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Bespoke to the patient: a qualitative study on learning to manage multimorbidity in family medicine

Sur mesure pour le patient : étude qualitative sur l'apprentissage de la prise en charge de la multimorbidité en médecine de famille

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Abstract

Introduction: The rising prevalence of multimorbidity poses a significant challenge to healthcare systems. However, medical education predominantly emphasizes single-disease frameworks, offering limited guidance on how learners can navigate the complexities of managing co-existing health conditions. Given the high incidence of multimorbidity in family medicine, this study aimed to explore the experiences of family medicine residents in managing multimorbidity, with the goal of informing curriculum development.

Methods: We conducted a qualitative study comprising four focus groups (mean duration 47 minutes) with a convenience sample of 28 family medicine residents learning in urban and rural settings. Data were analyzed inductively using reflexive thematic analysis. We drew on generalism and adaptive expertise as sensitizing theoretical lenses to support thematic development and our final interpretation.

Results: Participants described a shift from their undergraduate focus on "getting the list" of diagnoses toward a more nuanced, patient-centred approach to multimorbidity, which they characterized as "bespoke to the patient." Throughout residency, learners reported increased confidence conducting more flexible consultations—incorporating social determinants of health, the unique patient's context, realizing and navigating how healthcare structures impact, and sometimes impede, patient care. Balancing competing priorities became a key feature of their evolving practice, supported by exposure to diverse patient populations, meaningful preceptor relationships, and varied clinical environments. Residents increasingly identified their role coordinating the patient's care team, leveraging a generalist perspective to organize care and address complexity.

Conclusions: Family medicine residents described learning to manage multimorbidity as a developmental process of acquiring generalist adaptive expertise, supported through working in a variety of learning environments. Encouraging preceptors to explicitly share strategies—such as managing limited time and navigating health system constraints—may further enhance resident education in caring for patients with multimorbidity.

Résumé

Traduction à venir.

Introduction

Multimorbidity, the presence of two or more chronic diseases,[1] poses significant challenges for health systems.[2] In Canada, 22% of people aged 35 and older are affected, with prevalence projected to increase.[3] Although commonly associated with aging, multimorbidity is increasingly observed in younger populations, who often face the dual demands of managing chronic illness and maintaining employment.[4] Individuals with multiple chronic conditions are more likely to experience social disadvantages and healthcare inequities.[4,5] For instance, Singer et al. found that individuals in the lowest income bracket had 47% higher odds of basic multimorbidity.[5] Further, patients with multiple illnesses face a heightened risk of premature mortality, frequent hospital admissions, prolonged hospital stays, and reduced quality of life, often accompanied by higher rates of depression and fragmented care.[6]

Despite the substantial personal and economic costs of multimorbidity, healthcare systems and medical education have been slow to adapt to its complexity.[7] Most clinical guidelines and healthcare delivery models remain focused on single disease management,[8–10] a trend mirrored in undergraduate and postgraduate medical curricula.[7] For example, although guidelines recommend beta-blockers for managing heart failure, if a patient also has poorly controlled asthma and glaucoma, physicians need to balance the risk/benefits of beta-blockers, which may not be explicitly addressed using a single disease management algorithm.

Generalist care is increasingly advocated as a model to meet the complex needs of patients with multimorbidity. Generalism emphasizes a holistic, person-centred approach, grounded in longitudinal doctor-patient relationships.[11] Reeve and Dowrick (2013) define generalism as 'expertise in whole person medicine', characterized by a focus on the person rather than the disease, continuity over episodic care, and the integration of biomedical and biographical perspectives.[11] This model supports shared decision-making by aligning clinical decisions with patient's values and life contexts.[7,9,12] Thus, in the example above, using a generalist approach, a physician would discuss the pros and cons of beta-blockers with the patient, informed by their personal knowledge of the individual's context and their healthcare preferences. This could result in juggling medication, which resorts to second-line recommendations, but balances the co-existence of multiple diseases.

Medical education has largely overlooked the specific learning needs required to manage multimorbidity effectively.[7,13] At our medical school, we observed that students often felt overwhelmed when managing patients with multiple chronic illnesses. Following the implementation of targeted clerkship-level teaching on multimorbidity,[14] we sought to further support learners as they transitioned into residency. Therefore, this study aimed to examine how family medicine residents embrace generalist concepts to manage patients with multimorbidity, with the goal of informing curriculum design.

