BMJ open

GPs' perspectives on the management of patients with multimorbidity: systematic review and synthesis of qualitative research

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To cite: Sinnott C, Mc Hugh S, Browne J, *et al*. GPs' perspectives on the management of patients with multimorbidity: systematic review and synthesis of qualitative research. *BMJ Open* 2013;**3**:e003610. doi:10.1136/bmjopen-2013-003610

► Prepublication history and additional material for this paper is available online. To view these files please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2013-003610).

Received 17 July 2013
Accepted 2 August 2013

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ABSTRACT

Objective: To synthesise the existing published literature on the perceptions of general practitioners (GPs) or their equivalent on the clinical management of multimorbidity and determine targets for future research that aims to improve clinical care in multimorbidity.

Design: Systematic review and metaethnographic synthesis of primary studies that used qualitative methods to explore GPs' experiences of clinical management of multimorbidity or multiple chronic diseases.

Data sources: EMBASE, MEDLINE, CINAHL, PsycInfo, Academic Search Complete, SocIndex, Social Science Full Text and digital theses/online libraries (database inception to September 2012) to identify literature using qualitative methods (focus groups or interviews).

Review methods: The 7-step metaethnographic approach described by Noblit and Hare, which involves cross-interpretation between studies while preserving the context of the primary data.

Results: Of 1805 articles identified, 37 were reviewed in detail and 10 were included, using a total of 275 GPs in 7 different countries. Four areas of difficulty specific to the management of multimorbidity emerged from these papers: disorganisation and fragmentation of healthcare; the inadequacy of guidelines and evidence-based medicine; challenges in delivering patient-centred care; and barriers to shared decision-making. A 'line of argument' was drawn which described GPs' sense of isolation in decision-making for multimorbid patients.

Conclusions: This systematic review shows that the problem areas for GPs in the management of multimorbidity may be classified into four domains. There will be no 'one size fits all' intervention for multimorbidity but these domains may be useful targets to guide the development of interventions that will assist and improve the provision of care to multimorbid patients.

ARTICLE SUMMARY

Strengths and limitations of this study

- The metaethnographic approach used in this review gave a broader understanding of the challenges of multimorbidity than any single study, while still preserving the context of included studies.
- We focused on the general practitioners' perspective on multimorbidity—an understanding of the challenges experience by patients is also required to inform the development of effective interventions.

INTRODUCTION

Multimorbidity, the coexistence of two or more long-term conditions in one patient, is increasingly the norm in primary care chronic disease management.[1 2] The management of patients with multiple morbidities presents unique challenges to healthcare providers, and there is evidence that patients with multimorbidity receive a lower quality of care than those with single diseases.[3 4] Healthcare utilisation, hospitalisation rates and total healthcare costs are higher among multimorbid patients, even in systems where access to secondary care is restricted to referral by a primary care physician.[5–7]

The epidemiology of multimorbidity is thus well described, and there is currently a need for interventions to improve healthcare in this patient group.[8 9] A necessary step in the development of interventions is to understand why problems arise and what processes in the delivery of care are amenable to change. Interviews with stakeholders, such as healthcare providers, can be important sources of this information.[10] To date, qualitative studies from a range of countries have elicited general practitioners' (GPs') views on challenges in the clinical management of multimorbidity, with diverse and sometimes conflicting findings. A synthesis of these studies has the potential to achieve a greater

conceptual understanding of the challenges associated with multimorbidity than a single empirical study.

Metaethnography, one of the most commonly used methods for synthesising qualitative research studies, employs a process of comparison and cross-interpretation between studies while preserving the context of primary data.[11] Similar to traditional systematic reviews, this process can generate new insights, highlight gaps in our knowledge and identify areas of data saturation where no further primary research is required.[12]

An awareness of the overall picture of the challenges faced by GPs in multimorbidity is needed to direct research efforts and intervention design in this field. To achieve this, we synthesised and analysed the existing literature on the views of GPs on the management of multimorbid patients and determined targets for future research to improve multimorbidity care.

METHODS

The seven-step model of metaethnography described by Noblit and Hare[13] was used.

The first step involved *a clear statement of the specific research question* and the contribution it will make to the field.

