REVIEW ARTICLE

Challenges of adopting the role of care manager when implementing the collaborative care model for people with common mental illnesses: A scoping review

Ariane Girard,[1] Édith Ellefsen,[1] Pasquale Roberge,[2,3] Jean-Daniel Carrier[4] and Catherine Hudon[2,3]

[1]School of Nursing, [2]Department of Family Medicine and Emergency Medicine, [3]CHUS Research Centre, and [4]Department of Psychiatry, Faculty of Medicine and Health Sciences, University of Sherbrooke, Sherbrooke, Quebec, Canada

ABSTRACT: *This review aimed to identify the main factors influencing the adoption of the role of care manager (CM) by nurses when implementing the collaborative care model (CCM) for common mental illnesses in primary care settings. A total of 19 studies met the inclusion criteria, reporting on 14 distinct interventions implemented between 2000 and 2017 in five countries. Two categories of factors were identified and described as follows: (i) strategies for the CCM implementation (e.g. initial care management training and supervision by a mental health specialist) and (ii) context-specific factors (e.g. organizational factors, collaboration with team members, nurses' care management competency). Identified implementation strategies were mainly aimed towards improving the nurse's care management competency, but their efficacy in developing the set of competencies needed to fulfil a CM role was not well demonstrated. There is a need to better understand the relationship between the nurses' competencies, the care management activities, the strategies used to implement the CCM and the context-specific factors. Strategies to optimize the adoption of the CM role should not be solely oriented towards the individual's competency in care management, but also consider other context-specific factors. The CM also needs a favourable context in order to perform his or her activities with competency.*

KEY WORDS: *care manager, collaborative care model, implementation, nurses, primary care.*

Correspondence: Ariane Girard, École des Sciences Infirmières, Faculté de Médecine et de Sciences de la Santé, Université de Sherbrooke, 3001, 12ᵉ Avenue Nord, Sherbrooke, Québec, J1H 5N4, Canada. Email: ariane.girard2@usherbrooke.ca

INTRODUCTION

The collaborative care model (CCM) is a well-known and effective model of care for the treatment of people with common mental illnesses, such as anxiety and depression (Unützer & Ratzliff 2015). More than 70 randomized controlled trials (RCTs) have demonstrated the effectiveness of the CCM in improving anxiety and depressive symptoms compared to usual care (Archer et al. 2012). Beyond its positive effects on patients' health condition, implementing the CCM also has the potential to improve access to mental health care in primary care settings and has proven to be cost

effective (Gilbody *et al.* 2006; Unützer & Ratzliff 2015). The CCM can be defined as a multiprofessional approach where a team of providers, such as a general physician (GP), a care manager (CM), and a mental health specialist (often a psychiatrist), work together using a structured management plan based on evidence-based practice and the specific needs of individual patients (Coventry *et al.* 2014; Gunn *et al.* 2006; Ratzliff *et al.* 2016). The CCM is derived from the chronic care model and showcases four essential characteristics: it is (i) Team driven; (ii) Population focused, that is the team is responsible for a defined population of patients; (iii) Measurement guided, that is the team uses outcome measures to drive clinical decision-making; and (iv) Evidence based, that is the team adapts scientifically proven treatments to an individual's clinical situation in order to achieve improved health outcomes (American Psychiatric Association & Academy of Psychosomatic Medicine 2016).

In the past 20 years, the CCM has been widely implemented and tested throughout numerous initiatives across the USA and in some European countries (Unützer & Ratzliff 2015). In Canada, the CCM has gained the attention of researchers and stakeholders, but few scientific data on its implementation are available (Sunderji *et al.* 2016). Even if the CCM is associated with positive outcomes, its implementation in real-world settings outside of clinical trials remains a challenge. Indeed, many factors can influence the implementation of an intervention in healthcare organizations, including the characteristics of the individuals involved, the inner and outer settings, the characteristics of the intervention itself, and the implementation process (Damschroder *et al.* 2009).

