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# Evaluating the implementation of interdisciplinary patient-centred care intervention for people with multimorbidity in primary care: a qualitative study

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## ABSTRACT

**Objective** A patient-centred care interdisciplinary pragmatic intervention to support self-management for patients with multimorbidity was implemented in one region of Quebec, Canada. This embedded study aimed to evaluate the process of implementation.

**Design** A descriptive qualitative study was conducted in 2016–2017 using semistructured individual interviews. The Consolidated Framework for Implementation Research (CFIR) was used to guide the data coding, analysis and reporting of the findings.

**Setting** The study took place in seven Family Medicine Groups in one region (Saguenay-Lac-Saint-Jean) of Quebec, Canada.

**Participants** Ten managers (including two family physicians) and 19 healthcare professionals (HCPs), nurses, kinesiologists, nutritionists and a respiratory therapist, were interviewed.

**Results** Many key elements within the five CFIR domains were identified as impacting the implementation of the intervention : (1) intervention characteristics—evidence strength and quality, design quality and packaging, relative advantage and complexity; (2) outer setting—patients' needs and resources, external policies and incentives; (3) inner setting—structural characteristics, networks and communication, culture, compatibility, readiness for implementation and leadership engagement; (4) characteristics of the managers and HCPs—knowledge and belief about the intervention; (5) process—planning, opinion leaders, formally appointed internal implementation leaders, reflecting and evaluating.

**Conclusion** This study revealed the organisational and contextual aspects of the implementation based on different and complementary perspectives. With the growing demand for interdisciplinary teams in primary care, we believe that our insights will be helpful for practices, researchers, and policymakers interested in the implementation of disease prevention and management programmes for people with multiple chronic conditions in primary care.

**Trial registration number** NCT02789800.

## Strengths and limitations of this study

- This study represents one of the few contributions in Quebec to explore, in depth, the factors influencing the implementation of interdisciplinary disease prevention and management interventions for people with multiple chronic conditions in primary care.
- Using an existing framework helps to understand, describe and identify factors that predict the likelihood of implementation success.
- This evaluation of the implementation is limited to managers and healthcare professionals' perspectives and experience.
- Given the qualitative nature of the study, data interpretation could be subjective, and thus, caution should be applied in interpretation.

## BACKGROUND

Chronic diseases (CDs) such as cardiovascular and chronic respiratory diseases, cancer and diabetes are responsible for 70% of deaths worldwide, making them the leading global causes of death.[1 2] Furthermore, many individuals live with more than one CD, now described as multimorbidity, and defined as the coexistence of two or more CDs.[3–5] Given that most people accessing primary care services have more than one CD,[2] multimorbidity is a challenge for both the healthcare system and primary healthcare professionals (HCPs) in primary care.[3–7]

As reported in a recent systematic review,[8] a growing number of studies have investigated the effectiveness of healthcare services and patient-oriented interventions in people with multimorbidity in primary care and community settings. These interventions focused on individualised care plans, self-management support, and to a lesser extent, goal setting and

peer support. Results, in general, were mixed and inconclusive, with most interventions having limited effect on clinical outcomes and patient-reported health outcomes such as quality of life and health service utilisation, or mixed effects on hospital admission rates and medication use and adherence. Thus, the authors highlighted the importance of considering overall participant experience, the context in which interventions occur, and the need to integrate multimorbidity interventions into existing healthcare systems to support implementation and sustainability.[8] These recommendations are consistent with the chronic care model (CCM) focused on primary care.[9–11] In Canada, several innovations focusing on multimorbidity based on the CCM, self-management programmes and primary care renewal have been implemented, and very few of them have been assessed.[12] For example, in 2015, Quebec's health and social services system has been reformed with a centralisation process that abolished Regional Health Authorities.[13] The government of Quebec explicitly stated that this reorganisation was put in place to 'facilitate and simplify access of services to the population, to improve the quality and security of services, and to increase the efficacy and efficiency of the health system'.[14]

The Patient-Centred Innovations for Persons with Multimorbidity research programme was developed to evaluate two complex interventions implemented in two Canadian provinces (Quebec and Ontario).[15] This study is a part of the Quebec intervention.