In step 2, *a search strategy* was devised to retrieve articles related to this aim. We focused our search to locate primary studies that used qualitative methods to explore the clinical management of multimorbidity or multiple chronic diseases by GPs or their equivalent. We searched seven databases using database-specific search terms and validated methods for retrieving qualitative studies: EMBASE (Elsevier), MEDLINE (Ovid), CINAHL, PsycInfo, Academic Search Complete, SocIndex, Social Science Full Text (all Ebsco; see online supplementary appendix 1).[14–17] We supplemented this by searching databases of grey literature and reference lists. The search was not limited by language or dates of publication. The titles and abstracts of retrieved citations were read by one reviewer (CS). Full articles were ordered for all potentially relevant abstracts.[18] These articles were reviewed by two researchers (CS and CB) and were included if they fulfilled our inclusion criteria. Studies that examined the management of multimorbidity as part of a wider research question were included. We assessed the quality of included studies using the Critical Appraisal Skills Programme (CASP) for qualitative research.[19] Assessment of study quality was not a criteria to exclude studies that otherwise met the inclusion criteria, but gave useful insights into the methods used for data collection and analysis.

Step 3 of the metaethnographic synthesis involved *reading the studies*. Initially two reviewers (CS and CB) read and re-read the included studies, and independently listed the main findings from each one. Study findings were defined as all data in the results and discussion sections of the included articles—including both the first-order interpretations (views of the participants) and second-order interpretations (views of authors). In studies in which GPs were interviewed with another healthcare professional, the analysis was restricted to the views of the GP where possible.

In step 4, we *determined how the studies were related* to each other by comparing individual study findings. Four key concepts were chosen which reflected the main findings of all included studies. We also abstracted data on standard fields, such as study aims, design, methods, setting and participants (see online supplementary appendix 3).[20] Data were entered into QSR International's NVivo V.9 software to assist our qualitative analysis and synthesis.[21]

In step 5, studies were *translated into each other* by examining the contribution of each study to a key concept. Within the key concepts, similarities and differences in study findings and contexts were noted, and deviant cases were sought. To address the potential for clinical bias a third reviewer with a non-medical background (SMH) independently read all included articles and cross-checked the derivation and development of the key concepts.

In step 6, we *synthesised the translations* in each key concept to develop third-order interpretations, or higher levels of abstraction of the data for each key concept. We linked the third-order interpretations using a 'line of argument', which represented the overarching perspective of GPs towards multimorbidity.

The final step involved expressing the results of the synthesis, for which we used tables, figures and text. The 'Enhancing transparency in reporting the synthesis of qualitative research' (ENTREQ) statement was used to inform the reporting of our results (see online supplementary appendix 4).[22] Additionally, a summary of our findings were provided to the first authors of all included articles, to validate our findings as representative of the original sources.

Results

The electronic database search returned 2005 citations, leaving 1805 citations after removal of duplicates (figure 1). A further 1768 citations were excluded by reading the title or abstract: 48 did not concern primary care, 891 were not qualitative studies, 769 did not concern multimorbidity and 60 did not concern the GP's perspective. Full-text articles were retrieved for 37 citations. Eleven of these were excluded because they did not use qualitative methods. A further 16 articles were excluded because, although they concerned patients with multiple chronic diseases, their exploration was focused on the management of an index disease. One possible relevant citation was in abstract form only (the study authors were contacted and the full account of this data has not been published yet; see online supplementary appendix 2). One additional study was retrieved from reference searching of the nine remaining studies. Ten studies were included in the final synthesis (table 1).

The included studies were conducted in seven countries: Belgium, England, Germany, Ireland, Scotland,

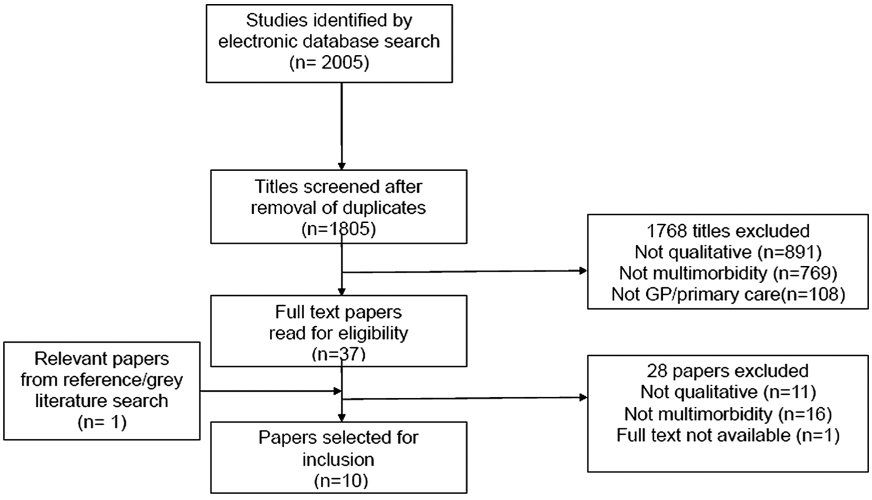

Figure 1 Flow diagram of search.

