiencing benefits or harms from medication changes, illness perception, trust and balancing advice between different healthcare professionals all affected acceptance of medication changes.

Conclusion To meet patients' needs, future medicines optimisation interventions should enhance information exchange, better prepare patients and clinicians for partnership in care and foster collaborative medication reviews across care settings.

INTRODUCTION

A patient-centred approach to medicines optimisation, incorporating patient preferences in treatment decisions through shared decision-making (SDM), is advocated as pivotal to improving quality of care and reducing harms of overtreatment in patients with multimorbidity.[1–6] Recently, the European OPERAM trial has evaluated the impact of a complex intervention of medication review and SDM on drug-related readmissions in older people with multimorbidity. Inappropriate prescribing was reduced through the OPERAM intervention, but without a significant effect on drug-related hospital admissions.[7 8] Beyond evaluating the clinical effectiveness of the OPERAM intervention, exploring patients' experiences facilitates a more comprehensive understanding of contextual factors and mechanisms affecting intervention effectiveness. There is lack of a universally agreed-upon definition of patient experience but core aspects associated with a positive patient experience include involvement of patients and companions in decision-making, respect for patient preferences, clear information and communication, emotional support, physical comfort, transparency, care coordination, continuity and access to care.[9–12] A positive patient experience is correlated with clinical effectiveness and safety including reduced readmission rates.[9 13] Few qualitative studies have explored the experiences of hospital-initiated medication changes in older people with multimorbidity.[14–18] Most studies focus on the patient experience of medication-related information and communication and do not evaluate the wider range of aspects associated with patient experience according to the NHS Patient Experience Framework.[10] This study, embedded in the OPERAM trial, explored experiences of hospital-initiated medication changes in older people with multimorbidity.

METHODS

Study design and setting

We conducted a multicentre mixed-methods study combining qualitative and quantitative data. Semi-structured interviews were performed with patients to gain an in-depth understanding of patient experience of hospital-initiated medication changes. The NHS Patient Experience Framework was used to underpin the interviews.[10] Qualitative data were triangulated with quantitative data from the Beliefs about Medicines Questionnaire (BMQ) completed by all interviewed patients.[19] Furthermore, trial implementation data on SDM were collected and the 9-item SDM questionnaire was conducted with a subsample of clinicians.[20] Participants were recruited in teaching hospitals in urban settings in Belgium, Ireland, Switzerland and The Netherlands.

Participant selection

Patients enrolled in the OPERAM intervention or control arms, who met the mixed-methods study inclusion criteria (table 1) were eligible to participate. Patients were approached face-to-face during their hospitalisation by OPERAM researchers. We selected a purposive sample by screening medical records to ensure heterogeneity in terms of age, gender, study arm, hospital ward, education and living situation (at home/nursing home) (online supplemental file S1). We estimated a priori to recruit 10–15 participants per country to have a sample with diversity in several patient characteristics, yet the final sample size depended on the quality of data obtained and was

Table 1 Inclusion and exclusion criteria of the OPERAM trial and the embedded mixed-methods study (created by the authors)

OPERAM trial	Mixed-methods study embedded in OPERAM
Inclusion criteria: ► 70 years or older. ► Multimorbidity (≥3 chronic conditions ≥6 months). ► Polypharmacy (≥5 chronic medications). Exclusion criteria: ► Direct admission to palliative care. ► Report of a structured medication review within the last 2 months. The OPERAM intervention consisted of the Structured Method to Reduce Inappropriate Prescribing including structured history taking of medication use, a CDSS-assisted medication review based on the STOPP/START V.2 criteria, discussion of medication optimisation recommendations with the attending physician and the patient and generation of a discharge report with recommendations for the GP. The control arm received usual care.	Inclusion criteria: ► ≥1 change in chronic medication proposed during hospitalisation, for example, the addition, discontinuation or modification of a medicine. The medication change could be a result of the OPERAM intervention or usual care. ► Informative patients willing to share their experience. Exclusion criteria: ► Inability to provide informed consent. ► Patients with confusion, dementia or severe cognitive impairment. ► Unacceptable living distance from the clinical sites (for pragmatic reasons).