The Quebec intervention was a 4-month, pragmatic, interdisciplinary intervention for preventing and managing CDs to support self-management of patients with multimorbidity in primary care. The intervention was conducted from April 2016 to July 2017. The intervention consisted of six components: (1) relocating HCPs (nurses, nutritionists, kinesiologists or respiratory therapists) into Family Medicine Groups (FMGs); (2) training HCPs on the patient-centred care (PCC) approach for patients with multimorbidity, interprofessional collaboration, motivational interviewing and self-management support; (3) forming, with key resource persons within each FMG (nurses) and an FMG coordinator, a community of practice aiming to support the integration of the intervention, to ensure the quality of the care, harmonise ongoing changes to practice and consolidate achievements; (4) assessing patients' eligibility for the programme by family physicians or nurses; (5) providing each eligible patient with 1-hour initial assessment by a primary care nurse to create an intervention plan focused on their needs, values, preferences and according to their objectives; and (6) directing patients to the most appropriate HCPs (nutritionists, kinesiologists or the respiratory therapist) who ensure to integrate them into clinical decision-making and outcome assessments according to their intervention plan. The template for the Intervention Description and Replication checklist[16] is available in online supplemental appendix S1.

To that end, the implementation process assessment can offer insights into the 'black box' of interventions (an approach that can elaborate on the mechanisms through which changes in the outcomes operate) and identify how the potential effects of interventions are moderated and mediated.[17] Thus, this process evaluation aimed to identify barriers and facilitators in implementing an interdisciplinary PCC intervention for patients with multimorbidity in primary care.

## METHODS

### Theoretical framework

The Consolidated Framework for Implementation Research (CFIR) was used to examine the implementation of interdisciplinary intervention for people with multimorbidity in primary care in one region of Quebec, Canada. The CFIR is a compilation of 39 constructs related to implementation and divided into five domains: (1) characteristics of the intervention; (2) outer setting; (3) inner setting; (4) characteristics of the individuals involved and (5) the process of implementation. According to Damschroder *et al*,[18] researchers may select the constructs from the CFIR that are most relevant for their study setting. The CFIR was chosen based on its comprehensiveness and ability to manage both breadth and depth of data to capture the intervention implementation's complexity. In addition, it includes many implementation aspects and is thus considered a helpful framework for illuminating barriers and facilitators influencing the implementation.[18]

### Study design and research sites

This qualitative descriptive study was part of a larger concurrent triangulation mixed-methods study.[15] A qualitative design allows answering questions about experience, meaning and perspective, most often from the participant's standpoint.[19] Furthermore, qualitative descriptive studies' goal is to summarise specific events experienced by individuals or groups of individuals.[20] Therefore, it is essential to use guidelines such as the Consolidated criteria for Reporting Qualitative research (COREQ) checklist to avoid inadequate reporting that can lead to inappropriate application of qualitative research in decision-making, healthcare, health policy and future research.[21] The COREQ was used to guide reporting (see online supplemental appendix S2).

### Participants and sampling strategy

Seven of the 11 FMGs from Saguenay-Lac-Saint-Jean, a region in Quebec, Canada, participated in both evaluation aspects (quantitative and qualitative). FMGs are primary care clinics where family physicians work with other HCPs to provide comprehensive primary care.[22]

A purposive sample of HCPs (family physicians, nurses, nutritionists, kinesiologists and respiratory therapist) and managers was recruited from the FMGs. A recruitment invitation was sent by email to all HCPs and managers who participated in the programme or its implementation, followed by phone call reminders.

The sample size was determined based on achieving theoretical saturation with a minimum of 12 participants.[23]

### Data collection

Two semistructured interview guides based on the literature review and the CFIR framework tailored to each participant group (managers and HCPs) were developed and pilot tested. The interview guides consisted of open-ended questions related to the participants' perceptions, expectations, role in the intervention implementation, and impact on their work and their organisation's functioning (see online supplemental appendix S3).

The individual semistructured interviews were conducted from October 2016 to September 2017 (6 months after the beginning of the intervention) by a research coordinator (TB), a PhD student (MS), a research assistant (BBD) trained in conducting qualitative interviews and two senior researchers (MCC, MF). The interviews lasted between 23 and 74 min (average of 47 min) and were conducted face-to-face at the various sites. The interviewers also took field notes during the interviews. All interviews were audio-recorded. The goal of the interview was explained to all participants.

