Lived experiences of multimorbidity: an interpretative meta-synthesis of patients', GPs' and trainees perceptions

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Abstract

Objectives

Multimorbidity is an increasing challenge. Better understanding of lived experiences of patients, GPs and trainees, may advance patient care and medical education. This interpretative meta-synthesis sought to i) understand lived experiences of patients, GPs and trainees regarding multimorbidity, ii) identify how similarities and differences in experiences should shape future solutions.

Methods

Empirical studies containing qualitative data and pertaining to lived experiences from our recent realist synthesis (PROSPERO 2013:CRD42013003862) were included. Following quality assessment, data were extracted from key studies to build an integrated analytic framework. Data from remaining studies were utilised to expand and refine the framework through thematic analysis of concepts within and between perspectives.

Results

21 papers were included in the meta-synthesis. Analysis of 70 concepts produced five themes: 1) goals of care and decision-making, 2) complexity, 3) meeting expectations, 4) logistics and 5) interpersonal dynamics. The complexities of multimorbidity lead to shared feelings of vulnerability, uncertainty and enforced compromises. Barriers to optimal care/education included system constraints, inadequate continuity and role uncertainty.

Discussion

There was little evidence of shared discussion of these challenges. Addressing these issues and more explicit exploration of the experiences of each group during interactions may improve delivery and satisfaction in care and education.

Key words: multimorbidity, lived experiences, patients, trainees, general practitioners

Introduction

Multimorbidity, 'the co-existence of two or more chronic conditions, where one is not necessarily more central than the others'[1], is an increasing challenge for general practitioners (GPs) as the population ages, advances in medical science offer more management options and more people live for longer with multiple chronic diseases[2,3]. Multimorbidity is particularly common among deprived communities so need is often mismatched with available services[4]. This exacerbates negative impact which increases mortality[5], hospital admissions[5], polypharmacy[6], psychological distress[3], reduced quality of life[7], physical functioning[5], poor management continuity[8] and patient empowerment[3].

GPs should provide high quality, integrated and individualised patient-centred care, supporting and empowering patients to manage their long-term conditions[3]. Traditional single-disease based models for guideline development[6], service design and training threaten these expectations and may under-represent patients' priorities in measurements of quality. Challenges in achieving appropriate high quality primary healthcare for patients are echoed when establishing high quality workplace-based education for trainees[9,10]. We recently conducted a realist synthesis (PROSPERO 2013:CRD42013003862[9,10]), that sought to answer 'what is known about how and why concurrent healthcare delivery and professional experiential learning interact to generate outcomes, valued by patients, general practitioners and trainees, for patients with multimorbidity in primary care?', During the course of this work we identified that there was a paucity of critical analysis that investigated the dynamic interactions between patients, GPs and trainees in the context of multimorbidity. In particular, there was little consideration of the lived experiences of having or managing multimorbidity in each of the groups, pertaining to not just what the individuals experience but also how they make sense of their situation and thus, how they live with it [11]. Within the realist synthesis data was identified that could be used to address these issues. Therefore we conducted a separate secondary analysis to understand the lived experiences of multimorbidity of patients, GPs and trainees.

Aims

An interpretative meta-synthesis was undertaken to answer: 'What are patients, GPs and trainees' lived experiences of multimorbidity and how can an understanding of the similarities and differences between these be used to shape service and education delivery in the future?'. The study aimed to: i) synthesise qualitative literature to develop an integrated understanding of all three groups' (patients, GPs, trainees) lived experiences of multimorbidity, ii) identify, compare and contrast key concepts between the groups, iii) develop understanding of the implications of similarities and differences within and between the groups and iv) develop mid-range theories of the challenges of multimorbidity, identifying areas for further research. Exploration of lived experiences, rather than just considering processes of care, is likely to better identify ways to address patient dissatisfaction, inappropriate management, increased efficiency and equipping future doctors to manage this complex issue.

Methods

This interpretive meta-synthesis represented a novel secondary analysis of literature identified for our prior realist synthesis. As a secondary analysis of existing literature, ethical approval was not required. ENTREQ statement guidance, designed to increase transparency in reporting the synthesis of qualitative research, was followed[12].

Synthesis methodology

The terminology to describe a synthesis of qualitative data originating from varied sources is complex and inconsistently used[12]. This is an interpretative meta-synthesis drawing on the seven steps of the meta-ethnographic approach described by Noblit and Hare[13]: i) develop a question, ii) search and select studies, iii) read studies, iv) determine how studies are related, v) translate studies into each other, vi) synthesise translations, vii) express the synthesis. The final stage of our review was to develop mid-range theories of the challenges of multimorbidity. A mid-range theory is a theory of limited scope that seeks to explain and interpret a specific set of phenomena, in this case the meaning derived by our three groups from their lived experiences of multimorbidity. The methodological detail of these steps follows.

Searching and selection of studies

The literature sample for this meta-synthesis was selected from our realist synthesis database which contained published work relevant to multimorbidity in primary care with sub-focuses on education/workplace experiences and social processes[9,10]. The database contained papers identified from an initial search undertaken on the 1st August 2012 with no date limitations and alerts were set to identify new papers until 1st August 2013[10]. Both authors screened all empirical studies and original realist synthesis data extraction sheets for qualitative studies regarding lived experiences. Sixty-four papers were identified as being potentially relevant.

Included papers reported qualitative empirical studies and provided first order data on patient, GP and/or trainee perspectives of their own or others' lived experiences of multimorbidity in primary care. Exclusion criteria were if papers were non-empirical and/or non-qualitative studies, thus did not contain first order data or were non-empirically derived opinion pieces (Exc1), or if they did not contain detail about lived experiences of multimorbidity in primary care (Exc2). For the purposes of this study, 'lived experiences' were defined as narratives, descriptions, or examples of patient, GP and/or trainee stories/perceptions of their own 'real life' events or experiences. These lived experiences were as accepted as first order data when reported through the use of direct qualitative quotations (referenced to specific people) from patients, GPs and/or trainees. Second order data which was also accepted consisted of narratives, descriptions or examples where a third party (e.g. the authors of a study) was relaying the experience in their own words. It is accepted that even the first order data necessarily represents individuals' perceptions of their experiences of living with multimorbidity, as individuals chose, deliberately or subconsciously, to present these in a certain way[14]. It is not, however, possible to generate data on the meaning another person attributes to an experience other than through their sharing of perceptions. After applying Exc2, no papers examining trainees' lived experiences remained. In order to identify trainee data to use for comparison, Exc2 was relaxed for trainees only, such that papers had to refer to lived experiences of general primary care teaching/learning, rather than specifically in relation to multimorbidity (see Figure 1). The decision to relax the inclusion criteria was appropriate in this context due to the high prevalence of multimorbidity in primary care patients. Trainees' experiences of primary care will, by nature, include experiences of multimorbidity, even if this has not been the explicit focus of the primary research.

Quality assessment

Full text papers which met inclusion and exclusion criteria (n = 25) were independently quality assessed by SY and EC using a five point 'strength score' adapted from Hammick et al[15], see Table 1. Strength scores were allocated according to the reporting of the methodology and results, the study type did not automatically influence the score. Where differences existed between the authors' allocated codes (3/25, 12%), by consensus the lower of the scores was given. Given the paucity of the data available, to ensure as broad a view as possible of the lived experiences of each group, only papers allocated the score S1 (n = 4) were excluded, thus 21 papers were included in the meta-synthesis (see Table 2).