Methods

Study design & team

Given the exploratory nature of our research question, we conducted a qualitative study. Research team members were physician-preceptors, comprising a rural family physician (KP), an urban family physician working in an academic teaching clinic (MK), and an emergency medicine physician who is an Associate Dean for Distributed Longitudinal Rural Initiatives (AJ). All have experience conducting qualitative research. We adopted a constructivist perspective, recognizing that meaning is constructed through dialogue between the researcher and the researched.[15] In this study, this constructivist approach meant reflecting on our personal experience as generalist practitioners, with experience caring for patients with multimorbidity. We also drew on our experiences teaching both undergraduates and residents' approaches to managing multimorbidity in different clinical settings.[14]

Theoretical orientation

The concept of adaptive expertise has been proposed as a relevant theoretical framework for generalist practice. Adaptive expertise is the capacity to apply knowledge efficiently in familiar situations, while also flexibly adapting to novel or complex challenges.[16–18] In the context of generalism, this involves navigating uncertainty and complexity to co-construct meaning with patients.[16,17] Theories of adaptive expertise emphasize two complementary aspects of expert practice – efficiency and innovation. In day-to-day practice, experts use their knowledge to solve known/routine problems. However, they can innovate to create new solutions when faced with something different or unexpected. Experts are thought to be optimally adaptive when, in their practice, they balance efficiency and innovation appropriately.[19] In this study, we drew on adaptive expertise as a 'sensitizing concept'[20] to help us probe our data during our analysis.

Setting

This study was set in a 2-year family medicine residency program that spans urban and rural training in Western Canada (*n=185* residents). All residents in the program were eligible to participate. Information about the study was posted in two monthly resident newsletters and emailed to all residents. Interested participants contacted MK or KP for further information and were invited to a focus group in person or on Zoom, thus our final sample was one of convenience. An incentive of a $20 coffee card was offered to urban participants in recognition of their time. Rural participants had lunch offered in recognition of their time.

Data collection

We developed a semi-structured interview guide to explore residents' experiences caring for patients with multiple conditions, drawing from our personal experience as generalist clinicians and preceptors. (Appendix A. Interview guide). We chose focus groups as they are a good way to stimulate rich discussion, clarify pre-conceived ideas and understand met and unmet needs, while affording flexibility to delve into topics as they arise.[21] Three in-person focus groups were conducted over lunchtime (*n* = 4, 6, 12), and a fourth focus group was held on Zoom (six participants), at the end of a working day to accommodate resident schedules (total *n* = 28). Data were collected between November 2022 and March 2023 and continued until the team felt no new information was being received.[22] Focus groups were facilitated by MK and KP and were known to some of the residents as preceptors in the program. Focus groups lasted 45-52 minutes and were transcribed verbatim by a professional transcription service. MK and KP also documented field notes immediately after each focus group.

Data analysis

We analyzed the data using reflexive thematic analysis,[23] with adaptive learning theory[16] as a sensitizing concept to deepen our understanding of residents' learning. We initially read the transcripts individually, jotting memos and reflective notes in the margins. We then met to discuss preliminary ideas and generate preliminary codes inductively. MK and KP then coded two transcripts, remaining open to the possibility of new codes. We next met as a team to review our codes and generate initial themes, discussing and reflecting on examples of "efficiency" and "innovation" from adaptive expertise to explore resident experiences, drawing also our personal experiences as preceptors. We noted how residents felt their management skills became more flexible and how they adapted to working in different contexts with different preceptor expectations. To support our reflexivity, in particular to overcome anchoring (relying on first identified piece of information) and confirmation (tendency to confirm our current beliefs) we periodically used reflexivity questions, as outlined by Crabtree & Miller,[24] for example we probed each other's experience as preceptors from urban and rural settings, and working within different payment models. We maintained an audit trail consisting of memos, team meeting notes and iterative versions of our coding and thematic development. To check the trustworthiness of our interpretation, we presented our findings at two conferences, attended by preceptors and residents who concurred that our interpretation aligned with their experiences. We also triangulated our findings with survey data collected after two faculty development workshops on teaching multimorbidity to residents.

Ethics

This Calgary Health Research Ethics Board (#22-416) approved this study.

Results

1. Participants

Twenty-eight participants took part in four focus groups (Table 1).