### Data analysis

A hybrid process of inductive and deductive thematic content analysis in a stepwise manner, as Braun and Clarke described,[24] was conducted as an analysis approach. Six steps were followed through the process. First, a research assistant with qualitative expertise (CF) read all transcripts and identifies possible themes (step 1). Second, two research team members (PN, CF) developed a coding scheme based on an independent review of three transcripts. Initial codes were created as themes based on the five domains in the CFIR framework.[6] New codes were created if some parts of the transcripts did not directly fit into any CFIR constructs. Discussions with the research team reached an agreement on a final coding scheme. The same research team members used this to code all transcripts using NVivo V.11.0 to assist with data management (step 2). Together, PN and CF discussed and identified recurring and converging themes across participants. The codes that did not fit into the CFIR framework were evaluated and reconsidered. The refined themes were then discussed and agreed on with other research team members (MF, JBB) (steps 3 and 4). Finally, key quotes that illustrated each theme were extrapolated from the data (steps 5 and 6). Finally, credibility was established to ensure the trustworthiness of this qualitative research. Credibility criteria involve establishing that qualitative research results are believable to the study participants.[25] This was done by (a) data triangulation of sources among the study participants showing, (b) iterative review of transcripts and (c) showing the findings of this study to research team members from different disciplines involved in the study. As a result, they were able to recognise the implementation issues raised by this study.

### Patient and public involvement

No patient involved.

### Findings

A total of 29 interviews were conducted. Intervention stakeholder participants included managers (n=10, including two family physicians) and 19 HCPs, including family physicians, nurses, kinesiologists, nutritionists and respiratory therapists (table 1). Information about participants invited and the number who declined or did not respond is presented in the COREQ checklist (see online supplemental appendix S2).

We have chosen to present our findings by CFIR domains. However, the complexity of the intervention and implementation processes made it difficult to separate key findings by constructs within each domain. As such, our findings are organised into seven themes that reflected participants' experiences with the intervention by the CFIR framework (see online supplemental appendix S4).

### Characteristics of the intervention

The intervention characteristics were more often perceived by the participants as facilitators rather than as barriers to implementation.

#### Familiarity with intervention principles

Participants reported that they were already successfully applying certain principles being put forward in the intervention. 'Yes, [the intervention] has positive points. But you know …, we just used methods that we already know, that we already knew to be efficient, and then reintegrate into a more structured form' (Participant HCP1).

Participants' prior experiences or practices with interdisciplinary collaboration, motivational approaches and research have facilitated the intervention implementation as described by these participants. 'We were already working in interdisciplinarity with a nutritionist and a social worker; we had done this before' (Participant Manager 1). Another participant explained: 'This

**Table 1** Characteristics of participants

| | Nurses n=12 | Nutritionists n=4 | Kinesiologists n=2 | Respiratory therapists n=1 | Managers n=10 |
|---|---|---|---|---|---|
| Sex, women | 9 | 4 | 1 | 1 | 8 |
| Age, range (years) | 20–52 | 20–69 | 20–30 | 40–49 | 30–69 |
| Experience, range (years) | 12–24 | 4–18 | 3–6 | 13 | 1–13 |

approach [motivational] was used in all other settings where I worked […]. So, we have already used it for several years' (Participant HCP2).

### Appreciation of intervention components and relative advantage

The majority of the participants believe the intervention was well designed and innovative. For example, HCPs highly appreciated the intervention's approaches, such as the PCC and motivational approaches. 'It is a new way to interact with patients because it is focused on them, on what they want to do with their chronic conditions' (Participant HCP3).

In addition, the training offered at the beginning of the project also facilitated the implementation of the intervention by allowing the HCPs to learn the new concepts before they applied them in practice. 'Introduce us to the approach, describe it to us so that we can embrace it and then apply it' (Participant HCP4).

The participants described several advantages of the intervention. First, relocating nutritionists and kinesiologists into the FMGs improved interprofessional collaboration and patient follow-up. 'Before (this intervention), clients were referred to the hospital, it was more challenging to have communication and to follow up on what happened, being on-site we have access to the whole background of the patient, then we are more able to target and then intervene correctly' (Participant HCP5).

Another perceived advantage was that the intervention enabled HCPs to focus on their roles and use their skills to manage patients. 'I have a good opinion of it because it puts the overall competence of the nurse in the foreground, both at the evaluative level, the teaching level and at the collaborative level. It positions nursing … in its pivotal role' (Participant Manager 2).

Some HCPs felt that the intervention's preventive rather than curative nature changed their practices, thereby reducing health and emergency services. 'I find it interesting because we see people very early, we can identify people who will develop problems for which they do not yet need medication, problems not already burdensome for the system' (Participant HCP6).