Figure 1: Flowchart detailing identification of papers for interpretative meta-synthesis

Table 1: Researcher derived strength score descriptors adapted for use in quality assessment for secondary analysis

Table 2: Characteristics of included studies (empirical evidence of perspectives on lived experiences relevant to multimorbidity)

Data extraction: reading the studies

Information about study methodology and participants was summarised (see Table 2)[16]. First, the most recent highest quality papers for each of the three groups (patients[17], GPs[18], trainees[19]) plus one paper addressing experiences of two groups (patients and trainees[20]) were selected to develop an initial analytic framework. EC and SY read each paper to establish the context, coded direct quotations (first order interpretations) to distinguish from other text (views of the authors i.e. second order interpretations), then identified and coded 'key concepts' using NVivo software[21]. Extracted concepts were not predefined, rather these were developed 'in vivo' during the coding of the data. Codes were organised into concepts and then were compared and assimilated to create 'key themes' from which a consensus-based analytic framework was developed. Direct quotes, and relevant data from these quotes, were extracted by EC or SY from the remaining included papers to populate and refine the framework, which underwent iterative changes as necessary if new concepts emerged (reciprocal translation). Second order interpretations were then reviewed and novel concepts added to enrich the themes created from the first order interpretations.

Establishing relationships between studies

On completion of coding, SY and EC developed emergent themes. Concepts were grouped into themes, and relevant data were reviewed (see Figure 2). Using thematic analysis, the perspectives of all three groups were described within themes, rather than outlining perspectives of each group separately. This facilitated comparison of similarities and differences in perceptions about the same themes and consideration of different themes across the groups, perceptions about how the different groups interacted with each other and how meaning-making or learning arose. It was noted if one group gave their perceptions about the lived experiences of another group.

Translating findings into each other

Through comparison of data extracted according to each concept and emerging theme, consistency of views from and between each group could be determined. Divergent views were identified.

Synthesising translations

Revisions to the themes were made to develop our own third order, ‘line of argument’ interpretations of perspectives. During this process any identified similarities, differences and omissions, were noted to classify themes as from individual groups, paired groups or from all three groups.

Results

After application of inclusion and exclusion criteria 25 studies were quality assessed, resulting in four being excluded. Of the 21 papers included; nine described lived experiences of patients, five of GPs, five of trainees, one of both patients and trainees and one of both patients and GPs, see Figure 1.

Seventy concepts were initially extracted from first and then second order data and developed into 16 initial third order themes (see Figure 2). These were eventually organised into five final third order themes: 1) goals of care and decision-making (patients and GPs), 2) complexity (patients, GPs, trainees), 3) meeting expectations (patients and trainees), 4) logistics (patients and GPs), 5) interpersonal dynamics (patients, GPs, trainees). These themes are presented below.

Goals of care and decision-making

Patients and GPs both described concepts relating to goals of care and decision making. Notably, there was an absence of explicit consideration of this among trainees. Both GPs and patients shared understanding between GPs and patients that management should not be solely dictated by arbitrary targets. GPs recognised that medical goals of care may not match patient goals[22]. Consequently they realised that management needed prioritising according to the impact of conditions on the patient’s life[22]. This concept was recognised by patients who explicitly reported having to function[17] and not give up[23]. However, patients voiced that this may involve them making compromises while setting goals between life-threatening versus function-threatening conditions[24,25] and/or quality of life versus function[24,26]; '...I found more concern or anxiety about the problems to do with my back and mobility than I have about my diabetes, although the side effects from diabetes can kill you...'[25]. Although, this choice of function or quality of life versus longevity is implicit in GPs' acknowledgement of the need to individualise priorities, the stark nature of this choice was not voiced explicitly by the professionals in the papers examined. More specific examples of this type of compromise was illustrated by patients choosing between side effects versus benefits of medication[24,26,27] and maintaining independence[24], with its associated risks, versus going into care[23]. Such compromises and priorities shifted depending upon circumstances[18] and, for example, in the nature of symptoms e.g. pain; 'Whatever hurts the most is what is taken care of...'[26].

Patients and GPs both recognised that patients are autonomous. Patients reported making drug choices outside of consultations[23,25] and GPs recognised the risk of undermining patients' coping mechanisms by enforcing medical intervention[28].

Both patients and GPs shouldered responsibility for risks and decision making. GPs felt that they take responsibility for risk management[18] and patients recognised that they should take responsibility for decisions[23]. Although they felt a responsibility for risk, GPs indirectly acknowledged that patients do make decisions as they describe their role in adequately informing patients to make decisions[29], which may involve refereeing between specialist opinions[28]. This role was challenged by the health literacy of some patients[29,30]. There was a shared recognition of the need to individualise decisions and the potential for individual care plans to achieve this[31]. Although trainees expressed feelings of responsibility for patients' care and some anxieties about this, this was more in the context of lack of knowledge leading to fear of causing harm in general[20], rather than specific to the responsibility for ongoing complex care which is implicit in managing multimorbidity.

Complexity

GPs were alert to patients' struggle with the burdens and chaos associated with multimorbidity[28,30]; 'Their care takes all week'[28]. However, the loss of function and resulting dependence on others, raised by patients[23-26,32], was only explicitly mentioned by GPs in the context of the impact on carers[28].

A prominent issue contributing to complexity of multimorbidity for GPs was the (possible) presence of cognitive impairment[22,28], depression[28], somatisation[18] and, as described later, isolation; 'The other problem with a percentage of these patients is that they are...cognitively impaired...it's very difficult to explain things...and you have to explain things again and again...'[28]. GPs need to consider the patient's capacity to engage with the complex discussions required to explore management options[22].

There was shared recognition among patients[23,25], GPs[22,29] and trainees[19] about the complexity introduced by the obscurity of clinically relevant presentations, and normal aging or reactions to difficult circumstances. Patients may be hyper-vigilant for symptoms of worsening or new problems and GPs described diagnostic uncertainty in the face of multimorbidity with the knowledge that presentations vary between patients; 'The difficulty then comes in trying to diagnose, well, are they depressed or not? They're upset, frustrated, angry...confused about these chronic conditions, which they didn't have, that can be a bit different from depression' (GP)[22]. Although patients and GPs shared an appreciation of the complexities in identifying and managing multiple concordant and discordant problems, in the literature examined, GPs did not explicitly recognise that the patient's hyper-vigilance for symptoms may arise from the patients struggling to determine what is significant and not significant.

Patients and GPs recognised that the problems of one condition can be compounded or magnified by the presence of others, and the negative impact of drugs may be multiplied in multimorbidity[22-25,27,28]. The presence of widespread single-disease based approaches[22,31] made patients feel overwhelmed by the diagnoses and created problems for GPs in trying to create coherent management plans[28], particularly among older patients[29]. Indeed patients can feel confused, disempowered and increasingly anxious as a result of conflicting advice for different problems and regular reviews[22,26,28,32], a situation which may further increase the risk of receiving mixed messages[33]. Prescribing in the existence of multimorbidity, particularly among older adults, was highlighted as a particular problem by both patients and GPs who expressed innate discontent with the existence of polypharmacy[25,27,28,33]; '...the third pill might be the killer, you know what I mean?' (patient)[27] and '...we're poisoning our patients' (GP)[28]. GPs highlighted the need to balance risks versus benefit in prescribing decisions[29], particularly noting the morbidity caused by medications themselves[28]. However, the issue for patients was wider than the biological impact or risks. The impact on patients' lives was also an issue, particularly if they felt their life revolved around taking medication[33]. Again, the function versus longevity compromise was pertinent; ‘I don’t like taking pills, but I’d rather take pills and stick around for a while...’[26]. However, a clear solution to these issues was not articulated. One option could be to leave clinicians to devise individualised but, due to the current lack of evidence in multimorbid patients, more subjective, rather than evidence- and/or guideline-based care. However this would further increase the risk of mixed messages to the patient, which they do not like, and, by nature, it would promote non-standardised care. Although seen as appropriate at times[18], deviating from the guidelines in the presence of multimorbidity did not sit comfortably with all GPs[28,29] and some GPs perceived variations in practice as undesirable [29]. Trainees did not explicitly discuss polypharmacy, perhaps because in the papers examined, some of the experiences were in the context of applying uncertain knowledge in relatively protected environments: ‘...this patient presents with these complaints, I find this and that on physical examination and, er, I am thinking of prescribing this...’ [19].