Table 1. Participant demographics

Participants	*N*	%
Gender		
Men	16	57%
Women	12	43%
Residency Training Year		
Year 1	10	36%
Year 2	18	64%
Location of Undergraduate Medical Education		
Canada	28	100%
Province of Alberta	16	57%
Other province or territory	8	29%
No answer	4	14%
Professional experience prior to medicine		
Yes*	13	46%
No	15	54%

**Prior professional careers included: nursing (2), working with people with disabilities (2), physician assistant (1), chiropractor (1), paramedic (1), public health (1), optometrist (1), firefighter (1), geologist (1), biomedical engineer (1), and a PR instructor (1).*

2. Qualitative themes

We developed three themes to encapsulate participants' experiences learning to manage multimorbidity in family medicine residency. Learning to manage multimorbidity was 1) bespoke to the patient 2) required flexible consulting and 3) involved juggling multiple, sometimes competing, demands. Cumulatively, participants

integrated these skills to identify managing multimorbidity as a form of generalist expertise.

Theme 1: Learning multimorbidity is "Bespoke to the patient." Participants described how their approach to multimorbidity evolved between undergraduate to postgraduate training. Early on, they focused heavily on "gathering the list"—eliciting all of a patient's health issues and trying to address everything in a single visit. This often left them unsure of what to prioritize:

> *I didn't know what was a pertinent positive or negative because I didn't understand exactly how every single condition would present.*

In contrast, during residency, participants developed a broader perspective "seeing the bigger picture," to consider patients within the context of their lives. This shift supported a more holistic patient-centered approach, incorporating factors such as "home life, finances, and frustrations." which one participant described as "learning how to have conversations with patients to get down to the true":

> *I think going back to the foundation of what is important to this patient, what are their values and goals, what is their functional impact, what do they really care about and just sort of digging through sort of the layers that might be there.*

Theme 2: Building acumen through flexible consulting. Providing personalized care required residents to adopt more flexible consulting styles. As one resident noted:

> *There is a lot more grey that I'm starting to see as a resident than I once thought.*
>
> *It's part of the acumen that we kind of build…. I think as you go through, you become a bit more flexible and able to adjust and adapt, depending on, you know, what the patient is coming in with.*

To support this adaptability, participants described several strategies such as pre-charting (reviewing the patient file ahead of time) and collaboratively prioritizing the agenda during consultations. Recognizing that not all issues could be addressed in one visit, residents learned to cluster concerns or plan follow-ups:

> *The nice thing about family med is that we see our patients again and again and figure out what needs to be done today and what can be done later*

Despite these strategies, participants acknowledged the challenges of managing uncertainty – particularly around polypharmacy and conflicting guidelines.

> *Practice guidelines can be at odds with each other when you're trying to figure out which one I should actually be following.*

Theme 3: Juggling complex demands. In addition to adapting their consulting style, residents developed greater awareness of the systemic and logistical aspects of caring for patients with multimorbidity. For example:

> *It's a rabbit hole – like, 'I came in for a cough" then all of a sudden you're like, "Oh, I think you have GERD, and you need a sleep study and you have hypertension and you have not seen anyone in five years'*

Participants recognized that their status as learners gave them more time to spend with patients:

> *Preceptors often tell me, 'No, it doesn't matter how long you take. I just want you to use this as a learning opportunity.'*

However, they also expressed concern about future practice, where time pressures and efficiency would become more central. This was a particular challenge for residents working in rural communities, where patient workloads were high and resources were scarce. However, residents in urban academic clinics also contemplated the challenges of managing patients with multimorbidity during time-constrained consultations as they anticipated working in a fee-for-service community clinic:

> *Preceptors can give you all the time in the world to see a patient, but that kind of works against learning how to be efficient*

Participants also highlighted barriers to care, including financial limitations and system-level constraints like provider shortages:

> *Patients with a lot of comorbidities…accessing physiotherapy or anything else when they don't have coverage is like very difficult…. Because maybe they'd really benefit from physiotherapy for their condition, but they don't have the ability to access that.*
>
> *I think the structure of the clinics as well, having interdisciplinary team, being able to have alternative payment models….allows you to provide more complex care.*

Exposure to a variety of clinical contexts and supervisory styles helped participants reflect on and refine their own approaches. Regular feedback and continuity with patients further facilitated skill development:

> *Putting it together and learning how to address multiple issues, considering how they interact with each other, or, how one treatment or issue might*

> *affect the other. I think that was something I had to learn more going through rotations and like, or feedback from the preceptors…Through that, you learn through the process of seeing multiple patients.*

Ultimately, participants expressed their developing role as one that embraced core concepts of generalism.[25]