Finally, according to some managers, the financial support received to deploy the intervention facilitated its implementation. 'Receiving funds to help us get started is always welcome rather than reorganizing activities using our resources' (Participant Manager 3).

The only barrier reported by the participants was the complexity of the intervention. According to Damschroder *et al*,[18] the complexity describes the perceived difficulty of implementation, reflected by duration, scope, radicalness, disruptiveness, centrality, intricacy and the number of steps required for the implementation.[6]

Some of the participants found the intervention complex. They viewed some concepts as difficult. They found some concepts difficult to explain to patients and not applicable to everyone. From the HCP's perspective, leaflets explaining the intervention could have been beneficial for the patients. 'We did not have any document to give to patients, to explain what [the intervention] meant. It was difficult for us to explain it' (Participant HCP7). They also found it challenging to use the motivational approach. 'Motivational interviewing is very difficult; I feel that I lacked information a little bit' (Participant HCP8).

## Outer setting

The components of the outer setting were perceived as present and positive in the implementation.

### Health system reorganisation

For most managers, the health reform context had influenced the ordinary course of the intervention implementation, particularly in coordination and monitoring.

> The health system reform was undoubtedly a difficulty because this great project happened simultaneously as the whole reorganization, which led to the creation of the CIUSSS. (Participant Manager 3)
>
> Each team lost the link with its manager. Even for me, dealing with new teams and the realities from one sector to another was not easy. This change had an impact on the implementation of the approach. (Participant Manager 4)

Regarding the impact of the health system reorganisation, a manager mentioned it as 'a difficult deployment' (Participant Manager 5).

## Inner setting

### Internal organisation

Participants specifically discussed coordination and monitoring of patient appointments by administrative staff, the sharing of patient records and staff turnover and vacations as key issues.

Having administrative staff coordinate and monitor patient appointments was unanimously emphasised by the HCPs interviewed. They viewed this support as important for the proper conduct of the intervention. For example, a participant working in two different FMGs, one with the support of a secretary and the other without this support, stated that 'It makes things a lot easier, it is not comparable' (Participant HCP9).

The ability to navigate through the patient's electronic medical record and share information among the various HCPs supported the implementation of the intervention. 'It is very facilitating; we see the notes of the doctors, the nutritionist, the nurses. Moreover, we know why we see him […]' (Participant HCP10).

Participants appreciated the community of practice's monthly telephone meetings to discuss the evolution of the implementation and share their knowledge and experiences. 'During these meetings, we discussed specific themes. We updated our knowledge and shared literature. We also discussed cases that we encountered, shared the experiences and difficulties of the implementation' (Participant Manager 6).

HCPs' turnover interfered in the implementation because some newly relocated HCPs were not systematically trained in the approach. Their training delayed their integration into the interdisciplinary team. 'The new staff training resulted in delays in the intervention' (Participant Manager 4).

Concerning patients' follow-up, the communication between HCPs or family physicians could vary depending on their environment's reality. In some settings, face-to-face communication was possible during the implementation of the intervention. For other settings, it is the use of indirect communication, such as email, that has facilitated interdisciplinary collaboration. 'Since the implementation of the intervention, we take 5 minutes to discuss, either at the end or before dinner [the day] … that allows us to ensure better follow-up' (Nurse 11). For other settings, the use of email was prevalent. 'When I have to speak with doctors, it is often by e-mail. We do not see them that much. We do not have an interdisciplinary meeting with them' (Participant HCP10).

However, certain aspects of the internal organisation of FMGs, such as the availability of premises and health professionals, negatively influenced the implementation of the intervention.

The lack of infrastructure and scarcity of resources in some FMGs negatively impacted interprofessional collaboration and interdisciplinarity.

A manager summed it up nicely: 'One constraint was the lack of physical space in some FMGs. Therefore, some healthcare professionals could not meet together to discuss patient action plans' (Participant Manager 4).

Some health professionals working part-time did not feel they had enough time to discuss patient medical records with their colleagues. This situation probably influenced negatively the implementation of interprofessional collaboration, which was an essential component of the intervention.

> I am here for half a day. We do not necessarily have time to go through the patient's file. I do not have time to read the notes of all my colleagues before I see my patients. (Participant HCP11)

### Compatibility of the intervention with participants' vision and values

The principles of the intervention were in line with FMGs' vision and values, which facilitated the implementation. 'I believe in it, and that is where we have to go more and more. It is aligned with the vision of our organization, but also the concept of chronic disease management' (Participant Manager 4).