Although none of the papers specifically addressed trainees’ experiences of multimorbidity, trainees voiced the general complexities inherent in primary care from seeing an unscreened population in which certain answers to patients’ problems, or the diagnoses themselves, are not always clear[34]. Inherent in the primary care population are a large proportion of people who have multimorbidity and it is therefore likely that this contributes to the trainees’ perceptions of complexity in this setting. However, it is notable that trainees did not recognise the role of multimorbidity in their perceptions of complexity, which possibly indicates a missed opportunity for them to identify coping strategies through explicit discussions with the experienced patients and GPs they interact with. Although trainees reported using guidelines to support their decisions[35], they did not explicitly acknowledge the limitations of guidelines, in general, and in the context of multimorbidity. Nor was there evidence of trainees articulating an appreciation of managing multiple discordant problems. However, trainees did indicate that the improved understanding of patients’ lives inherent with working in primary care promoted more pragmatic choices for delivering holistic care[36], which implies an understanding that management decisions are not black and white.

Patients, GPs and trainees expressed different coping mechanisms to manage the complexities described. Patients seemed to cope by developing and/or maintaining a sense of control and/or routines[17,23,25,26]. Patients also expressed self-vigilance for new diagnoses[25]. They thought written information would help[26], but only if it was pertinent to the patient's situation and level of understanding[32]. There was evidence that both patients and GPs balanced the difficulties associated with complex treatment regimes with the recognition of single management solutions that can help multiple problems[22,25,32]. The solutions offered by GPs recognised the need for a whole patient approach from diagnosis to end-of-life[18], because patients and GPs recognise that additional complexity is introduced by some patients' circumstances (e.g. deprivation)[17,30]. However, the overwhelming number of issues made some GPs resort to a reductionist 'additive-sequential model'[22]. Assuming that order of presentation is a proxy for priority, in this model GPs managed each concern presented to them in turn until the consultation time ran out. Although some trainees described the complexity and challenge of primary care as having a negative effect on their career choice to be a GP[34], others wanted to increase their exposure to complex cases[37] and to take responsibility for patient care[19,37], albeit in the presence of adequate support and feedback[34].

Meeting expectations

Patients and trainees shared the experience of having an awareness of how they might be perceived by others, particularly within the primary care practice. Patients explicitly reported feeling judged and concern about negative perceptions of others, which may be enhanced by multiple review appointments which are commonplace when traditional care models are used to manage multimorbidity: 'I go in and feel as if the receptionists...must be saying to themselves "Oh her again"...'[17]. Both patients and trainees wanted to be seen as being useful. Patients gained satisfaction from being involved in the students' education through an altruistic investment in doctors of the future[20]. Trainees valued their involvement in patient care and were explicit about wanting to be seen as being useful, rather than in the way[19,20], and to be taken seriously by GPs[19].

Trainees reported a challenging balance in expressing the correct level of emotion and/or vulnerability. On the one hand, trainees were concerned that too much focus on the human side detracted from the expected perception of a doctor to focus on the scientific aspects of care[20]. On the other hand trainees recognised that their perception of GPs was not undermined by the doctor admitting a knowledge gap or emotional response and this empowered trainees to follow suit[19].

Perhaps in response to an awareness of being under the scrutiny of others, patients and trainees explicitly remarked on actively 'keeping up appearances'. For patients this involved maintaining a social role and routine[23], which may require overcompensation for illness,[17] and for trainees this involved managing uncertainties while maintaining an appearance of competence to both patients and GPs[20,34] and/or wishing to take responsibility despite their uncertainties[20,35]. However, the challenges of 'keeping up appearances' was also highlighted[17], perhaps indicating the need for supervising GPs to actively promote patients and trainees to be themselves or to invite them to drop their facade at times to ensure all their needs are attended to. Physical environment, for example, a dedicated consulting room, was recognised as a tool through which trainees achieve their desired identity[19] and this, in some ways, echoes the sentiments of patients whose goal is to continue living in their own home.

Logistics

Patients and GPs had a shared understanding of the logistical difficulties that multimorbidity fostered for patients. GPs highlighted the inadequacy of traditional primary care service delivery methods which risk fragmented care[38]. Both GPs and patients identified barriers to achieving relational continuity of care which included technology[22,38], availability of the patient's 'usual' doctor[26,38] and accessing appointments; '...you have to...make an appointment to be sick...'[38]. Lack of relational continuity, was disliked by some patients[33,38]. However, at least for some patients, adequate informational continuity could mitigate against disrupted relational continuity; '...the notes are carefully kept and they pick it up quite quickly...'[38].

Multiple problems often resulted in multiple appointments[23,26] for which patients and GPs recognised a high level of organisation was required[22,33]. This compounded the aforementioned appointment access issues[17,38]. Patients[26,33] and GPs[22,28,31] raised the issue of time limitations in consultations; 'too many things to talk to the doctor about in such a short time...'[33]. Although GPs recognised that patients get frustrated with multiple monitoring appointments[22], neither group expressed recognition of how the other may feel. There was discordance in the reactions of patients and GPs regarding the issue of time limitations within consultations. Time restraints left patients feeling 'annoyed'[38] and inadequately listened to[26]. GPs who spent extra time to undertake required activities felt increasingly overburdened by the workload[28]. GPs felt they had insufficient time to provide care for multiple problems[22] and recognised time as a barrier to providing desired holistic care[30,31] and/or to motivate patients to change[22]. As a result, one GP described ‘constantly....rationing out time’[30]. Some GPs responded to these pressures by avoiding proactive problem seeking[28], for fear of unearthing problems they could not manage or that would require additional, non-existent time[30]. This may widen the gap between the holistic, patient-centred care they wish to provide and the care they can and do provide; ‘....you don’t say anything, because you know you’re at the beginning of the afternoon...’[28].

Despite clear dissatisfaction among patients and GPs about the logistics of managing multimorbidity, ideal and encompassing solutions were elusive. GPs valued support for holistic patient care from specialists[28] but cautioned that gaps in patient care can occur if specialists do not take responsibility for patients[28,31]. Patients and GPs suggested that written information[26], education[28] or improved clinical resources (e.g. care plans)[26,31] may help to empower, reduce distress and improve care delivery for patients with multimorbidity[22] but patients recognised the variable impact that multimorbidity has on those affected by it[25] and acknowledged that one service design will not fit all[26]. Other strategies suggested by GPs included promoting relational continuity[22] and planning interactions, possibly with named individuals[22,28].