> *I think family medicine is unique... We can look at not just the medical stuff, but also their mental health. And the social stuff, too…coordination of care, getting involved, [with] allied health. I think we're really the only specialty that can do things across the different lifespans across… all body systems for undifferentiated patients.*

Discussion

In this study, we explored how family medicine residents learn to manage multimorbidity. Our findings show how residents develop this capacity by tacitly drawing on principles of generalism[25] and holistic patient care, which align with the development of adaptive expertise.[16,17]

To more explicitly demonstrate our interpretation, we relate our findings to a key concept of adaptive expertise, "preparation for future learning" (PFL).[16] PFL is the "ability to learn new information, make effective use of resources, and invent new procedures to support learning and problem-solving in practice." To promote PFL, education should emphasize a) understanding b) struggle and risk-taking c) support meaningful variation.[16]

As novice clinicians, participants initially approached patients with multimorbidity by gathering exhaustive histories, aiming to "not miss anything." This approach reflected a performance-oriented mindset, where residents defaulted to comprehensive data collection without clear strategies for prioritization or integrating patient perspectives. Over time, however, residents experienced a notable *shift* in their approach: they began to move beyond assembling lists of conditions and medications and towards understanding how multimorbidity shaped patients' lives. This transition reflected a growing appreciation for the lived experiences of patients, including how illness intersected with work, family, and financial constraints.

In response, residents increasingly tailored care to the unique context of each patient—adapting consultation strategies and management plans in bespoke ways. These adaptive shifts mirror findings by Kawamura et al.,[26] who observed that pediatric residents' communication skills evolved as they came to better understand families' perspectives. Such shifts prompted residents to experiment with new communication strategies, much like our participants' adoption of flexible, patient-centered consultation styles in response to deeper contextual understanding.

This process was not without uncertainty. Residents described discomfort around deviating from guidelines, adjusting medications, and making decisions within time-limited consultations—challenges compounded by real-world factors such as patient financial constraints, systemic service shortages, and continuity-of-care limitations. These experiences, though challenging, were crucial opportunities for *productive struggle* and reflective practice, fostering adaptive expertise.

Importantly, residents identified patients themselves as their most valuable learning resource—valuing longitudinal exposure to a wide variety of patients in diverse contexts. This experiential learning was further supported by preceptor feedback and a progressive increase in clinical autonomy—such as transitioning from debriefing after every patient to debriefing after a full clinical session.

Our findings have implications for how to support family medicine residents in managing multimorbidity. (see Table 2) First, they underscore the need to shift educational emphasis from checklist-based, algorithm-driven care towards fostering generalist skills-centred on "understanding the patient"—a sentiment echoed in Peabody's timeless reminder that "the secret of caring for the patient is in caring for the patient."[30] Residents did not struggle with this orientation, but rather valued opportunities to build relationships with patients, particularly through continuity in clinic and supportive dialogue with preceptors. In the future, particularly in the context of competency by design, managing patients with multimorbidity could be mapped more consistently in postgraduate training, for example, evaluating complexity scores for a resident patient panel.

Our data also highlight the importance of *scaffolding* learning[31] by creating safe spaces for residents to experience and reflect on clinical uncertainty. These "grey areas" of medicine—navigated through real-world decision-making and longitudinal follow-up—enabled residents to see the outcomes of their care and adapt accordingly. In the longer term, it could be that managing multimorbidity as a type of adaptive expertise is something that continues to evolve beyond residency. The discourse for our participants is still somewhat centred around discovering multimorbidity and then dealing with it, rather than understanding a patient's multimorbidity as part of a

long-term relationship. This skill may actually be fully acquired beyond the residency as the resident becomes an independent physician and assumes the long-term care of patients, this could be explored in future research with residents as they transition into independent practice.