Two recent systematic reviews have described the main barriers and enablers to the implementation of the CCM in primary care (Overbeck *et al.* 2016; Wood *et al.* 2017). Both reviews concluded that three of the main barriers encountered were the reticence of primary care providers to adopt the CCM, not knowing the difference between what is already done in practice for the management of depression and the CCM, and providers' remuneration (Overbeck *et al.* 2016; Wood *et al.* 2017). On the other hand, the presence of a leader in the team, having a GP with an interest in mental health and involving stakeholders in the implementation process were enablers of CCM implementation (Overbeck *et al.* 2016; Wood *et al.* 2017). Among identified barriers and enablers, many were related to the adoption of the CM role.

Care management is a core CCM component (Blasinsky *et al.* 2006). This role is often played by a healthcare professional in collaboration with a team of primary care providers and mental health specialists. The CM ensures a link exists between patients and providers. More specifically, the CM role includes various activities, such as screening and assessing patients for anxiety and depression; monitoring patient symptoms and medication side effects and planning for follow-up; providing brief behavioural interventions using evidence-based techniques (e.g. behavioural activation, motivational interviewing, problem-solving training); providing education to the patient and his family on common mental illnesses and a healthy lifestyle; ensuring care coordination and facilitating referrals for clinically indicated services outside the organization; communicating any significant information regarding the patient's health condition to the team of providers; and participating in regularly scheduled caseload consultations with the team's psychiatrist (AIMS Center-University of Washington 2018).

According to the experience of some patients and clinicians with care management, there are advantages to having a competent and dedicated professional providing a proactive follow-up. First, the patient receives emotional support and has someone to talk to, has increased motivation to achieve personal goals and has better information on his specific condition (Bennett *et al.* 2013; Levine *et al.* 2005; Lipschitz *et al.* 2017). Second, the CM can also improve continuity and effectiveness of care and contributes to promote collaboration among providers (Blasinsky *et al.* 2006; Nutting *et al.* 2008).

The CM can be a mental health nurse but is also often a primary care nurse (PCN) because of their experience with the management of people with long-term diseases and the holistic nature of their role (Webster *et al.* 2016). Patients seem to appreciate when the CM is a nurse who works closely with their GP (Bennett *et al.* 2013). In their day-to-day practice, PCNs usually have activities similar to those of the CM when caring for people with physical long-term disease and common mental illnesses (Girard *et al.* 2017; Poitras *et al.* 2018). A meta-analysis has also demonstrated the positive impact on mental health conditions for patients with both depression and physical long-term diseases when nurses play the CM role (Ekers *et al.* 2013). However, even if PCNs seem to be good candidates to fulfil the CM role, there are still many challenges to the adoption of the role when implementing the CCM in primary care. Given that the CM role is an essential CCM component, it is important to know what might facilitate or challenge its adoption in order

to improve the model's implementation and adaptation in primary care settings.

AIM

This study aimed to identify the main factors influencing the adoption of the role of CM by PCNs when implementing the CCM in primary care settings.

METHODOLOGY

The use of a scoping review method was deemed the most relevant approach to reach this study's aim. A scoping review can be defined as '[...] a process of summarising a range of evidence in order to convey the breadth and depth of a field' (Levac *et al.* 2010, p. 1). Since the development of the CCM in the 1990s by Katon and colleagues (Katon *et al.* 1995), a wide range of publications on CCM implementation has been issued clinical trials and quasi-experiments, qualitative or mixed methods studies, systematic reviews, opinion papers, descriptions of specific initiatives varying from local to national scopes, book chapters, etc. The role of CM is not always the focus of these publications, but they generally offer relevant insights into the challenges of adopting this role when implementing the CCM in primary care. Therefore, any attempt to visualize the main factors influencing the adoption of the CM role would benefit from taking into account a variety of publication types. The scoping review methodology of Arksey and O'Malley (2005) was used to guide the elaboration of this review. This method is divided into five stages: (i) Stating the research question; (ii) Identifying relevant studies; (iii) Study selection; (iv) Charting the data; and (v) Collating, summarizing, and reporting results (Arksey & O'Malley 2005). Additionally, Levac *et al.* (2010) published a paper clarifying and expanding on these five stages. Moreover, a sixth stage aiming to consult stakeholders about the results was proposed as optional by Arksey and O'Malley, although Levac *et al.* (2010) describe it as an essential component of a scoping review. The stakeholder's consultation stage pertaining to this scoping review is not reported here, as it will be done in another project currently in progress by the research team.