The Netherlands and the USA. A total of 275 GPs were involved; five studies used focus groups and five used interviews with individual GPs. One of the included articles was published in German. The authors were contacted for an English translation and as none was available the article was translated by a native German speaker in collaboration with CS. The overall quality of the 10 included studies was high, with all articles meeting the majority of CASP criteria. The most common weaknesses were related to data saturation (not reported in six studies)[23–28] and reflexivity (not discussed in five studies).[25–27 29 30] GPs with academic/research affiliations were over-represented as research subjects in five studies, representing a potential source of bias.[23 26 29–31]

Six studies primarily focused on multimorbidity. In these, multimorbidity was defined for study participants as two or more chronic diseases[24 26 29 32] or introduced to participants using a multimorbid case vignette[30] or an editorial on multimorbidity.[23] Four studies retrieved by our search did not focus primarily on multimorbidity but were included as multimorbidity emerged as an important issue for study participants; two studies addressed polypharmacy[28 31] and two explored the role of guidelines in primary care.[25 27]

Translation of included studies

GPs in all studies reported challenges in multimorbidity, which they faced with 'moderate optimism to something close to despair'.[30] Even in the context of deprivation, some participants reported feeling like a 'wrung out rag' after complex multimorbidity consultations while others felt 'energised' by the 'privilege and rewards' that could be obtained from working in such a complex environment.[24] Four key concepts that reflected the principal findings of all included studies were determined. These are reported below and shown in table 2. Within each key concept, subthemes arose and are highlighted in bold.

Disorganisation and fragmentation of healthcare

The included studies covered a range of different health systems, all of which lacked specific systems for treating patients with multimorbidity. In most studies this lack of organisation hampered care by causing logistical difficulties and excess consultation demands on the patient and their GP. Only one study mentioned that these problems were not serious enough to warrant a change in service organisation.[29]

The prevailing **structure of primary healthcare** reduced GPs' ability to respond to the needs of patients with multimorbidity. Insufficient consultation time led to amended or suboptimal approaches in many cases.[23 24 29] It was suggested that weighting consultation lengths to the complexity of multimorbidity would facilitate more effective management.[23 29]

Fragmented care resulted from 'the involvement of several medical specialists, who each emphasize the importance of 'their' guideline'[30] and 'poor communication from specialists and hospitals to the family physician'[31] which meant that 'coordination and overview on medication were hard to maintain'.[32] In some studies, GPs had a broad sense of responsibility towards overseeing and screening patients' medications[28 31 32]; others were unsure about their role in screening prescriptions and felt that a clear line of responsibility was required.[23] It was suggested that specialists did not 'consider the wider harms and benefits of organ-specific intervention', thereby adding to the problems of multimorbidity, in contrast to GPs who had a 'holistic' view of the patient; 'The cardiologists, you know, don't mind if they bleed to death'.[26]

Despite these reservations, the input of specialists was desired. A 'balance of equals' was called for, that would allow GPs and specialists to discuss complex patients and improve the awareness of complexity in multimorbidity among specialists.[23 31] This would help all doctors involved 'to speak with one voice. Different stories provoke distrust'.[30]

Table 1 Characteristics of included studies

First author	Objective	Data collection	Participants (n)	Qualitative methodology/ analysis	Country	Year of publication
Smith *et al*[23]	To explore the views and attitudes of GPs and pharmacists managing patients with multimorbidity in primary care	Focus group with topic guide; participants were given a published editorial on multimorbidity before hand	GPs[13] and pharmacists. GPs were tutors to undergraduate medical students, worked in a mix of rural/urban, deprived/affluent practice and varied by gender and years of experience	Framework	Ireland	2010
O'Brien *et al*[24]	To understand GPs and practice nurses' experiences of managing multimorbidity in deprived areas and elicit views on what might help	Individual semistructured interview facilitated by researched topic guide	GPs[15] and nurses, working in areas of high deprivation in Scotland	Constant comparison	Scotland	2011
Steinman *et al*[25]	To investigate clinician attitudes about the usefulness of heart failure guidelines in patients of various ages/morbidity	Telephone-based interview using Likert scales followed by open-ended questions	Primary Care Practitioners (48/58) and Internists (10/58) responsible for suboptimally managed patients with heart failure	Content analysis	USA	2012
Fried *et al*[26]	To explore clinicians' perspectives of and experiences with therapeutic decision-making for older persons with multiple medical conditions	Focus groups with broad discussion initially then focused questions on polypharmacy, side effects and evidence-based medicine in multimorbidity	GPs[36] purposively sampled to vary on academic, community and Veteran Affair settings	Content analysis	USA	2011
Solomon *et al*[27]	To explore the relationship between prescribing guidelines and patient partnership by exploring the attitudes of patients, GPs and PCT prescribing advisors	Semistructured interviews	GPs[8] sampled using maximum variation by location, gender, single versus group practice	Framework	England	2012
Anthierens *et al*[28]	To describe GPs' views and beliefs on polypharmacy	Semistructured interviews	65 GPs working in mixed rich/poor urban environment	Content analysis	Belgium	2010
Bower *et al*[29]	To explore GP and nurse perceptions of multimorbidity and the influence on service organisation and clinical decision-making	Individual semistructured interview using topic guide with questions and case vignettes	GPs[15] and nurses, working in a pay for performance system (NHS). Purposively sampled from research network, to vary on list size and deprivation	Framework	England	2011
Schuling *et al*[30]	To 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	GPs[29] split into three groups. All were GP trainers of at least 5 years experience 'used to reflecting on their practice'	Thematic	The Netherlands	2012
Marx *et al*[31]		Focus groups			Germany	2009