Interpersonal dynamics

The importance of appropriate interpersonal dynamics was identified in data from all three groups. All groups reported positive experiences. Good experiences of information provision and support were valued by patients; ‘Dr X is a very, very good doctor ….He explains things to you’[33]. Trainees also valued attentive interactions with GPs[34,35,37], particularly when sources of help were clear[19], the individual to provide assistance could be chosen according to the query[34] and the optimum learning environment was developed through discussion[19,37]. The latter point draws a parallel with, and requires the same skills as, providing patient centred care. Further, interactions with supervising GPs meant that trainees used them as role models, to learn medical practice and about the career[19]. Trainees actively reflect on the interpersonal dynamics they observe between GPs and patients, for example, by recognising the negative impact of problematic communication; ‘...patients just hear a jumble of a lot of terms...you see those people looking very anxious at first and then things just go horribly wrong...’[19].

The co-existence of trainees and patients in a consultation with a GP seems symbiotic for both to gain knowledge. Patients perceived that trainees provided warmth and humanity[20] to consultations and asked the questions that patients also wanted answers to[20] and trainees learnt through hearing GPs' explanations to patients[37]. Although GPs recognised the value demonstrating a personal interest in patients[30], GPs highlighted the difficulty of interacting in this way in the presence of multimorbidity[30] as issues may be raised that GPs feel ill-placed to manage[30]. Unsurprisingly, therefore, interpersonal dynamics was often discussed in the context of problems.

At the most basic level, patients and trainees apparently shared, unspoken, the negative impact of insufficient interpersonal interactions; isolation. Trainees reported negative experiences at clinical[19], educational[37] and/or personal[37] levels. Perceptions of isolation were fostered by difficulties integrating with the team[34] and from the primary care environment itself; '...being in a room, and you can't really leave...'[34]. Associated with this, perhaps, are trainees' uncertainties about their level of supervision and/or feedback; 'I sometimes wonder if I don't get enough feedback when things go wrong...'[34].

GPs recognised the risk of isolation for patients but feared that becoming a patient's primary source of social contact risks undermining the patients' self-efficacy[30]. However, patient data revealed that this does not represent comprehensive understanding of the nature of isolation. Patients did not have to be alone, but could feel isolated if they believed those people did not (want to) understand their problems; '...You're all alone....Even within the family – they know I've got this problem and...we don't even talk 'bout it...'[23].

Patients described breakdowns in communication with healthcare professionals making them feel unheard; '...for months he [the GP] would pay no attention to me... he'd say _No, it can't be...'[33]. This is perhaps more likely in the context of multimorbidity, when, as previously identified, the issue of identifying pathology from normality can be complicated. Consequently, management plans sometimes ill-matched patients' desires; 'I have been trying to convince my doctor that I don't need the cholesterol medication...'[24]. Sometimes patients felt they were communicating at cross-purpose due to the complexity of their care[33], inadequate documentation[38], and/or lack of a coherent message resulting from a breakdown in relational continuity; '...one says you can... one says you can't... they don't seem to all work with the same information'[33]. The evidence suggested that GPs were alert to this risk; 'All doctors should speak with one voice'[29]. GPs also recognised other virtues of relational continuity, such as enhanced impact of advice given and patients being '...a bit more open with you...'[22]. Trainees too, identified value in achieving long-term follow-up of patients and the richness to understanding that this brought[19].

Despite apparent shared recognition among the three groups about the necessary features of successful interpersonal dynamics, barriers to achieving this include lack of time[26], breakdowns in continuity of care[38] or learning supervision[37], concerns among GPs about hidden messages given or harm caused by management options and/or decisions (e.g. deprescribing)[28,29] and similar concerns among trainees about doing wrong/causing harm[20]. Underlying many of these issues may be the different values and priorities held by each individual during the consultation and about management. Such differences may not be voiced during the consultation[23-25,27]. Patients appeared to seek a balance between medical risk of harm versus functional problems[32,33]. GPs recognised this and the need to focus on functional problems to address patient goals[31]. However, GPs described their own balancing act between stepping-out of their medical role enough to listen to other, social problems[30], discouraging patients from becoming dependent on them[30], maintaining equitable and sustainable care for all patients[30] and addressing whether what patients want is appropriate[18]; '... it's always a matter of finding a balance between what the patient wants, the burden of the treatment for him, and the potential good you think it will do. And what does the patient experience as good?'[18].

Trainees recognised that primary care provided a good platform to identify patients as people and to recognise that their behaviour may not match planned care; '...you have a better insight into what causes health problems...you get to know the person better which has a huge impact on a person's health generally...response to treatment, whether he takes his treatment...a more realistic attitude'[36].

Overarching interpretations and implications

Through comparing the lived experiences of patients, GPs and trainees regarding multimorbidity a number of common concepts were identified and were developed into themes. Within themes, perceptions about each concept were not necessarily shared between the groups. Complexity, uncertainty and the poor fit of current health services to the needs and priorities of patients were dominant messages from the included papers. All three groups indicated that they felt a responsibility to manage patients' problems but all also felt overwhelmed at times from the management strategies involved in providing best-evidence based care (patients), managing a multitude of problems within a limited time (GPs) and managing patients who could be coming in with anything and feeling unable to manage them (trainees). Examining the literature altogether has also demonstrated that the experience of all three group includes prioritising how others perceive them and addressing the (perceived) expectations of others ahead of addressing their own needs and difficulties at times.

GPs need to recognise their significant role in shaping positive lived experiences of patients and trainees, through direct interactions, by one group i.e. trainees, observing the GP's interactions with another, i.e. patients and by facilitating patients and trainees to function in their most desired environment (e.g. home or dedicated consulting room, respectively). To maximise their positive impact, GPs thus need the time to provide adequate explanation and support of both these groups of people, allow adequate two-way interaction to provide space for patients and trainees to be as autonomous as they can be and to appear open to patients and trainees to invite a sharing of their own priorities. To do so, GPs need the time and space to probe for less easily raised issues to ensure that management and learning plans are individualised to the patient and trainees needs, respectively. In optimising clinical and teaching settings, there needs to be a recognition of the importance of the patients' and learners' physical environments in their self-identity, that patients and learners can be disempowered by being forced into situations that they do not feel comfortable with (i.e. patients leaving their own home and learners not having their own consulting space).

GPs and patients identified the need to have malleable management goals and priorities that need to be individualised to the patients' context and priorities. However, to provide this requires explicit discussion of the compromises between longevity and function that may result from individualised plans. These issues were not considered within the trainee-focused data examined as part of this study and notable among the GP literature examined was the lack of vocalisation of the stark nature of the compromises between longevity and function or quality of life that are necessary for truly individualised care.