CDSS, Clinical Decision Support System; GP, general practitioner; START, Screening Tool to Alert to Right Treatment; STOPP, Screening Tool of Older People's Prescriptions.

determined during data analysis when data saturation was reached.[21]

A subsample of clinicians (the physician/pharmacist who proposed medication changes to the patient as part of the intervention or usual care) from the Belgian and Swiss study sites were invited to complete the physician version of the SDM questionnaire (SDM-Q-DOC).[20]

The present study started after the OPERAM trial had been running for 12 months; hence researchers had become experienced in delivering the intervention. Prior to the start of the OPERAM trial, all researchers delivering the intervention were trained in intervention delivery, including a 45 min webinar training on the principles of SDM based on the collaborative deliberation model.[6 22 23]

Qualitative data collection and analysis

Semi-structured interviews were conducted in each site in the local language (French (Belgium), Dutch (The Netherlands), English (Ireland), Swiss-German (Switzerland)) between January 2018 and February 2019. Interviewers (ST, CP, BM, AVH, KM) were researchers and/or healthcare professionals with backgrounds in pharmacy, public health/nursing, psychology and geriatric medicine; were trained in qualitative interviewing and had no clinical relationship with patients. The interview was preferably scheduled within 1 month (median (P25–P75): 21 (13–30) days) after discharge to avoid recall bias and took place at the patient's home or at the hospital before or after an outpatient consultation. The patient was invited to have a companion present if this reflected the usual situation. Interviews lasted on average 36 min (range: 19–80 min).

A topic guide (online supplemental file S2) was developed in English based on the NHS Patient Experience Framework and the OPERAM intervention components.[10] The topic guide consisted of eight open-ended questions with follow-up prompts covering the following aspects: information about medication changes, involvement in decision-making, involvement of companions, perspectives on medication review in general, patient experience of and acceptance of hospital-initiated medication changes, transition to primary care and related barriers, facilitators and patients' needs. The topic guide was translated into the local languages and piloted with at least three patients in each study site. A webinar training session and standard operating procedures were provided to train the interviewers. Interviewers took field notes during the interview to document contextual aspects, interviewees' behaviour and reflections about the interview.

Interviews were recorded and transcribed verbatim in the local language. Data collection and analysis occurred simultaneously to allow incorporation of interesting findings in the topic guide for the next interviews. Thematic analysis was performed using the Framework approach by three researchers (ST, CP, BM) combining pharmacy, nursing/public health and psychology perspectives. The Framework approach is a systematic approach for categorising and organising the data and involves familiarisation with the interviews, developing a thematic framework, coding, charting the data into the framework and interpreting the data (online supplemental file S3).[24 25] We combined inductive and deductive thematic analysis; major themes were partly predefined by the NHS Patient Experience Framework, but mainly arose inductively from the data to dictate themes and categories. QSR International's NVivo V.11 software was used to facilitate data analysis. Qualitative results were triangulated with the quantitative data collected during the interpretation stage. A summary of the qualitative findings was sent to the interviewers from each site and to nine Belgian OPERAM patients for validation. We used the consolidated criteria for reporting qualitative research for designing and reporting this study.[26] Rigour was addressed throughout the various stages of the research process as described in online supplemental file S4.[26–28]

Quantitative data collection and analysis

Beliefs about Medicines Questionnaire

To complement the findings from the interviews, patients' beliefs about medicines were assessed quantitatively using the BMQ at the end of the interview.[19] Understanding patients' beliefs about medicines is important because they may influence the acceptance of medication changes and adherence.[29–31]

Clinicians' perspective on patient participation in decision-making about medication changes

For the patients enrolled to the intervention arm, we collected the following trial implementation data on patient participation, as perceived by the research clinician who delivered the intervention:

- Whether medication changes were discussed with the patient (yes/no).
- Whether SDM was performed (yes/no) (according to the OPERAM standard operating procedure on SDM).