The majority of health professionals explained how the intervention's approaches, such as interprofessional collaboration, motivational approach, self-management and the PCC approach, correspond to their values and vision as HCPs.

> I love it because I have always believed in interdisciplinarity, not multidisciplinarity. I have always believed in supporting self-management support and in motivational interviewing. (Participant HCP12)

Some HCPs described a coordinating nurse in each FMG responsible for supervising the entire team and ensuring that the intervention was done appropriately. 'There is also a coordinator who is always near us and who makes it work' (Kinesiologist 14).

However, some managers felt that the intervention principles were not compatible with the family physicians' philosophy and practice and perhaps hindered the physicians' involvement. 'There was a lack of collaboration. Family physicians do not adhere to the [intervention] philosophy. This approach consists of identifying client needs. They still tend to say: 'I am the doctor, I know what you need. I will tell you what you need, then apply it' (Participant Manager 6).

## Characteristics of the individuals involved

### Leadership engagement

The leadership conveyed by the managers played an essential role in implementing the intervention by ensuring the permanent flow of information, the mobilisation of teams and the supervision of the training of newly relocated HCPs. 'My contribution is to talk about it regularly to the teams, to mobilize them and then to make sure that I have the people in place to support. Finally, to ensure that they are adequately trained' (Participant Manager 7). Indeed, some participants felt the managers' involvement and commitment have certainly facilitated the implementation of the intervention. 'The managers are involved in the project. They believe in it, and we also believe in it at the organizational level' (Participant HCP13).

Furthermore, the presentation and promotion of the intervention with HCPs working in the FMGs, conducted jointly by researchers and managers, were highly appreciated. This activity added more credibility, enhanced the participants' consideration of adopting the intervention's approach and probably facilitated/further supported the implementation process. 'It is also good that it was clinicians, managers and researchers who presented this approach, so it brought credibility to the approach' (Participant Manager 4).

On the other hand, the low participation of some family physicians negatively influenced the implementation of the intervention. Participants' reasons were doctors' age, time to devote to interdisciplinary activities and the doctors' vision of nurses' role. 'The collaboration with the doctors was not a success. I was afraid to refer clients' (Participant HCP14).

## Process of implementation

### Communication

Communication, both face-to-face and through telephone meetings, has helped maintain interaction between HCPs during implementation.

Direct communication was the primary means to present the intervention to the stakeholders (FMG managers, family physicians and other HCPs). First,

meetings were organised by the investigators (research team and leaders of the CIUSSS) to present the intervention and services offered to each FMG manager. Then, when an FMG decided to implement the intervention, each FMG manager (coordinator, manager or nurse) presented the intervention to family doctors and health professionals.

> My contribution is to talk to the teams as much as possible, to mobilize them. Ensure that there are people in place to support it, that people feel comfortable doing it, have the proper training, and that there are also interdisciplinary relationships between nurses and other health professionals. Make sure that they understand what the intervention consists of and how to intervene with this clientele. (Participant Manager 7)

Furthermore, some managers explained how telephone meetings during the implementation of the intervention facilitated communication with HCPs. 'At one point, we tried to use technology to make conference calls within the whole region. It was a facilitator or a success factor on some level because some teams did not speak to each other' (Participant Manager 4).

## DISCUSSION

This study aimed to evaluate the implementation of interdisciplinary PCC intervention for people with multimorbidity in primary care. Many key elements were identified as facilitating the implementation of the intervention (familiarity with intervention principles, the quality and the relative advantage of the intervention, the leadership engagement). However, some obstacles were identified such as the complexity of the intervention, the health system reorganisation, the internal organisation of FMGs, the compatibility of the intervention principles with some family physicians' philosophy and practice.