This synthesis has identified that patients, GPs and trainees all have to deal with internal conflicts. Patients are conflicted by, on the one hand, wanting to keep up appearances and maintain their social, domestic and occupational roles as much as possible, yet also feel isolated by the lack of (apparent) understanding of their problems by others. Data from both patients and GPs highlights the perceived value of individualised care based on the patients' contexts, preferences and priorities;

indeed, patients sometimes strived for this even without the support of healthcare professionals by adapting management plans to better suit them. However, examining all the data reveals a potential for conflict within GPs with regards to providing individualised care. To do this requires a deviation from guidelines, which is something that some GPs embrace, but others fear, and it may result in non-standardised care. The latter situation can be viewed negatively probably due to the perceived risk of enhancing inequality and patients do not like getting incoherent plans, which may be more likely if, owing to a lack of empirical evidence in the context of multimorbidity, individualised care is more subjective. Finally, the data regarding trainees appears to reveal potential conflict. Like patients, trainees like to have their own room or space from which they can perform their desired roles, however, the price for this space may be physical or emotional isolation[19,20]. This review has highlighted that a means to deliver individualised, non-standardised care that is acceptable to patients, GPs and to the wider population is necessary, but a solution to this was not forthcoming. The type of care necessary to meet all of the needs and expectations of patients with multimorbidity, is complex and requires GPs and trainees to have the expertise and time to raise such issues, manage uncertainties and to encourage candid participation in consultations by all involved. A key element of it this is facilitating all three groups to have adequate autonomy. Patients need to remain autonomous to contribute to their management planning, GPs need to be autonomous to deviate from guidelines and provide individualised care and, as both the key papers which included trainees highlight[19,20], trainees need to be supported but given adequate information and space to feel that they can be clinically autonomous in order to encounter the pertinent complexities and challenges and thus learn ways to manage patients with multimorbidity during their future career, but they also need to be able to be autonomous when planning their learning as well.

Figure 2: Initial 16 third order themes (capitals) with summary of associated concepts

Discussion

Synthesis output

This interpretative meta-synthesis identified five themes that summarise the lived experiences of patients, GPs and trainees of having or managing multimorbidity in primary care. This review has highlighted that there is no unifying, single story of lived experience with regards to multimorbidity, within or between the three groups. However, comparison of the themes highlights that all groups face similar issues, albeit in different circumstances. All groups recognised complexity in primary care, and in particular managing multimorbidity. They all faced difficulties arising from uncertainties in identifying abnormality from normality and identifying the ‘best’ management options or the ‘right’ answers. Specifically, compromising between longevity and function was relevant to many of the difficulties described by patients (who explicitly raised this) and GPs (who alluded to this). All groups acknowledged the need to take, or hold, responsibility and all were concerned about being viewed negatively. Some of the parallels between the trainees and the patients, with regards to the way they are perceived[19,20], may reflect the relative power and positioning of both these groups. However, as Ashley et al highlight, patients do not always see themselves as equal to trainees who they perceive to be more knowledgable[20]. Thus explicit discussion about the expectations and value of all parties involved in discussions (both clinical consultations and educational support) may help to level the ground and promote shared development of management and educational plans. This may also help to avoid inappropriate disempowerment of both trainees and patients, which, for the latter, may already be an issue as a result of their illness[17]. Instead GPs should strive to identify the ways in which the functional and emotional problems experienced by patients and trainees may be addressed. From the data examined, this seems to be an area that is less attended to within GP’s lived experiences than the logistics and complexities of clinical management of patients. Both patients and GPs were battling with the other party having different priorities and values, although fundamentally the underlying concerns were similar (e.g. disliking polypharmacy but fear of deviation from recommendations, the potential for patient dependence on others, the need for supported autonomy and the risk of feeling overwhelmed). Barriers to effective care and/or education were recognised by all groups and included breakdowns in relational and/or informational continuity, limited time and inadequacies of current primary care service models to accommodate accessible, long-term, consistent, efficient interactions for multiple problems. However, this synthesis has revealed that relational continuity, although seen as ideal by some patients, GPs and trainees, was particularly valued by GPs[18] and trainees[19], but was not necessarily seen as essential by patients, particularly in the presence of robust informational continuity with single, coherent management approaches. Indeed, proposed solutions to the problems identified by all three groups often involved each party having clear role parameters and being equipped with adequate information, tailored to the individual's needs, in written format. Traditional models of care were identified by patients and GPs as being inadequate to deliver the individualised care required to address the needs and priorities of patients with multimorbidity and to accommodate time for complex discussions of risks versus benefits in the context of that specific patient, A major revision of the nature and delivery of healthcare may be needed to meet patients' expectations and to allow GPs to provide care in a manageable way. The coexistence of trainees and patients in GP consultations appeared to have symbiotic benefits. Trainees are viewed positively by patients, perhaps through shared experiences of uncertainty, vulnerability, feelings of isolation and the need to learn. Both patients and trainees gain confidence and self-worth by being involved in the care/education of the other. However, there was no evidence of explicit dialogue between patients and trainees that acknowledged these shared experiences in general, or specifically focussing on multimorbidity.

Most notable in its absence was the lack of papers specifically addressing trainees' management of multimorbidity. By nature, training situated in primary care raises many issues that are relevant to multimorbidity, but the absence of focussed consideration of this by trainees suggests solutions to the problems identified are distant, and current trainees may be no better equipped to deal with the complexities. This is an issue that has previously been noted[39]. Also notable was the scant evidence of acknowledgement of each group's experience and thus lack of realisation that all parties may be experiencing similar difficulties.

Linked to the finding from this review that there is no single experience of multimorbidity within and between groups, Sinnott et al[40] conducted a meta-ethographic synthesis of qualitative data pertaining to the conceptual understanding of the challenges of multimorbidity from ten studies reporting GP perspectives. They also identified the problems of a generic approach to service delivery and described four areas of challenge: disorganisation and fragmentation of healthcare; inadequacy of guidelines and evidence-based medicine, challenges in delivering patient-centred care and challenges in shared-decision making. While this is valuable, the authors themselves recognised the need to further understand the challenges of multimorbidity from the patients' perspectives for effective interventions to be developed. This is particularly so as patient-centred care and shared-decision making are necessarily relational, and the organisation of healthcare is clearly a practical challenge for patients as well as GPs. Training future doctors to work in ways that consistently deliver high quality individualised care is also a significant challenge in need of address.

Other studies have highlighted the inadequacy of traditional, single disease based models of service delivery in the context of multimorbidity[41,42]. Barnett et al[43] challenge the use of single-disease frameworks to configure care, research and education arguing that this framework is unfit for purpose. Instead they recommend the development of interventions for personalised comprehensive continuity of care.

Supporting these findings, Noel et al[33,44] explored patients' views on self-management, identifying multiple examples of problematic interactions with GPs. Also relevant are the findings of Fortin et al[45] who identified that psychological stress increased with increases in functional impact of morbidities which in turn could impact negatively on patient engagement. Further, Kuluski[46] compared patients, primary care doctors and care givers' goals in the context of multimorbidity and found that although symptom alleviation and maintaining health goals were similar, aligned of goals deviated in the presence of functional and cognitive decline. This work, in addition to the results of this synthesis, highlights the need for even greater investment in interactions and a better focus on holistic care to maximise patient health and satisfaction. This is a sentiment that has been echoed by a recent report by The King's Fund, which recognises that remaining at home and 'socially engaged' and being able to fulfil expected roles, are important aspects of wellbeing and quality of life for older people[47].

Strengths and limitations

We are not aware of other studies synthesising qualitative data of patients or trainees, nor any that examine all three groups concurrently. Meta-synthesis is a valuable approach that draws together different elements relevant to a question or problem in order to develop new reasoning or understanding. Synthesising qualitative data brings a richer understanding of the topic than reading separate papers individually. This meta-synthesis excluded papers which only contained descriptions or recommendations without any provision of empirical data. Although this may limit the amount of data included, it ensures the results are not based on opinion but empirical evidence. In order to capture a breadth of experience, only papers with a strength rating S1 were excluded. It could be argued that those with S2 rating should also be excluded, however this only applied to one paper which reported trainee data, already sparse, the information contained did provide some novel insights, indicating that more robust trainee studies are likely to support the conclusions of this synthesis. Clearly, only published information can be synthesised. Trainee papers that were not specifically relating to multimorbidity had to be included as there were no papers specifically focussing on this aspect. Although this may be viewed as problematic due to the lack of explicit focus and thus potentially the omission of certain complexities specifically relating to multimorbidity, due to the prevalence of multimorbidity in primary care, the lived experiences of trainees reported in these papers will certainly have included experiences of patients with multimorbidity. Omissions identified within the synthesis do not necessarily represent lack of awareness, knowledge or understanding among each group, but rather a lack of published data about this, and hence areas for further research.