Furthermore, a subsample of clinicians (the physician/pharmacist who proposed medication changes as part of the intervention or usual care) were invited to complete the SDM-Q-DOC, a validated 9-item questionnaire assessing the level of SDM as perceived by the physician during a consultation.[20] The SDM-Q-DOC was administered as soon as possible after discharge of the patient. For pragmatic reasons, only clinicians from the OPERAM sites in Belgium and Switzerland were invited to complete the SDM-Q-DOC. Quantitative data obtained were summarised using descriptive statistics. In online supplemental file S5, details on data analysis of the BMQ and SDM-Q-DOC are provided.

Table 2 Patient characteristics (n=48) (created by the authors)

Variable	Value
Age (years; median (P25–P75))	76 (72–81)
≥70–≤80 years (n, (%))	34 (71)
>80–≤90 years (n, (%))	13 (27)
>90 years (n, (%))	1 (2)
Sex (n, (%))	
Female	23 (48)
Male	25 (52)
No. of medications on admission (median (P25–P75))	10 (7–14)
Total no. of medication changes proposed during admission (median (P25–P75); (range))	4 (2–6; 1–13)
n (%) of patients with ≥1–≤4 changes	29 (60)
n (%) of patients with ≥5–<10 changes	17 (35)
n (%) of patients with ≥10–≤13 changes	2 (4)
Proposed medication stops	
(median (P25–P75); (range))	1 (0–2; 0–10)
Proposed medication starts	
(median (P25–P75); (range))	1 (1–2; 0–10)
Proposed medication modifications	
(median (P25–P75); (range))	0 (0–1; 0–3)
Country (local language, n, (%))	
Belgium (French)	15 (31)
Ireland (English)	7 (15)
Switzerland (Swiss-German)	11 (23)
The Netherlands (Dutch)	15 (31)
OPERAM study arm (n, (%))	
Control arm	21 (44)
Intervention arm	27 (56)
Ward specialty (n, (%))	
Medical ward	36 (75)
Surgical ward	12 (25)
Length of stay (days; median (P25–P75))	9 (7–11)
Educational level (n, (%))	
Less than high school completed	7 (15)
High school degree	23 (48)
Postsecondary degree	18 (37)
Place of residence (n, (%))	
Home	45 (94)
Nursing home	3 (6)
Interview with (n, (%))	
Patient	31 (65)
Patient and companion	17 (35)

RESULTS

Description of participants

Of the 73 patients approached with a view to enrolment, 57 patients agreed to participate (acceptance rate=78%). Sixteen patients declined to participate (reasons: not interested, not comfortable talking about doctors to researchers, feeling 'too old'). Nine dropped out of the study (died, too ill, no longer interested, could not be contacted after discharge, not within time limit) resulting in a sample of 48 patients (table 2).

Semi-structured interviews

Thematic analysis resulted in 6 themes and 24 categories, organised according to the process of medication review and SDM (online supplemental file S6). We aimed to describe patient experience across a diverse sample, rather than reporting country-specific or study arm-specific findings. However, when comparing themes and categories between countries or study arms, major themes did not differ.

Theme I: lack of information and communication about medication changes

Patients' satisfaction with information received about medication changes was mixed. Many patients reported a lack of information, in particular on the indication of medicines, reason for changing or side effects. Some patients said they received no information at all and others said they had to ask for information themselves.

> No-one explained anything to me! When I was discharged they just told me, so you've got this and that, and this instead of that. And that's all. As for the whys and wherefores, I've no idea. (ID-0358)

Inadequate information resulted for some patients in lacking understanding of medication changes, confusion or anxiety. Other patients were satisfied because they were well-informed and some were satisfied, although reporting having received very limited information.

> It was clear. I felt that they granted me that I'd understand them, that I knew what they'd be talking about. (ID-0416)

Some patients had problems recalling the medication changes or the information received. Others stated that information was provided hurriedly with limited opportunities for questions. Some patients had difficulties with jargon terms used by clinicians or the fact that the information was not provided in their native language.