Research question

The research question for a scoping review is usually broadly stated, but it minimally needs to be informative on the concept of interest and the target population for the study in order to allow for a clear understanding of the focus of the review and to establish an effective search strategy (Levac *et al.* 2010). The research question for this review is What are the main factors influencing the adoption of the CM role by nurses when implementing the CCM in primary care settings for the treatment of adults with anxiety and/or depression?

Identifying relevant studies

The search strategy to identify relevant studies was developed in collaboration with an information specialist and included three databases: CINAHL, PsycINFO, and MEDLINE. Keyword selection was based on the systematic reviews of Wood *et al.* (2017) and Coventry *et al.* (2014) and included three concepts: Common Mental Disorders (anxiety or depression), Implementation, and the CCM (see Table 1 for the complete search strategy). The keywords 'Nursing' and 'Primary Care' were tested in the search strategy, but the number of publications dropped significantly when adding either of them. The research team therefore decided to remain as broad as possible in order to include important studies. Moreover, given that the CCM stems from research and was known to be widely documented in peer-reviewed journals, the team decided to not include grey literature in the search strategy and only used published articles. The search strategy included publications until June 2018.

TABLE 1: *Search strategy*

Common mental illnesses [AND]	Implementation [AND]	Collaborative care
AB (('common mental disorder*' OR 'common mental illness*' OR 'panic disorder*' OR 'panic attack*' OR agoraphobi* OR 'social anxiety disorder*' OR 'social phobia' OR depress* OR dysthymi*) OR (anxi* N3 (sympt* or ill* or disease* or condition* or disorder*)))	AB (implement* OR 'quality improvement' 'process* evaluation' OR feasibilit* OR barrier* OR difficult* OR enabler* OR facilitat* OR adopt*)	AB ('integrat* care' OR 'collaborati* care' OR 'case manage*' OR 'care manage*')

Study selection

Two authors (AG and JDC) independently screened titles and abstracts to include articles reporting studies about CCM implementation in primary care clinics for the treatment of adults with depression and/or anxiety. Studies were excluded during abstract screening if they (i) reported solely the authors' opinion or were an experimental study reporting only clinical results or (ii) were conducted in a specialized setting (e.g. HIV clinics) or targeted a specific clientele (e.g. children or adolescents, post-traumatic stress, or severe mental illness patients) or (iii) if the publication language was neither English nor French. The authors met after screening the abstracts of the first 150 and 300 studies to reach consensus for all studies and to refine selection criteria where relevant. For instance, the criterion 'primary care setting' was updated to 'medical clinic in primary care'. As indicated in Fig. 1, after removing duplicates, a total of 975 titles and abstracts were screened and the full texts of 104 studies were obtained for analysis. The same two authors independently read the 104 studies and met once to discuss discrepancies until consensus for inclusion was reached. A total of 19 studies met inclusion criteria at this stage: (i) at least three CCM components;

(ii) at least some of the CMs were nurses; (iii) the setting was medical clinic in primary care; (iv) studies reporting on CCM implementation and adoption of the CM role; and (v) the CCM targeted adults with anxiety and/or depression.