Continued

Table 1 Continued

First author	Objective	Data collection	Participants (n)	Qualitative methodology/ analysis	Country	Year of publication
	To explore the 'dilemma of polypharmacy' in primary care		GPs[21] 3 Focus groups with a mix of fulltime GPs, junior and senior academic GPs. Conducted at an academic GP conference	Mind maps and grounded theory		
Luijks *et al*[32]	To explore GPs' considerations and main aims in the management of multimorbidity, and factors influencing this management in daily practice	Focus groups using an interview guide	Purposively sampled GPs,[25] with/without involvement in training/academia, in five focus groups	Constant comparison	The Netherlands	2012

GP, general practitioner; NHS, National Health Service; PCT, primary care trust.

Inadequacy of guidelines and evidence-based medicine

There was concern among GPs about clinical guidelines, which are 'generally written for sole conditions' and do not account for 'the unique circumstances of each patient'.[25 27] Most GPs felt that guidelines were less useful in multimorbidity and that they actually **added to the complexity** in some cases: 'no one can tell you the added benefit of an additional agent for blood pressure if you are already on ten'.[26 30] However, others felt that using guidelines in multimorbidity ensured that patients received the best quality care: 'why should their asthma be treated any differently just because they've got asthma and heart disease and you know osteoporosis or whatever'.[29]

GPs doubted whether the **evidence underpinning guidelines** could be extrapolated to patients with multimorbidity: 'the guidelines are going to be set for optimum situations, and someone with multiple comorbidities [is] not going to be optimum'.[25–27 31] They also questioned the **relevance of disease-specific outcomes** and guideline recommendations on the use of primary prevention (ie, antihypertensive or lipid-lowering agents) in multimorbidity, preferring to orient management to symptoms or quality of life.[23 25]

GPs used **modified approaches to guidelines**, involving, for example, the estimation of risk associated with particular diseases/treatments.[26 30] However, some felt that this modification was in conflict with 'best practice' and felt guilt at not implementing guidelines fully.[24 30] Initiatives that linked **physician reimbursement** with adherence to guidelines were seen as a threat to GPs' ability to deliver patient-centred care.[24 26]

Challenges in delivering patient-centred care

In response to the various demands of multimorbidity, GPs recognised the importance of delivering patient-centred care, which incorporated two principal concepts: an **individualised management** and a **generalist approach**.[23–26 28–32] Delivering patient-centred care was seen as an aid for some but a challenge for others. For instance, some GPs felt that taking a broader view of the patient, incorporating non-medical or psychosocial issues, increased the level of complexity in their management.[24] However for others, adopting a patient-centred approach was seen as a way of resolving the conflicts and uncertainty that can occur, particularly with coimplementation of multiple sets of guidelines.[24 32]

In most studies, the **longitudinal nature of the patient–GP relationship** was seen as a 'major facilitator' and 'elementary component' of patient-centred care in multimorbidity.[23 24 28–32] Within the specific context of deprivation, longitudinal care was 'potentially transformative' by providing 'time to build relationships with patients' but it was also a source of problems, by creating dependence and increased demands by patients for consultations.[24] The **impact of treatment burden** was an important consideration given the greater costs and risk of adverse drug events associated with the use of

Table 2 Translations between studies with third order interpretation and line of argument formation