Implications for clinical practice and research

To move service and education delivery forwards there were fundamental elements that all groups agree would form a successful model including; clear role boundaries, long-term, individualised and planned interactions and with adequate, tailored information.

In clinical interactions, discussion of conflicting recommendations for different problems (or a perception of this) should be explicitly facilitated by GPs to help patients to prioritise their management goals. This will involve recognition of the adjustments and losses experienced by patients, discussion about the non-medical elements of patients' lives and concerns and making adequate time available within consultations, particularly for patients with complicating issues such as depression or cognitive impairment. GPs should, and therefore trainees should be trained to, concurrently and explicitly consider longevity and function and the compromises that managing both these issues may require, depending upon the context of the individual patient's values and priorities. To support this, quality assessment of care and services, targets for care and future guideline development and research will need to account for the impact on measurable clinical outcomes that prioritising function over longevity may have.

The involvement of trainees in consultations is valued by patients and should be embraced by GPs and their practices. To ensure trainees are equipped to provide effective, efficient and appropriate care for these patients in the future, training practices need to ensure that trainees are supported to be adequately autonomous, take adequate responsibility, integrate with the primary care team and focus trainees’ attention explicitly on the challenges and approaches to managing multimorbidity in the face of uncertainty and/or discordant conditions and management recommendations. The value patients see trainees as having should be made explicit to trainees to break down the fears identified about not being useful and causing harm. In return, clear plans regarding follow-up and indications for return should be made to patients, to overcome their uncertainties about what constitutes significant symptoms and to ‘invite’ them back to minimise feelings of guilt or judgement about repeated appointments.

GPs can mitigate against the negative experiences of patients and trainees, and potentially some of their own challenges, through explicit discussion and exploration of the experiences of each group during interactions. A good starting point may be education and discussion based on the transformation model[48], which details patients’ responses to receiving a diagnosis of, and living with, a chronic illness. Empirical work is required to investigate the value of this model in the context of multimorbidity and its effect on individualising care, improving patient experiences and promoting agreed goal setting. Further, empirical work examining the interactions of patients, GPs and trainees in the context of multimorbidity is needed, specifically looking at the impact of open discussions about uncertainties and how these are managed, novel primary care service delivery models that address the time, continuity and accessibility issues and the importance of relational continuity. Relational continuity may be a key element of optimal service/education delivery in its own right, however, it may be less important if holistic, planned, coherent, accessible care/education is given with appropriate regard to consideration and negotiation of and, support to fulfil, individualised roles, priorities and desires. The importance of relational continuity should therefore be better understood.

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Figures

Figure 1: Flowchart detailing identification of papers for interpretative meta-synthesis

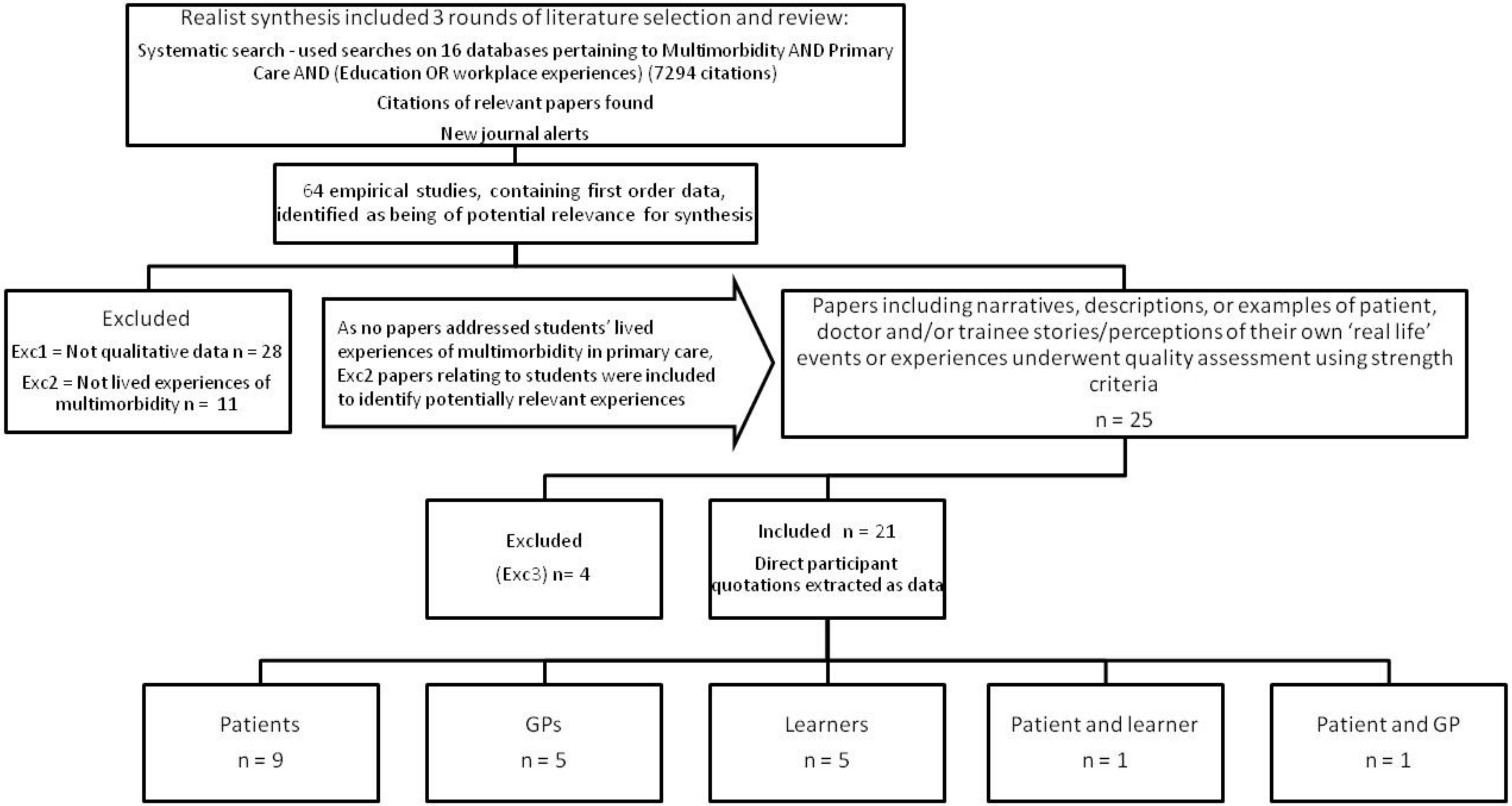
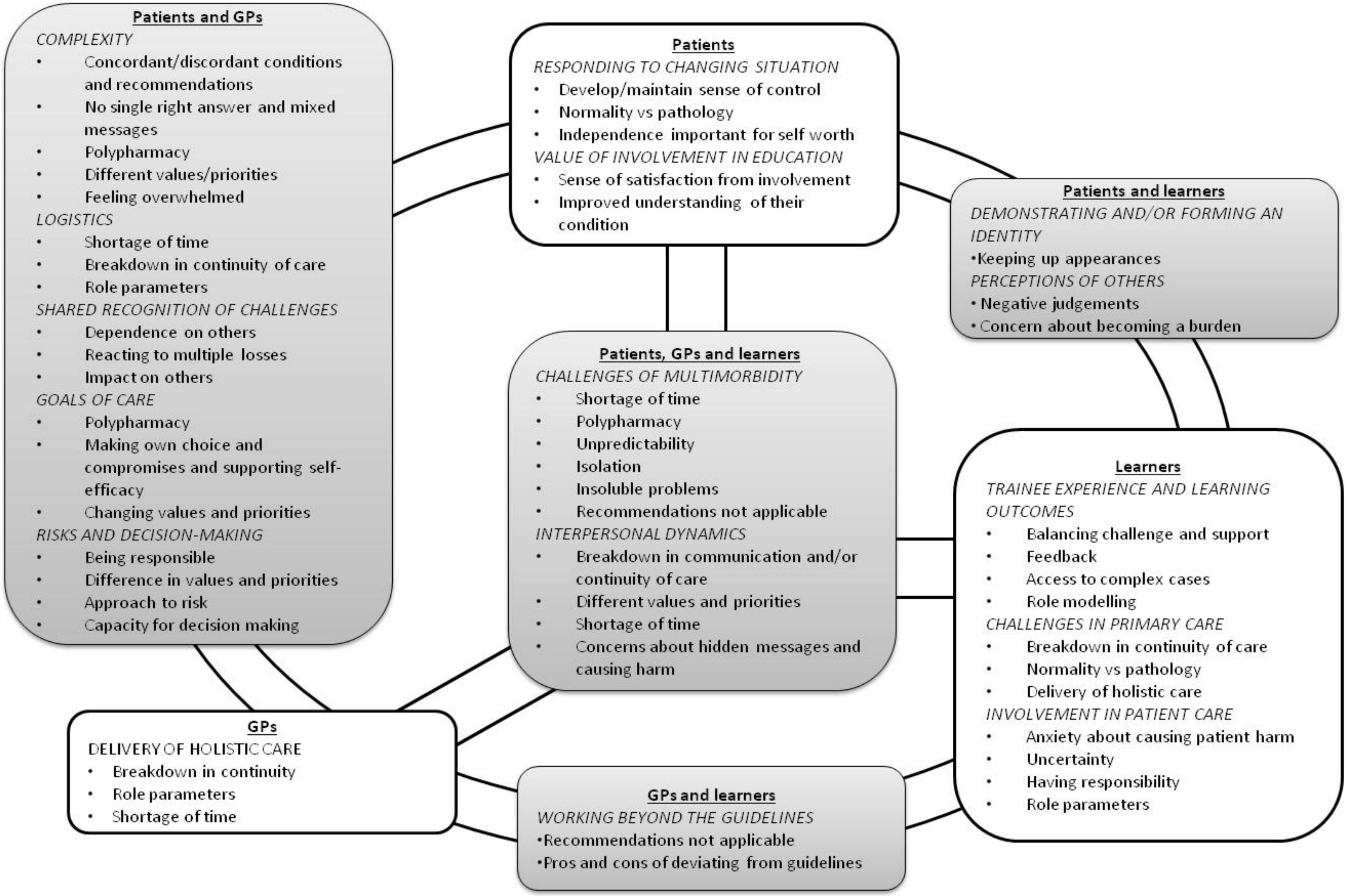