Table 2. Preparing family medicine residents for future learning, suggestions for scaffolding management strategies supporting patients with multimorbidity

Component of Preparation for future learning	Teaching point
Moving from performance to understanding	Support learners to move from 'reporter' (as in 'getting the list') to 'interpreter' by encouraging learners to summarize, and prioritize – what needs to be addressed today, what can be addressed later
	Clarifying exactly why the patient has attended over a 'presenting complaint' e.g. seeking reassurance, having a family member with a similar problem
	Promoting empathic perspective taking by drawing out social determinants of health that undermine logarithmic approaches to care
	'Knowling the system and context': acknowledge and explore health system constraints and how navigating them is an explicit skill key to patient-centered care
Supporting risk-taking	Proactively discuss uncertainty as a concept in clinical practice (in contrast to always having a single best answer). Discuss as a preceptor, how you manage uncertainty. Discuss emotional impact of uncertainty.27
	Encourage learners to commit to a plan e.g. chose a drug treatment (including 2nd line options) or prioritizing investigations (essential/nice to have) – and discuss when plans seem at odds with guidelines.
	Re-enforce the doctor-patient relationship as a space where risk-taking can (and does) occur. Share examples of when things didn't work and what happened – normalize mistake making. Promote shared decision making with patients where uncertainty is weighed up and a joint decision made.
	Acknowledge time constraints but compliment with continuity of care and follow up for safety netting and relationship building e.g. scheduling phone calls, using EMR to schedule reminders, follow up visits. Establish resident panels that include patients with multiple health concerns.28
	Acknowledging an allied health team member may have better skills to help the patient than you and orchestrating the clinical team to support the patient
	Identifying clinical courage in the clinical encounter.29
Opportunities for meaningful variation and progressive problem solving	This is, to a certain extent a feature of working in full scope family medicine but can be further enhanced by providing residents with opportunities to work in different contexts (e.g. urban, rural) with a variety of preceptors.

Limitations

This study has several limitations. While we had intended to purposively sample residents across varying levels of training (e.g., PGY1 vs. PGY2) and undergraduate backgrounds, logistical constraints—including residents' clinical schedules—made it difficult to coordinate focus groups. As a result, the sample comprised self-selected participants, introducing potential selection bias. It is possible that those who volunteered had different learning experiences or a greater interest in multimorbidity than their peers. Whilst we attempted to examine for variation across the data e.g. by year of training, our data did not show any specific pattern, which may reflect the self-selected nature of our sample as learners interested in multimorbidity. Alternatively, it may mean that learning to manage patients with multimorbidity is a more individualized experience than one based on stage of training. Further, all our participants experienced their undergraduate training in Canada, and it is possible that international graduates may have different experiences and learning needs. This could be a focus of research in the future.

We did not collect demographic information such as age, ethnicity, or participants' own experiences with chronic illness, which could have provided additional context for interpreting the data. Furthermore, the focus groups were conducted by faculty members, which may have influenced participants' willingness to speak freely, particularly in offering critical perspectives. Although the interviewers had no role in participants' evaluations, the potential for response bias remains.

We also acknowledge that, as researchers with a background in and appreciation for generalist practice, our interpretations may have been influenced by our professional orientation. To mitigate this, we engaged in reflexive practices throughout the analytic process, continually challenging our assumptions and interpretations.

Lastly, while residents often described their role as 'quarterbacking' patient care, we were struck by the relatively limited discussion of the broader primary care team. This absence may reflect the structure of our interview guide and suggests an important area for future research—particularly how interprofessional collaboration contributes to managing multimorbidity in family medicine settings. An additional opportunity for research would be to interview patients' experiences of residential care, as

this may provide valuable feedback and suggestions for how to improve resident training.

Conclusion

Managing multimorbidity is growing challenge in family medicine. Effective care of patients with multimorbidity requires physicians to integrate skills across many domains including medical expert, communicator, and manager. The process of learning to care for patients experiencing multimorbidity appears to follow a continuous learning pattern with progressive integration of skills and increasing competence over time. Residents recognize the need for bespoke approaches to patients with multimorbidity, managing competing priorities, and individualizing treatment approaches based on patient values and preferences.

This study highlights the residency learning process around multimorbidity, emphasizing that direct experience with patients with multimorbidity, and the flexibility to try and refine different approaches are key learning strategies.

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Appendix A. Focus group questions

Interview questions

Warm up – exploring multimorbidity

When you hear the term multimorbidity, what comes to mind?

What do you see as the role of the family doctor in caring for patients with multimorbidity?

Multimorbidity approach *(it may help learners to think about a specific patient)*

Do you have any strategies that you use caring for people with multimorbidity?

What skills are required?

How has your approach changed over your training?

Can you identify areas that you find challenging?

Teaching on multimorbidity

Can you recall any teaching you received to date on multimorbidity? *please describe*

Prompts: What type of teaching? How helpful was it?

Have your family medicine preceptors presented any specific strategies to address multimorbidity in a primary care setting?

Do you have any suggestions for how we could improve teaching & learning on this topic?