First author	Disorganisation and fragmentation of healthcare	The inadequacy of guidelines and evidence-based medicine	Challenges in patient-centred care	Challenges in shared decision-making
Smith *et al*[23]	*lines of communication need time and nobody appears to have time collusion of anonymity, which is, you know, this is not my patient, not my patient*	the paradox faced by conscientious GPs in attempting to balance the potentially competing demands of health promotion, evidence-based medicine and the use of multiple medications	a focus on function and quality of life was preferable to considering specific-disease outcome measures	*..decision making very difficult to achieve.* decisions were linked to the theme of avoidance of complex issues which…can appear to become increasingly problematic and unsolvable
O'Brien *et al*[24]	adaptation of existing practice systems, particularly appointment length, relationship continuity and referral systems for resources outside primary care, may improve services from the perspectives of professionals	*need .. to demonstrate that we are interested in (patients) as a person, not someone who has heart failure*	wanted to develop relationships with patients because she thought that greater understanding of their circumstances would help her get to the root of (medical) problems	*there was a need to address 'a bit of the patient's agenda and our agenda' within consultations*
Steinman *et al*[25]	–	…those with multiple comorbid conditions were more likely to experience harm from aggressive guideline-based treatments guidelines represent a criterion standard of evidence-based care…. regardless of patient age or comorbid burden	*Each patient is a unique situation and is not going to be the same as another patient…. We have to go by the individual patient, by the patient's comfort, how is he feeling and how is he doing*	a suggested approach to decision making for older adults that provides guidance on prioritising care, accounting for comorbid conditions and factoring in the role of estimated life expectancy
Fried *et al*[26]	fragmentation of care for patients who receive care for their multiple conditions from many physicians. the limitations imposed by current reimbursement systems, which fail to acknowledge the complexities of caring for older persons with multiple conditions	*If they cannot manage … I am not going to complicate it further by adding something to get to the goal range.* other clinicians believed that guideline-directed care would produce the best outcomes	Tailoring their approach … from a consideration of such factors as patients' cognition and availability of social support	…conflicts between what they wanted to do for the patient and what the patient wanted …patients' and families' inaccurate understanding of harms and benefits, and they described performing testing to help patients understand their risk
Solomon *et al*[27]	-	there was a perception that real patients differ from those recruited to the trials that inform guidelines	Many GPs felt they needed to be able to interpret guidelines in the context of individual patients	to reach a compromise by following guidelines and accommodating patient factors, such as patient preferences or the patient's ability to tolerate medicines
Anthierens *et al*[28]	*The coordination of the medication regime of different disciplines is a tough job…*	preventive aims are often minimal considering their age and polypathology, which is in contrast with	*As a GP you have a broader view of your patient. You look at him/her from his own life*	They have a holistic view of the patient because of the long-standing doctor–

Continued

Table 2 Continued

First author	Disorganisation and fragmentation of healthcare	The inadequacy of guidelines and evidence-based medicine	Challenges in patient-centred care	Challenges in shared decision-making
		guidelines talking about one specific disease		patient relationship….. a very tough job for GPs with major implications for their workload
Bower *et al*[29]	clash between services and the needs of patients was most salient in terms of logistics and inconvenience Difficulties in information sharing between professionals meant that patients often had to co-ordinate care	…ambivalence about the need to consistently change clinical practice to reflect multimorbidity *…why should their asthma be treated any differently just because they've got asthma and heart disease and you know, osteoporosis or whatever*	*Weighing up what that patient can manage on the conditions they have, as to what it actually says to do.* benefits of continuity of care in patients with multimorbidity	Dealing with multiple competing agendas in multimorbidity was important. limited impact of multimorbidity on clinical decision making
Schuling *et al*[30]	…medication lists of the doctors involved are not exchanged and are consequently inconsistent. …several healthcare providers are involved in a patient's treatment and communication is sometimes poor	*guidelines are kind of a hindrance. At the moment they do not cater for older patients.* *I have difficulty not following the guidelines if I don't have good reasons to do so*	GPs report to support the concept of a patient-centred management as best practice *take her quality of life into account and ask myself will she live long enough to benefit from this (preventive) drug?*	the importance of exploring patient preferences about treatment goals, in practice GPs appear hesitant. … GPs tend to avoid discussing withdrawal of preventive medication with their elderly patients
Marx *et al*[31]	poor communication from specialists and hospitals to the family physician highlights the need for professional discussion on the one hand and avoiding unnecessary medication by 'multiple prescribers on the other hand	The desire of family doctors to deliver the best possible patient care quickly leads to polypharmacy, if guidelines are used	conflict arose in the actions of GPs trying to deliver personalised care to individuals and trying to delivering guideline orientated care	uncertainty could be counteracted by good communication between the doctor and patient. the patient and the doctor are in an interactive process, which necessitates careful negotiation
Luijks *et al*[32]	in multimorbidity, fragmentation of care is a pitfall …. stimulated by disease-centred reimbursement systems impeding multimorbidity management … insufficient time and compensation	adhering to standard regimens or strict guidelines was unwanted, as it contradicts their integrated perception of a unique person with a specific combination of diseases	A personal patient–doctor relationship was considered a major facilitator in the management of multimorbidity patient-centredness can be regarded as 'tool' to counteract multimorbidity's potential pitfalls	GPs agreed that they want to involve their patients' perspectives and preferences into the decision-making process
Third order interpretations	The involvement of multiple specialists each operating on a single disease paradigm without an overview of the 'whole patient' leads to fragmented care in patients with	GPs have reservations about the outcomes and risk-benefit of guidelines in multimorbid patients. Although useful as a template, GPs feel that guidelines offer them less guidance or support	Patient-centred care is an over-riding principal for GPs in multimorbidty and incorporates the principles of individualisation and generalism. Trying to achieve this aim increases the complexity of care in	While GPs recognise the importance of involving patients in decision-making process, they have difficulties in doing so. Communicating risk and outcomes in way that