RESULTS

Charting the data

The research team first discussed important variables to extract from individual studies. The process of charting the data was iterative and conducted throughout the analysis process. All studies were linked to a specific CCM intervention, which was implemented in a specific context. Table 2 summarizes studies' main characteristics and the CCM interventions. Quality assessment of the included studies is not a common stage of a scoping review and was not undertaken in this review. The aim of a scoping review was to present an overview of existent and relevant literature on a research topic regardless of methodological quality or risk of bias and allow a more complete examination of all types of research activity (Pham *et al.* 2014; Tricco *et al.* 2018).
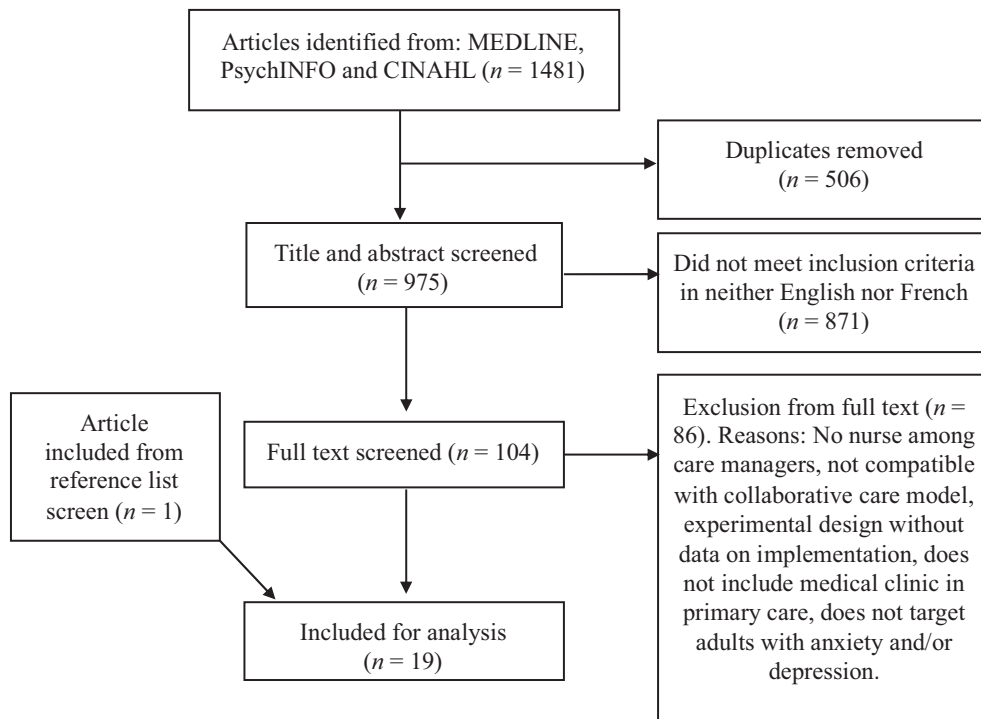

FIG. 1: *PRISMA flow chart.*

TABLE 2: *Description of selected studies*

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Bennett et al. (2013)/ UK	Pro-Active Care and its evaluation for Enduring Depression trial (ProCEED)[1] 42 general practices 42 CMs (nurses)	Depression (two or more documented episodes of depression within the previous 3 years)	[. . .] explore both patients' and practice nurses' perspectives on their experience of receiving and providing proactive care (p. 2)	15 CMs 26 patients	Qualitative approach/ semi-structured interview (face to face) after the trial of the ProCEED intervention	Competency of the CM in care management (motivation, clinical experience in mental health/level of comfort, empathy, capacity to support the patient engaging in a change of behaviour by using an evidence-based approach, patient education) Collaboration with team members (relationship with patients and GPs)
Blasinsky et al. (2006)/ USA	Improving Mood: Promoting Access to Collaborative Treatment (IMPACT)[2] 18 primary care clinics (7 sites represented by diverse healthcare organizations) 17 CMs (nurses or psychologists)	Late-life depression	[. . .] discuss the issues involved in sustaining the model in a primary care practice (p. 719)	15 participants: members of the research team, GPs, CMs, supervising psychiatrist, programme coordinator, recruiter	Qualitative approach/ review of grant proposals that described the intervention-as-planned to establish the components of the programme, site visits at two points during implementation, semi-structured interview (telephone) 1 year after the intervention IMPACT ended	Organization-related factors (workload in primary care, priorities of the leaders, remuneration of the CMs)
Coleman et al. (2017a)/ USA	Care of Mental, Physical, and Substance-use Syndromes (COMPASS)[3] 172 clinics (18 healthcare systems across 8 states)Number of CMs trained not specified (registered nurses, licensed practical nurses, social workers, medical assistants, physician assistants, nurse practitioners, mental health practitioners)	Depression with poorly controlled diabetes and/or cardiovascular disease	[. . .] describes the COMPASS care managers' perceptions of the program, their perceived role in the program, and the relationship between care manager characteristics, their care practices and control of three key patient health outcomes for the program: depression, diabetes and hypertension (p. 87)	93 CMs (55% were nurses)	Quantitative approach/Online survey 9–18 months after beginning the implementation of COMPASS	Organization-related factors (complexity of the clientele) Collaboration with team members (communication, relationship with patients) Competency of the CM (clinical experience in mental health and care management, capacity to support the patient engaging in a change of behaviour by using an evidence-based approach, knowledge of pharmacological treatment and changing behaviours) Strategies (training)