> And when you start asking why, sometimes I think they find it hard to explain things. They all have their drug lingo. And that's what's difficult to grasp at times. (ID-0562)

> They [the doctors] would just come along in a hurry, they come and go and that's it, it's done. I could only ask the nurses; the doctor only came around very rarely. And when he came, he asked, how are you, and stuff and stories. It's a case of such and such. And then, goodbye, thanks, and they were gone again already. (ID-0978)

Many patients emphasised the need for more information and medication counselling, a written

medication list, providing information in lay language at a moment when the patient feels well and taking more time for providing information.

Theme II: paternalistic decision-making predominates, variable satisfaction

Patients predominantly experienced paternalistic decision-making, in which decisions to change medicines were taken by the clinician and patients were informed afterwards. A minority of patients reported active participation in decision-making, varying from patients being asked for their approval, decision shared or patients deciding autonomously after being informed. Some patients participated by proposing medication changes themselves.

> You don't get a say in the matter, do you? When it comes down to it, all you have to do is swallow what they put in your mouth. (ID-0438)

> I made the decision [decision to not commence a statin proposed as part of the OPERAM intervention in a SDM process] freely. It can't be any other way. I can't imagine another situation where the nurse, pharmacist, doctor or whatever takes on the role of an instructor, telling the patient you have to do this, you need to do that. (ID-0528)

One participant had open discussion about preferences in the context of medication-related decisions. Several patients commented that "You go to the doctor to be healed, not to discuss preferences". Others assumed that clinicians know their preferences, whereas a minority of patients would like to have preference discussions.

Patients' satisfaction with participation in decision-making was mixed. Most patients were satisfied with paternalistic decision-making and preferred to be informed rather than actively involved, whereas others were dissatisfied with paternalistic decision-making and preferred to be more involved. All patients with patient-centred decision-making were satisfied.

Perceptual differences between patients and clinicians in relation to patient participation in decision-making

Paradoxical to patients' experiential accounts reported in the interviews, quantitative data on SDM from clinicians' perspectives revealed high levels of patient participation (table 3). According to trial implementation data, for 85% of the interviewed intervention patients, medication changes were discussed and for 70% of intervention patients formal SDM was performed. Eleven Belgian and six Swiss clinicians completed the SDM-Q-DOC (response rate=65%) and reported a median score of 76. Patients however displayed mixed perceptions about participation in decision-making with 77% of all patients in the study reporting paternalistic decision-making compared with 23% patients reporting participation.

Table 3 Perceptual differences between prescribing clinicians and their patients in relation to patient participation in decision-making about medication changes (created by the authors)

Clinicians' perspective on patient participation in decision-making	
Trial implementation data on the SDM component of the OPERAM intervention for intervention patients (n=27)*	
n (%) of intervention patients for whom medication changes were discussed	23 (85)
n (%) of intervention patients for whom formal SDM was performed	19 (70)
SDM-Q-DOC score (median (P25–P75))†	
Total participating prescribing clinicians (n=17)	76 (69–82)
Prescribing clinicians' intervention group (n=10)	77 (74–81)
Prescribing clinicians' control group (n=7)	69 (53–81)
n (%) of patients reporting participation in decision-making‡	
All patients (n=48)	11 (23)
Intervention patients (n=27)	8 (30)
Control patients (n=21)	3 (14)

*Implementation of SDM as perceived by the research clinician who performed the OPERAM intervention. Formal SDM was defined according to the standard operating procedure on SDM used in the OPERAM trial, based on the collaborative deliberation model.
†SDM-Q-DOC scores were available for 17/48 interviewed patients' clinicians (from both intervention and control groups). The SDM-Q-DOC was completed by the research clinician (intervention group) or the patients' prescribing clinician (control group) who proposed the medication changes to the patient. Scores on the SDM-Q-DOC range between 0 and 100 with 0 representing the lowest possible level of SDM and 100 the highest possible level.
‡As reported by patients in the semi-structured interviews. Decision-making was classified as 'patient participation in decision-making' if the patient reported some extent of patient participation, varying from patients reporting having been asked for their approval on medication changes (patient consultation), decision shared or having decided autonomously after being informed. Decision-making was classified as 'paternalistic decision-making' if the patient reported that the decision was taken by the clinician and the patient was informed afterwards.
SDM, shared decision-making; SDM-Q-DOC, physician version of the 9-item SDM questionnaire.