Continued

Table 2 Continued

First author	Disorganisation and fragmentation of healthcare	The inadequacy of guidelines and evidence-based medicine	Challenges in patient-centred care	Challenges in shared decision-making
	multimorbidity. Single disease care is antagonistic to the goals of GPs in primary care. This problem is compounded by poor co-ordination and communication within the health service, leaving GPs feeling excluded from their patients care and with a sense of uncertainty regarding their role	for multimorbid patients and may in fact cause additional problems when they try to adhere to them	some cases, and can lead the GP into additional conflict with specialist services or evidence based medicine	will engage patients in the decision-making process is an area that GPs feel unskilled in, thereby limiting the patients influence as factor that would help the decision making process

Italicised extracts represent first-order interpretations (views of participants in included studies). Non-italicised extracts represent second-order interpretations (views of authors of included studies).
GP, general practitioner.

multiple medications.[23 29 32] This burden was compounded by certain **patient characteristics** such as cognitive or memory problems, poor social supports and finances and low levels of motivation [23–26 28 29] which were likely to affect the patient's ability to understand and adhere to treatment.[25 26 30–32]

Challenges in shared decision-making

Shared decision-making was considered to be more complicated in the context of multimorbidity due to many of the issues discussed above. The importance of eliciting patient's preferences was widely acknowledged, but GPs had difficulties doing this in practice.[30 32] GPs reported that many patients actively participate in decision-making, can prioritise and are 'good with trial and error'.[29 30] However, for certain patients making choices could be a 'source of distress' and contributed to them becoming 'over the top anxious about their conditions'.[29] Discussing the **risks and outcomes associated with treatment options** in a way facilitated that patient involvement was particularly challenging, as was discussing the balance between quantity and quality of life.[24–26 30 32] In response to difficulties in shared decision-making, GPs employed a range of techniques including **prioritisation** of the doctor's or the patient's agenda,[28 29 31] **avoidance** of decision-making,[23 30] drawing on one's own **personal experience**[31] or using **additional investigations** to support a decision.[26]

Enhanced-**communication skills** were seen as necessary in multimorbidity to facilitate clear and concise discussion with patients on the interplay between their chronic diseases and to help with **de-prescribing** medications, which if carried out badly could be interpreted as withdrawing care.[26 30 31] GPs felt that they had a pivotal role to play when patients were in the advanced stages of a chronic disease but due to multimorbidity may no longer be receiving specialist input. In this setting, adopting a palliative approach may be useful when making decisions on medications.[30 32]

Third-order interpretations and the 'line of argument'

By synthesising the individual contributions of each study to the key concepts, third-order interpretations were generated and linked using a 'line of argument' (table 2).

1. Disorganisation and fragmentation of healthcare: The involvement of multiple specialists and the emphasis on single disease care is antagonistic to the 'holistic' goals of GPs. This problem is compounded by poor co-ordination and communication within the health service, leaving GPs feeling excluded from their patients' care and with a sense of uncertainty regarding their role.
2. The inadequacy of guidelines and evidence-based medicine: Guidelines offer GPs less support in the management of multimorbid patients and may in fact cause additional problems when they try to adhere to them.
3. Challenges in delivering patient-centred care: Patient centredness is an over-riding principal for GPs in multimorbidity but trying to achieve this increases the complexity of care in some cases, and can lead the GP into additional conflict with specialist services or evidence-based medicine.
4. Challenges in shared decision-making: The patient's role in decision-making in multimorbidity is limited by difficulties in communicating risk benefit and outcomes in a field where there is much more uncertainty on these issues.