Figure 2: Initial 16 third order themes (capitals) with summary of associated concepts



Patients and GPs

COMPLEXITY

- Concordant/discordant conditions and recommendations
- No single right answer and mixed messages
- Polypharmacy
- Different values/priorities
- Feeling overwhelmed

LOGISTICS

- Shortage of time
- Breakdown in continuity of care
- Role parameters

SHARED RECOGNITION OF CHALLENGES

- Dependence on others
- Reacting to multiple losses
- Impact on others

GOALS OF CARE

- Polypharmacy
- Making own choice and compromises and supporting self-efficacy
- Changing values and priorities

RISKS AND DECISION-MAKING

- Being responsible
- Difference in values and priorities
- Approach to risk
- Capacity for decision making

Patients

RESPONDING TO CHANGING SITUATION

- Develop/maintain sense of control
- Normality vs pathology
- Independence important for self worth

VALUE OF INVOLVEMENT IN EDUCATION

- Sense of satisfaction from involvement
- Improved understanding of their condition

Patients and learners

DEMONSTRATING AND/OR FORMING AN IDENTITY

- Keeping up appearances

PERCEPTIONS OF OTHERS

- Negative judgements
- Concern about becoming a burden

Patients, GPs and learners

CHALLENGES OF MULTIMORBIDITY

- Shortage of time
- Polypharmacy
- Unpredictability
- Isolation
- Insoluble problems
- Recommendations not applicable

INTERPERSONAL DYNAMICS

- Breakdown in communication and/or continuity of care
- Different values and priorities
- Shortage of time
- Concerns about hidden messages and causing harm

Learners

TRAINEE EXPERIENCE AND LEARNING OUTCOMES

- Balancing challenge and support
- Feedback
- Access to complex cases
- Role modelling

CHALLENGES IN PRIMARY CARE

- Breakdown in continuity of care
- Normality vs pathology
- Delivery of holistic care

INVOLVEMENT IN PATIENT CARE

- Anxiety about causing patient harm
- Uncertainty
- Having responsibility
- Role parameters

GPs

DELIVERY OF HOLISTIC CARE

- Breakdown in continuity
- Role parameters
- Shortage of time

GPs and learners

WORKING BEYOND THE GUIDELINES

- Recommendations not applicable
- Pros and cons of deviating from guidelines

Tables

Table 1: Researcher derived strength score descriptors adapted for use in quality assessment for secondary analysis

Strength score	~~Original strength score descriptors(13)~~	Adapted score descriptors used for current secondary analysis	Outcome
S1	~~No clear conclusions can be drawn. Not significant~~	No clear methods leading to results and conclusions; not significant	Exclude paper
S2	~~Results ambiguous, but there appears to be a trend~~	Methods lack detail, although results may suggest a trend (e.g. article covers something unique)	Include paper
S3	~~Conclusions can probably be based on the results~~	Methods appropriate for our research question (population, data generated, data presented)	Include paper
S4	~~Results are clear and very likely to be true~~	Methods are very clear and very likely to yield important data	Include and consider as key paper
S5	~~Results are unequivocal~~	Methods have produced data that are unequivocal	Include and consider as key paper

Table 2: Characteristics of included studies (empirical evidence of perspectives on lived experiences relevant to multimorbidity)