Theme III: barriers and facilitators to information and patient participation

Beliefs about patient role

Overwhelmingly patients believe 'doctors know best' and considered themselves lacking competence to be involved in medication-related decision-making. This belief was closely linked with trust in doctors, a passive attitude and not asking for information, a barrier to be well-informed and to patient participation. Some patients specifically referred to this passive role while in hospital: "In hospital you just take medications, you don't ask questions".

> I assume the doctor knows more about it than I do, so I have to accept it. (ID-0608)

Others described a more active role in decision-making varying from sharing experiences with medications, to questioning what doctors propose to some strongly believing that 'the patient has the last word' about treatment.

Health literacy and personal resources

Knowledge and understanding of medications acted as facilitators to patient participation. Patients with unmet information needs described various ways in which they independently gained access to additional information, for example, by searching on the internet, by consulting a companion or a (primary) care provider.

Involvement of companions

Whereas for most patients, companions were not involved in their care, some patients perceived involvement of companions as a facilitator for being well-informed, for example, by helping to remember the information received, by obtaining extra information from the clinician or for language support. For one patient, involvement of a companion facilitated patient participation in decision-making.

> So if my grandson hadn't intervened, maybe they wouldn't have given me Lyrica and wouldn't have discussed things with me more. (ID-0365)

Interpersonal characteristics of the clinician

Patients valued being treated as individuals and appreciated clinicians listening to them, reassuring them, being understanding, being cordial, acting as facilitators to patient participation. In contrast, others reported negative experiences with dismissive clinicians neglecting their needs and focusing solely on treating a disease, acting as barriers to patient participation.

> There's a lot of time spent on the patient's experience, their feelings, in a desire—a sincere one, I believe—to help them and not just bombard them with prescriptions. I think that's really nice because all too often in hospitals you feel a bit like a number. (ID-0528)

> Oh they just more or less dismissed. I don't think they were listening at all. And I'll be quite honest with you. (ID-0408)

Trust and the patient-clinician relationship

Trust in doctors was for some patients a barrier to patient participation because it reinforces a passive attitude ('doctors know best'). On the other hand, one patient reported that a long hospitalisation allowed him to build a relationship with clinicians, which was a facilitator for patient participation.

> What prevented you from being involved in the decision yourself? (Interviewer) I trusted them blindly. (P-0907)

Feeling too ill or too fatigued

Several patients reported that hospitalisation was not the right time to discuss medication changes because they were too ill or too fatigued, acting as a barrier to patient participation.

> For three or four days after the operation you're in a foggy sort of state [laughs], and, as far as I was concerned, the medication problem wasn't important to me at all, not at all. It was just a detail for me. (ID-0583)

Overwhelmed by multiple clinicians involved in care

The fact that multiple clinicians were involved in care, was for some patients a barrier to asking questions and being involved.

Theme IV: positive attitudes towards medication review and acceptance of medication changes

Patient perspectives on medication review were generally very positive. Patients acknowledged the importance of checking the appropriateness of their medication and stopping unnecessary medicines. Many patients expressed a desire to take less medicines. Several patients considered medication review desirable in hospital because specialists were around or they felt closely monitored, whereas others emphasised the need for more involvement of their GP. Several patients considered the GP or the community pharmacist to be the more appropriate person for medication review because of trust, having a good and long-standing doctor-patient relationship and the medical overview that they have. One patient enrolled to the intervention arm had a very strong opinion about this and considered the proposed medication changes in hospital as critical of the GP and did not accept any of the proposed medication changes.