These key concepts represent four problematic domains in the provision of healthcare in multimorbidity, as seen by GPs. The line of argument linking these domains suggests that GPs feel isolated in the management of patients with multimorbidity, a group that they are specifically tasked with caring for.

Discussion

The studies presented here used a bottom-up approach to explore the management of patients with multimorbidity. This article is the first to our knowledge to systemically review and synthesise their findings, and demonstrates the diversity in how GPs see this issue. The difficulties that GPs encounter span a number of clinical domains including system factors, the evidence base for chronic disease management and their own communication skills in the context of multiple physician and patient agendas. These findings are important because they highlight the separate but interacting areas of clinical practice that require intervention to improve care in multimorbidity. Thus, this study is additive to the findings of the individual studies reviewed; synthesising the contributions of existing qualitative investigations in this area has led to a broader description and fuller understanding of the range of challenges that exist. Given the considerable overlap and repetition of data that emerged from the primary studies, it is unlikely that further scoping work on the challenges in multimorbidity will be useful. However, despite the commonalities, the significance of each domain varied between settings. Further research should focus on the reasons why some domains matter more in particular settings and how local factors modify and influence these domains, with a view to exploring the solutions that exist and identifying those solutions.[33] There will not be a 'one size fits all' intervention to support and improve the quality of care in multimorbidity. However, the domains that have emerged from this review give a useful framework for future work in this field.

Comparison with other research

Disorganisation and fragmentation of care

Integrating patient care across services is important in all aspects of medicine, but there is a pressing need to address this in multimorbidity. Patients attending four or more doctors experience problems such as conflicting medical advice, unavailable test results and duplication of tests more commonly.[34] Our study indicates that, across settings, GPs receive poor communication from other care providers in multimorbidity, leaving them guessing about the course of management. Enhanced use of information technology may support more seamless multimorbidity care, by allowing bidirectional communication and local integration between care providers.

Satisfaction with prevailing health systems also varied between studies. Generalisations relating to a health system cannot be made from one single study, but this divergence is worthy of further exploration. For instance, a comparative analysis, using a multimorbidity perspective, of the strengths and weaknesses between the UK system (which uses explicit quality frameworks for chronic disease management) and a health system without such an approach may help inform policy and the development of interventions at health system level.

Inadequacy of guidelines and evidence-based medicine

GPs in the studies reviewed here desired evidence on which to base their management but had mixed feelings on the clinical utility of guidelines as they currently stand. This finding is supported by prior studies showing that, internationally, few guidelines offer modified advice for patients with multimorbidity.[35 36] To increase the relevance of clinical guidelines for multimorbid patient, our findings thus support the call for greater representation of multimorbid patients in trials and greater involvement of GPs in the writing of guidelines.[37]

Chronic diseases can occur in combinations that are concordant (have synergies in treatment) or discordant (conflicting treatments or interactions).[4] Although the synergies between certain conditions were discussed in the articles reviewed here, examples of specific discordant conditions were rare. It would be useful to explore what discordant combinations commonly occur in practice. This information could be used to inform the development of caveats in guidelines, educational initiatives or prioritisation tools that would support safe approaches to competing diseases.[38]

Delivering patient-centred care

This domain emerged as an intuitive and over-riding goal of GPs in all studies, and interventions in multimorbidity must help GPs deliver on this aspiration. Continuity of care emerged as an important tenet of patient-centredness and should be promoted in any such interventions. Three subtypes of continuity of care have been previously described[39]; of these, both informational and management continuity were seen here as necessary for patient safety and cohesive management. However, it was relational continuity that appeared to most facilitate care in multimorbidity, by allowing GPs to foster trust, anticipate preferences and empower their patients over time. Multimorbid patients that GPs felt required particular assistance are those with cognitive impairment, mental health issues or low social support, and accordingly may require nuanced interventions to support their care.

Challenges in shared decision-making

Shared decision-making is facilitated by many aspects of primary care.[40–42] Nevertheless, GPs in the studies presented here sought additional skills in shared decision-making in multimorbid patients, especially for complex decisions that involve not prescribing or discontinuing medications. It is known that interventions to improve shared decision-making may fail due to barriers such as lack of time and perceived lack of suitability of the patient.[43 44] Given the overlap between these

barriers and those that GPs encounter in multimorbidity, it is likely that special attention is warranted for the development of models of decision-making for multimorbid patients. Evaluating existing models of shared decision-making, such as the choice talk/option talk/decision talk model described by Elwyn *et al*[45], in clinical encounters with multimorbid patients may be a useful place to start this process.