(Continued)

TABLE 2: (*Continued*)

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Coleman *et al.* (2017b)/ USA	COMPASS Idem Idem	Depression with poorly controlled diabetes and/or cardiovascular disease	To describe a national effort to disseminate and implement an evidence-based collaborative care management model [...] across multiple, real-world diverse clinical practice sites (p. 69)	N/A	'[...] description of the COMPASS initiative brought together by diverse health care organisations across the United States in order to implement an efficacious model of care for patients with depression and uncontrolled diabetes and/or cardiovascular disease.' (p. 70)	Strategies (supervision, training) Collaboration with team members (role clarification)
Curran *et al.* (2012)/ USA	Coordinated Anxiety Learning and Management (CALM)[4] 17 clinics (within four diverse healthcare organizations including primary care clinics) 14 CMs (five nurses, six social workers, three psychologists)	Generalized anxiety disorder, panic disorder, post-traumatic stress disorder, and/or social anxiety disorder	Identify facilitators/ barriers to implementing and sustaining the CALM intervention	14 CMs 18 GPs 16 administrators 13 PCNs	Qualitative approach/ semi-structured interviews (face to face) during the final year of the RCT (except for some CMs who were interviewed at the mid-point and at the conclusion of the intervention	Competency of the CM (warm, engaging, visible, motivation) Organization-related factors (workload in primary care, resources, complexity of the clientele) Collaboration with team members (logistics, location of the CM, relationship with patients)
Gask *et al.* (2006)/ USA	The Pathways Study[5] nine Group Health Cooperative primary care clinics in western Washington three CMs (nurses)	People with diabetes who already receiving antidepressant medication or psychotherapy from nonpsychiatrist clinicians, but who still had high depression scores (PHQ-9 $\leq$ 10).	[...] explore what happened in the interactions between nurses and patients with both depression and diabetes during the Pathways-Study (p. 232)	Three CMs 25 patients	Qualitative approach/ content analysis of records of 30 sessions between a CM and a patient: recording of sessions was routinely made by CMs for purposes of supervision and fidelity assessment	Organization-related factors (complexity of the clientele) Competency of the CM (clinical experience in mental health, capacity to support the patient in engaging a change of behaviour by using an evidence-based approach)
Gask *et al.* (2010)/ UK	Exploratory RCT of collaborative care for depression in the UK[6] four primary care organizations in the northern UK Eight CMs (two mental health nurses, one counsellor, five graduate mental health workers)	Depression	Apply the normalization process model (NPM) to inform the process of implementation of collaborative care in both future full-scale trials, and the wider healthcare settings following the trial	Eight CMs 11 patients 12 GPs four PCNs four psychiatrists four psychologists six mental health workers	Qualitative approach/ semi-structured interviews (face to face) and focus group before and after the RCT	Collaboration with team members (relationship with GPs, role clarification, interprofessional respect) Organization-related factors (type of clientele in primary care) Strategies (supervision)
de Jong *et al.* (2009)/ NL	The Depression initiative (NL) 78 GPs working in 20 healthcare centres participated in the trial nine CMs (two practice nurses, four community psychiatric nurses, three social workers)	Major depressive disorder	Description of a collaborative care model for major depressive disorder and of the factors influencing its implementation in primary care settings in the Netherlands (p. 1)	N/A	The IMPACT collaborative care model was adapted for the Netherlands	Competency of the CM (clinical experience in primary care, capacity to apply a brief psychological intervention, specific knowledge on treatments, motivation) Collaboration with team members (communication, location of the CM)

(*Continued*)

TABLE 2: (Continued)