> Yes, I do think it's a good idea to review things. What had built up, too, over a lifetime and over the whole period. And situations and illnesses change too. (ID-0904)

> There should be another person there, the GP. (ID-0355)

The majority of patients reported having accepted and implemented the hospital-initiated medication changes, compared with a minority of patients that did not, following the GP's advice or on their own initiative. Some patients implemented on their own initiative additional strategies to cope with medication changes including dose reduction because of side effects, self-medication, 'grandmothers' remedies' or self-monitoring blood pressure.

Theme V: barriers and facilitators to acceptance of medication changes

Beliefs about medicines

Necessity and concern beliefs were identified as key barriers or facilitators to acceptance of medication changes. Most patients accepted the medication changes and acknowledged the necessity for a

change (eg, physical need, usual treatment perceived as burdensome or ineffective) or believed in a long-term effect (facilitators).

> Well, generally speaking, all these medicines are pretty essential for me, you know, so it's very important. (ID-0333)

Conversely, low necessity beliefs about medicines (eg, usual treatment perceived as important) or concerns about medicines (eg, fear of side effects), acted as barriers or facilitators to acceptance of medication changes.

> I mean, they're using a sledgehammer to crack a nut. With a whole host of side-effects, it's just not necessary. (ID-0528)

Medication changes perceived as minor

Medication changes that were perceived as minor ('it is only a small change') were easily accepted. Several patients considered a medication change as a minor issue in relation to their illness perception, for example, a decision to start a proton pump inhibitor for symptomatic oesophagitis considered as minor compared with cancer they suffer from.

Experiencing a benefit or harm from a medication change

Patients described the impact of a medication change on symptom control and side effects as attributes affecting the definite implementation of medication changes. Practical effects (eg, fewer medicines, smaller pills) were cited as facilitators to accept medication changes.

> I do feel in the short, the short time that I'm on them. I feel possibly that my chest is a little freer. (ID-0443)

Trust and balancing advice between different healthcare professionals

Trust in doctors was a facilitator to accept the medication changes. Several patients reported receiving conflicting advice from different healthcare professionals, which may act as a barrier to accepting medication changes. Patients explained how they choose to either follow the GP's or the specialist physician's recommendations, depending on whom they trusted more. In contrast, when the GP confirmed the medication change or the medication change had been previously proposed by a specialist physician, it facilitated acceptance and reassured patients. Many patients reported that their GPs approved the medication changes and some patients explained that their GPs did not question decisions from the specialist physician.

> Because anyway with all the changes they suggested, I went to see my GP. I have a lot of confidence in her, she's known me for years. And as for the statins [prescribed as part of the OPERAM intervention], I said that I wouldn't take them. Since she [the GP] was not at all in favour of using statins, I didn't pursue the matter. (ID-0528)

Table 4 Patients' beliefs about medicines (n=48) (created by the authors)

BMQ subscale	Median score (P25–P75)	*N* (%) of patients above the scale midpoint
General-overuse*	13 (10–15)	25 (52)
General-harm*	11 (8–12)	10 (21)
Specific-necessity†	21 (17–24)	40 (83)
Specific-concerns†	12 (10–14)	11 (23)
Necessity-concern differential‡	8 (4–12)	43 (90)

*Scale ranges from 4 to 20, where high scores indicate negative beliefs about medicines.
†Scale ranges from 5 to 25, higher scores indicate stronger necessity or concern beliefs.
‡Scale ranges from −20 to 20, positive scores indicate that the patient perceives necessity outweighs concerns.
BMQ, Beliefs about Medicines Questionnaire.

Theme VI: importance of coordination between secondary and primary care

Many patients reported having received good follow-up support from their GP and appreciated the fact that the GP was updated about the medication changes. However, some patients experienced a lack of follow-up support. One patient experienced severe psychological distress because of the withdrawal of his antidepressant. He felt abandoned by the hospital physician and by the GP, neither of whom provided adequate psychological support. A few days later, the patient was readmitted with a panic attack. Some patients had problems with a lack of prescription refills after discharge and others were confused because of the generics received in hospital and branded medication received at home. Several patients highlighted the need for better preparation for discharge, good follow-up support and better communication between primary and secondary care.