Usefulness of metaethnography

The systematic approach of metaethnography as applied in this study has several strengths. It provides a fuller description of multimorbidity care while preserving the important contextual features that are inherent in general practice research. Our themes, developed from the experiences of 275 participants, indicated considerable overlap from each of the primary studies. Nevertheless, different opinions within particular themes gave useful insights into how system factors and context can influence practice.

Robustness of findings

The step-by-step approach followed in our analysis generated themes in a transparent and reproducible manner. The robustness of our findings is supported by several features. First, the quality of the studies reviewed was assessed using a published framework and quality levels were uniformly high. Second, there was concordance in the themes derived by non-clinical and the clinical reviewers on the research team. Third, the findings from our analysis were disseminated to the authors of the primary studies. In the resulting feedback, the authors felt that their results were represented within the findings of the synthesis.

Limitations and challenges

Retrieving qualitative studies from biomedical databases is challenging despite recent advances in the indexing of qualitative literature. We used validated combinations of qualitative search terms to optimise the list of citations returned.[14–17] Furthermore, we also used non-biomedical databases to ensure that relevant articles in the sociology or psychology literature were not missed.[18]

Multimorbidity is not a Medical Subject Heading (MeSH) term and there is a lack of consensus on what the term means or encompasses with regard to diseases and disease severity.[46] We used a broad but less specific search strategy to account for this (see online supplementary appendix 1), which resulted in the retrieval of articles with important information on multimorbidity, but whose original focus was not on this issue. Achieving consensus on the definition of multimorbidity will be important for the generalisability of findings and evaluation of future interventions in this field.

The term 'multimorbidity' was first discussed in the literature in 1976; however, the first article that we found to have investigated this issue with GPs using qualitative methods was published in 2009. This lag mirrors the recent surge in quantitative research investigating multimorbidity, which may be explained by the increasing prevalence and economic impact of multimorbid patients.[47]

There was no language restriction used for inclusion of studies, and translations of potentially relevant titles and articles were conducted. However, we could have missed articles not listed on English language databases.

Although the quality of included studies was generally good, the over-representation of academic GPs as participants was a potential source of bias and may limit the generalisability of our findings to the overall GP population. Future studies should endeavour to include GPs outside of the academic field to ensure that the full range of clinical challenges is explored.

The primary data in our review originated from focus groups or clinical vignettes, reflecting what clinicians say rather than what they do. It would be valuable to use case-based data in future studies, to see, for example, what specific conflicts arise between guidelines and how shared decision-making is currently broached in practice. Such data would also help inform educational programmes in multimorbidity for GPs and GP trainees.

Our findings are limited to the challenges experienced by healthcare professionals in management of multimorbidity; the patient perspective also requires consideration. Elderly patients report functional decline, poor quality of life and high healthcare costs as major consequences of multimorbidity and accordingly these factors should be incorporated into interventions design in this area.[48]

Conclusions

This systematic review shows that the problem areas for GPs in the management of multimorbidity may be classified into four domains: disorganisation and fragmentation of healthcare; the inadequacy of guidelines and evidence-based medicine; challenges in delivering patient-centred care and barriers to shared decision-making. There will be no 'one fits all' intervention for multimorbidity but these domains may be useful targets to guide the development of interventions that will assist and improve the provision of care to multimorbid patients.

Contributors CS designed the study, undertook the systematic review, carried out the data extraction, analysis and interpretation and wrote the manuscript. SMH provided guidance on qualitative research methods, participated in the analysis and interpretation of results and reviewed the manuscript. JB participated in the design of the systematic review and critical review of the manuscript. CB participated in the design of the review, analysis and interpretation of results and critical review of the manuscript. CS is the guarantor.

Funding Health Research Board, Ireland, grant numbers HRB*NSAFP/2011/3 (CS) and HRB*ICE/2012/12 (SMH).

Competing interests CS is on an academic fellowship programme sponsored by the Health Research Board and the Health Service Executive, Ireland. SMH is a postdoctoral research fellow funded by the Health Research Board Interdisciplinary Capacity Enhancement Awards.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement Additional data on the assessment of quality of included papers are available from csinnott@ucc.ie.

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*BMJ Open*2013 3:
doi: 10.1136/bmjopen-2013-003610