First author/Year*	**Research question/objective**	**Data collection**	**Perspectives: population / number of participants** [studied but not included in current synthesis]	**Country**	**Methodology including analysis**	**Focus on interactions**	**Strength score**
Ashley 2009**(20)	Find out how to optimise learning in ambulatory consultations	Interviews (on exit from teaching consultations) audio-recorded and analysed through replay	Trainees: n=8 year 3 students Patients: n=25	UK	Grounded theory	Interviewed patients and students to compare experiences	S4
Bayliss 2008 (26)	To explore processes of care desired by elderly patients who have multimorbidities that may present competing demands	Interviews audio-recorded and transcribed	Patients: n=26 (+ 5 spouses) multimorbid community dwelling members of not-for-	USA	Thematic analysis	N/A	S4

	for patients and providers to inform the development of future interventions	verbatim	profit Health Maintenance Organisation aged 65-84yr				
Bower 2011 (22)	To explore GP and nurse perceptions of multimorbidity and the influence on service organisation and clinical decision making.	Interviews audio-recorded and transcribed verbatim	GPs: n=15 working in Greater Manchester [Practice nurses: n=10]	UK	Framework analysis and constant comparison	N/A	S3
Bower 2012 (25)	To examine patients' representations of multimorbid long term conditions and to consider the implications for the measurement of illness representations and their use in the design and development of interventions	Interviews audio-recorded and transcribed	Patients: n=28 multimorbid adults aged 39-89yr registered with six general practices in Greater Manchester	UK	Framework analysis and constant comparison	N/A	S3
Cornford 2006 (34)	To investigate the problems encountered by registrars	Interviews and focus group	Trainees: n=32 GP registrars working in the	UK	Thematic analysis	N/A	S4

	during training and asses how trainers and practices support them and to investigate how GP registrar learning exemplifies, expands and differs from the communities of practice concepts described by Lave and Wenger	(n=1) audio-recorded and transcribed	North of England		encompassing several descriptive and interpretive codes		
Cowie 2009 (38)	To examine patients' experiences of continuity of care in the context of different long term conditions and models of care and to explore implications for the future organisation care of long-term conditions	Interviews audio-recorded and transcribed verbatim	Patients: n=33 from seven general practices in South London (n=3 only single morbidity)	UK	Thematic analysis	N/A	S3
Fernald 2001 (37)	To identify from a student's perspective important context and process issues in a	Focus groups (n=24) transcribed	Trainees: n=171 first, second and third-year students from The	USA	Thematic analysis using an ‘editing’	N/A	S3

	longitudinal preceptorship	verbatim by a court reporter	University of Colorado School of Medicine		style of analysis (i.e. no pre-existing theories or hypotheses)		
Fried 2008 (24)	To examine the ways in which older persons with multiple conditions think about potentially competing outcomes, in order to gain insight into how processes to elicit values regarding these outcomes can be grounded in the patient's perspective	Focus groups (n=13) audio-recorded and transcribed	Patients: n=66 aged 65yr with multimorbidity	USA	Thematic analysis using constant comparative method	N/A	S3
Löffler 2012 (23)	How do old aged multimorbid patients cope with their multiple chronic diseases?	Interviews audio-recorded and transcribed verbatim	Patients: n=19 aged 65-85yr	Germany	Constant comparative method from grounded theory	N/A	S3

Luijks 2012** (18)	Explore GPs' considerations and main aims in the management of multimorbidity and to explore factors influencing this management in daily practice.	Focus groups (n=5) audio-recorded and transcribed verbatim	GPs: n=25 working within 40 miles of Nijmegen	Netherlands	Constant comparative analysis	N/A	S4
Mishra 2011 (27)	To investigate patient's perspectives of barriers and facilitators to their multiple medication taking as well as their strategies for self-care.	Focus groups (n=5) audio-recorded and transcribed	Patients: n=50 aged 40yr or older with multimorbidities attending appointments at University Family Medicine outpatient clinic at the University of Maryland, Baltimore School of Medicine	USA	Template analysis	N/A	S3
Morris 2011 (32)	To examine what influences self-management priorities for individuals with multiple long-term conditions and how this	Interviews (longitudinal 1yr) transcribed but	Patients: n=21 from two general practices in the North West of England (4 did not reach end of	UK	Thematic and narrative analysis	N/A	S4

	changes over time	method of recording data not given	study)				
Noel 2005 (33)	To explore the collaborative care needs and preferences in primary care patients with multiple chronic illnesses	Focus groups audio-recorded and transcribed verbatim	Patients: n=60 (48 male) in their 30s-80s with multimorbidity selected from Veterans Health administration from eight clinics in four geographical regions of the USA	USA	Thematic analysis	N/A	S3
O'Brien 2011 (30)	To understand GPs' and practice nurses' experiences of managing multimorbidity in deprived areas and elicit views on what might help	Interviews audio-recorded and transcribed verbatim	GPs: n=15 GPs in four practices in deprived areas of Glasgow [Practice nurses: n=4]	UK	Constant comparative analysis	N/A	S4
O'Sullivan 2000 (36)	To obtain the perceptions of first year clinical medical students of the relative	Interviews and focus groups (n=3) audio-	Trainees: n=42 (n=24 interviews, n=18 focus groups) from University	UK	Thematic analysis using grounded	N/A	S2

	advantages and disadvantages of community-based and hospital based clinical teaching;	recorded and transcribed	College London Medical School		theory		
Russell 2008 (31)	To investigate the experience of family physicians and patients with a chronic illness management initiative that involved the joint formulation of comprehensive individual patient care plans	Interviews (post RCT) audio-recorded and transcribed verbatim, field notes and facilitator narratives also recorded	Patients: n=20 aged 50-90 years (n=3 had spouse or child present) GPs: n=13 [Study facilitators: n=3] From the Ottawa and Hamilton/Wentworth areas of Ontario	Canada	Constant comparative analysis	Both patients and GPs interviewed but no explicit focus on interactions described	S3
Sagasser 2012 (35)	To explore how postgraduate trainees regulate their learning in the workplace, how external regulation promotes self-regulation and which elements	Interviews audio-recorded and transcribed	Trainees: n=21 first and third-year GP trainees from the universities of Nijmegen and Maastricht	Netherlands	Thematic analysis	N/A	S4

	facilitate or impede self-regulation and learning.						
Schuling 2012 (29)	Too explore how experienced GPs feel about deprescribing medication in older patients with multimorbidity and to what extent they involve patients in these decisions.	Focus groups (n=3) audio-recorded and transcribed verbatim	GPs: n=29 with a minimum of 5 years experience and active GP Trainers	Netherlands	Thematic analysis	N/A	S3
Smith 2010 (28)	Explore the views and attitudes of GPs and pharmacists managing patients with multimorbidity in primary care	Focus groups (n=2 GP, n=1 pharmacists) audio-recorded and transcribed	GPs: n=13 tutors for undergraduate medical students at Trinity College Dublin [Pharmacists: n=7]	Ireland	Framework analysis	N/A	S3
Townsend 2012** (17)	Advance understandings of the lived experience of multimorbidity in broader cultural and structural settings	Interviews (two interviews three weeks apart) audio-recorded and	Patients: n=8 in their early 50s, who had four or more chronic illnesses and high consulting rates	UK	Grounded theory	Methods designed to look at patients' experiences of patient-doctor	S4

		transcribed verbatim	selected from a longitudinal community health survey in the West of Scotland			interactions	
Van der Zwet 2010** (19)	To clarify how medical students learn by participating in general practice and the role of the socio-cultural context therein	Focus groups (n=7) audio-recorded and transcribed verbatim	Trainees: n=44 year 5 students at Maastricht University in week 8-9 of a 10 week general practice clerkship	Netherlands	Thematic analysis leading to a conceptual model	'...questions were asked about the nature of the students' participation, their position and role in the practice and how these elements influenced their learning experiences.'	S4
***See list of citations for full references of papers included in the review**							

****Key papers (see figure 1 for details)**