> That's the problem: when they change something, they do it at the hospital and there's no follow-up outside. (ID-0358)

Beliefs about Medicines Questionnaire

Results from the BMQ are shown in table 4. For 90% of patients, the necessity-concerns differential was positive, indicating that necessity beliefs outweighed concerns. When participants were categorised by attitudinal group, 71% of patients were accepting, 21% were ambivalent, 6% were indifferent and 2% were sceptical.

DISCUSSION

This study provides an in-depth understanding of experiences of hospital-initiated medication changes

in older people with multimorbidity in the OPERAM trial and identified barriers, facilitators and patients' needs in relation to medication review. Patients generally displayed positive attitudes towards medication review and hospital-initiated medication changes, but an interplay of deficient information and communication, paternalism, patients' beliefs, clinicians' attitudes, trust and doctor-patient relationships highlight the complexity of implementing medication review and SDM in hospital and may affect its effectiveness.

Several patients lacked information regarding their medication changes or had problems recalling the information received, which has been previously reported.[14–16 32–35] In the intervention arm, OPERAM researchers discussed medication changes with the patient during their hospitalisation, but patients did not receive written information and there was no direct involvement of OPERAM researchers in discharge counselling. This might explain the lack of information reported in both study arms.

Paternalistic decision-making was predominantly both study arms, suggesting that SDM was not largely used in the OPERAM trial. Inadequate information is an evident barrier to SDM but is not sufficient; patients need both knowledge and power for SDM.[36–39] Patients' accounts of having limited opportunities for questions, poor understanding of jargon terms, feeling too ill or too fatigued to participate, being overwhelmed by multiple clinicians involved in care, dismissive clinicians, etc highlight the powerlessness some patients felt during hospitalisation, all representing barriers to SDM.[37 39–44] Conversely, health literacy, involvement of companions, being listened to, empathetic and trusting patient-doctor relationships facilitated SDM. Furthermore, while some patients recognised their experiential role in medication-related decision-making, many patients retained paternalistic views on decision-making ('doctors know best' and 'blind trust'). Paternalistic views are especially engrained in older people, acting as a barrier to SDM.[37–39] Heterogeneity in older patients' preferences for participation has been consistently demonstrated and the patient's preferred role in decision-making should therefore be explicitly elicited and respected.[15 45 46] Even if a patient prefers to defer decision-making to a trusted person, but is involved in information exchange and preference discussions, this can still be considered SDM.[47]

Interestingly, we found discordance between patients' accounts of paternalistic decision-making and clinicians reporting high levels of SDM according to quantitative measures. Despite observations demonstrating the contrary, "we are already doing SDM" is a frequently reported attitude of clinicians, which might be due to a lack of understanding of what real SDM is about.[38 48] The webinar training provided to clinicians delivering the intervention was likely not sufficient to equip them with the full range of skills to perform highly effective SDM.

Despite limited patient participation, patients' attitudes towards medication review and hospital-initiated medication changes were generally positive, with the majority of patients reporting having accepted the medication changes. Acceptance of medication changes is likely to drive adherence and persistence.[31] Beliefs about medicines reported in the interviews were in line with results from the BMQ, showing that the majority of patients had high necessity and low concern beliefs and were categorised in the attitudinal group 'accepting'.[19] An interplay of beliefs about medicines, illness perception, experience with medication changes, trust and balancing advice between different providers affected acceptance of medication changes, which echoes findings from previous studies.[31 49–53] Given limited patient participation in decision-making, patient beliefs about medicines and preferences were unlikely to have been sufficiently addressed.

Patients emphasised the importance of a long-term, trusting relationships (relational continuity of care) such as with the GP for discussions about medicines and the need for good coordination between primary and secondary care. In OPERAM, GPs were not directly involved in medication review and received a letter with the proposed medication changes after the patient's discharge. To overcome some of the patient-reported barriers to medication review in hospital (eg, lack of GP involvement, conflicting advice between healthcare professionals), involving GPs earlier in the medication review process seems essential.