Prior work indicates an increased likelihood that stakeholders who subscribe to the principles of evidence-based interventions for the prevention and management of CDs (CCM, PCC) in primary care will be motivated to implement the programme.[26] Furthermore, there is evidence that innovations in CDs, which has a relative advantage over standard care, have led to greater implementation.[13] For example, the Canadian Heart Health Kit, a risk management and patient education resource for the prevention of cardiovascular disease and promotion of cardiovascular health for which the participants perceived the relative advantage, resulted in better implementation.[27] The organisational culture, the leadership of managers and leaders' presence are also recognised as successful ingredients for implementing an intervention based on the CCM in primary care.[10]

On the other hand, the literature also shows that hierarchical working relationships without leadership for change negatively influence healthcare changes intervention and innovation.[28] Thus, transforming care practices in a primary care organisation requires a culture of support for change and learning.[29 30] Furthermore, leaders can be agents of change by ensuring resources and providing adequate support to staff.[31]

The intervention was aligned with the participants and their organisation vision. The implementation is successful if the intervention is integrated into the organisation's vision and a recognised need to adopt new care approaches to prevent and manage CDs in primary care.[10 32]

Although this evaluation identified many facilitators, the implementation of the intervention faced several challenges, which are essential to consider. For instance, characteristics of individuals such as individuals' beliefs, knowledge, self-efficacy and personal attributes may affect implementation.[18] In this study, the family physicians' lack of commitment and leadership appeared to deter implementation. The lack of involvement of family physicians in implementing complex interventions, including prevention, has been identified previously in the literature.[33–35] One reason for this barrier might be the inconsistency between the ideals of PCC and the reality of the healthcare system, which is oriented towards the biomedical model.[30 33] However, the role of family physicians remains fundamental in interdisciplinary interventions based on the CCM due to their privileged relationship with chronically ill patients.[35] Family physicians need to maintain a climate of trust and collaboration with other HCPs. Therefore, physicians must be involved from the outset, beginning with the development phase of the intervention to ensure their involvement.[36] The high turnover of HCPs and organisational changes also negatively influenced the intervention implementation. Staff turnover is a common barrier encountered when implementing CD prevention and management interventions in primary care.[37] The difficulty in integrating newly relocated professionals into teams' routines also influenced the implementation, particularly for interprofessional interventions. Organisational changes caused by integrating new staff and interprofessional collaboration with consequences such as lack of time, allocation of roles, distribution of work, work overload and the shortage of health professionals are regularly reported in complex interventions for CDs in primary care.[38] The use of information and communication technologies such as electronic health records or telehealth is often proposed as a solution to overcome these challenges.[39]

### Study strengths and limitations

The strength of the study is the inclusion of different HCPs and managers to reveal several views. It is a contribution to improve the prevention and management of interdisciplinary interventions for people with multiple chronic conditions in primary care. Using an existing framework within implementations, science is considered an important strength to better understand, describe and identify factors that predict implementation success. The CFIR framework

was useful in organising, analysing and categorising the data. Furthermore, applying the CFIR as an analysis lens allows comparisons with other contexts and settings. With the growing demand for interdisciplinarity in primary care, the findings of this study will be useful for practices, researchers, and policymakers interested in implementing disease prevention and management programmes for people with multiple chronic conditions in primary care at local, regional and international levels.

A limitation of this work is the lack of patients' perspective. However, we made this choice because we believe that since the patients did not actively participate in the implementation phase, they could not have shed light to understand the implementation process.

Participation in this study was voluntary and limited to managers and HCPs involved in implementing the intervention in Saguenay-Lac-Saint-Jean, Quebec. Therefore, the research team and social desirability may have influenced the perspectives of these participants.

## CONCLUSIONS

Implementing an interdisciplinary PCC intervention to prevent and manage CDs in primary care organisations is a complex process. Using the CFIR as a guide, this evaluation identified multiple elements that assisted in implementing the intervention. In addition, the results revealed organisational and contextual aspects of the implementation based on different and complementary perspectives. With the growing demand for interdisciplinarity in primary care, we believe that our insights will be useful for practices, researchers, and policymakers interested in implementing disease prevention and management programmes for people with multiple chronic conditions in primary care.

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**Contributors** Conceptualisation—PN, JBB and MF. Methodology—PN, CF, JBB and MF. Software—PN and CF. Validation—MF and JBB. Formal analysis—PN and CF. Investigation—MaS and MF. Resources—MF and MoS. Data curation—MF and JBB. Writing (original draft preparation)—PN. Writing (review and editing)—PN, JBB, CF, MAAA, TNN, MaS, CL, FG, MoS and MF. Visualization—PN, JBB, CF, MAAA, TNN, MaS, CL, FG, MoS and MF. Supervision—JBB and MF. Project administration—MF and MoS. Funding acquisition—MF and MoS. All authors have read and agreed to the published version of the manuscript. All authors listed on the manuscript contributed to the study design, data collection, data analysis and interpretation of the findings, and drafting and reviewing the final manuscript.

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