Major themes did not differ between countries or study arms, suggesting that the study site did not substantially affect patient experience, nor did the OPERAM intervention. This might be due to the fact that patients were all involved in the OPERAM trial and all were hospitalised. Moreover, no major differences in standard practice regarding medication review exist across the four countries. However, given a limited number of interviews undertaken in each country, it is difficult to make a definitive statement about country-specific differences.

Implications for practice

To meet patients' needs, medication review services should enhance information exchange, foster collaborative medication reviews across care settings and better prepare patients and clinicians for partnership in care. Reinforcing medication-related information at discharge using the teach-back technique, providing written information or reinforcing postdischarge follow-up (eg, follow-up calls) are effective strategies for improving patients' understanding of medications.[54–56] Involvement of companions also helped patients to be better informed. Furthermore, compared with unidirectional communication, consensus and close collaboration between hospital specialists and follow-up care providers in medication reviews may lead to higher acceptance rates of medication plans

postdischarge.[57 58] Especially for older patients with multimorbidity, SDM and medicines optimisation should not be restricted to one patient and one clinician in one consultation, rather integrated and interprofessional approaches are needed.[38 48] With deeply engrained paternalistic practices in many countries, implementing medication review with SDM requires significant behaviour change of both clinicians and patients. Neither patients nor clinicians might have been adequately prepared for or skilled in SDM in the OPERAM trial. A combination of interventions at the macrolevel, mesolevel and microlevel are needed to foster cultural and attitudinal changes to SDM including training healthcare professionals in SDM, preparing patients and companions to engage in SDM, SDM tools and a patient-centred culture.[5 36 38 43 48 59 60]

Strengths and limitations

Transferability of our findings was enhanced by interviewing a relatively large sample of patients from multiple European countries with diversity in several patient characteristics. However, the views expressed in this study represent those of cognitive fit, educated older people with multimorbidity enrolled in the OPERAM trial, rather than the oldest old or patients with low educational levels, impaired cognition or functional status. We did not analyse the potential link between various patient characteristics and the experiences of medication changes, which might be an interesting future research question.

We did not perform a formal process evaluation of the OPERAM trial, rather we focused on the patient experience and triangulated our qualitative results with quantitative measures on patient participation for a subsample of patients and clinicians.[61] The extent of participation in decision-making from the patient perspective was only evaluated qualitatively using an open-ended question in the interviews. Concordance between patients and clinicians on patient participation would likely have been higher if we would have used a patient-reported SDM questionnaire.[62] Self-report SDM measures broadly indicate satisfaction with decision-making rather than the quality of the interaction and are susceptible to social desirability and response biases, which may also explain the high SDM ratings by clinicians.[63 64] We conducted the SDM-Q-DOC for only a proportion of clinicians and cannot rule out that some of the questionnaires were completed with a delay, which may lead to recall errors. Integrating observations or interviews with the involved clinicians might have provided a deeper understanding of the patient-clinician dyad.[63]

Not all interviewers were blinded to the intervention or control arm allocation of the patients because of their role in the OPERAM trial, which might have influenced data collection. Credibility of our findings was enhanced by respondent validation and by integrating perspectives from different backgrounds in protocol development, data collection and analysis.

CONCLUSION

To meet patients' needs, medicines optimisation services should enhance information exchange, better prepare patients and clinicians for partnership in care and foster collaborative medication reviews across care settings.

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Funding This study was funded by the European Union's Horizon 2020 research and innovation programme (6342388) and by the Swiss State Secretariat for Education, Research and Innovation (15.0137). The opinions expressed and arguments employed herein are those of the authors and do not necessarily reflect the official views of the EC and the Swiss government.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved by Belgium: Cliniques universitaires Saint-Luc, Brussels, reference B403201629175; Ireland: Clinical Research Ethics Committee of the Cork Teaching Hospitals, reference ECM 3 (nn) 5 December 2017; Switzerland: Kantonale Ethikkomission Bern (KEK), Basec-Nr.: 2016-01200; The Netherlands: University Medical Centre Utrecht, reference NL58279.041.16. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available on reasonable request.

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