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Levine et al. (2005)/ USA	IMPACT 18 primary care clinics (seven sites represented by diverse healthcare organizations) 17 CMs (nurses or psychologist) and 490 GPs	Late-life depression	[...] describe physicians' satisfaction with care for patients with depression before and after the implementation of a primary care-based collaborative care program (p. 383)	450 GPs	Quantitative approach/ auto-reported survey before and 12 months after the intervention	Collaboration with team members (communication between GPs and the CM)
Lipschitz et al. (2017)/ USA	The Department of Veterans Affairs (VA), along with other healthcare systems, has adopted a general 'collaborative approach' to health care. Some sites have chosen to implement a model that adds dedicated telephone-based depression care managers to the team of embedded mental health practitioners VA medical centres (number of dedicated CM sites vs embedded sites are note given) Number of CMs trained not specified (CMs are often a nurse)	Depression	Compared a site that implemented dedicated CM to a site that had implemented the embedded model (without dedicated CM): (i) What does a dedicated care manager offer in addition to an embedded model? (p. 2) (ii) What are the barriers to implementing a dedicated care manager? (p. 3)	CM site: two CMs three primary care clinicians two leaders, two mental health staff EMBED site: two care management staff from a telephone-based programmeone leader two primary care clinicians one mental health staff	Qualitative approach/semi-structured interviews (telephone)	Collaboration with team members (logistics, location of the CM, communication and relationship, role clarification) Organization-related factors (priorities of the leaders) Competency of the CM (warm, communication skills, patient education)
Møller et al. (2018)/ DNK	The Collabri Model[7-8] 24 GP clinics in the capital region of Denmark eight CMs (six psychiatric nurses, one occupational therapist, and 1 health visitor in the UK, both with psychiatric experience)	Anxiety and depression	[...] explore the experiences with current treatment practices among GPs, clinic staff and CMs and to examine their views on and perceptions of future collaborative care. Identify enablers and barriers for successful implementation of a specific Danish collaborative care model [...] (p. 2)	Single case study of the Collabri Model: two CMs one GP Multipractice study: 10 GPs three PCNs one receptionist	Researchers combined a multiple case study of GPs' practice and their staff with current mental health treatment and a single case study of the Collabri Model Data were collected throughout the implementation: direct observations, semi-structured interviews, ethnographic conversation, field notes	Collaboration with team members (location of the CM, logistic, interprofessional respect) Competency of the CM (clinical experience in mental health, capacity to adapt him/herself) Organization-related factors (workload in primary care, complexity of the clientele) Strategies (training, supervision)

(Continued)

TABLE 2: *(Continued)*

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Murphy *et al.* (2014)/ UK	Service evaluation of a PCN-led collaborative care initiative in rural North East England that initially reported outcomes in 2008[9] eight GP practices 13 CMs (nurses)	Moderate-to-severe depression	[. . .] investigate to what degree the service was maintained over time and to what degree depression symptom levels of patients being followed up improved (p. 828)	Six CMs Clinical data from 218 patients	Pre-poststudy/statistical analysis of depression symptom level scores (PHQ-9 outcomes) to explore within-group change and semi-structured interviews (telephone) 4 years after the service implementation	Competency of the CM (perception of limited skills by nurses) Strategies (supervision)
Nutting *et al.* (2008)/ USA	Re-Engineering Systems for primary Care Treatment of Depression (RESPECT-Depression)[10] 60 clinics (5 diverse healthcare organizations) Total number of CMs trained not specified (nurses, psychologists, social workers)	Depression	To examine the barriers to adopting depression care management among primary care clinicians and CMs	18 CMs 42 primary care providers (GPs, PCNs, nurse practitioners, medical assistant), seven mental health specialists (psychiatrist, psychologist)	Qualitative approach/semi-structured interviews (telephone) during the dissemination phase, 6 months after the trial of the RESPECT-Depression	Organization-related factors (remuneration of the CM, workload in primary care, complexity of the clientele) Collaboration with team members (location of the CM, communication) Strategies (supervision)
Nutting *et al.* (2007)/ USA	RESPECT-Depression Idem Idem	Depression	To understand the characteristics of organizations and the intervention components that were associated with implementation and dissemination of the RESPECT-Depression components	Idem	Idem	Collaboration with team members (location of the CM, relationship with the team) Organization-related factors (workload in primary care, remuneration of the CM, priorities of the leaders, complexity of the clientele) Strategies (supervision)
Overbeck *et al.* (2018a)/ DNK	The Collabri model 24 GP clinics in the capital region of Denmark eight CMs (six psychiatric nurses, one occupational therapist, and one health visitor in the UK, both with psychiatric experience)	Anxiety and depression	To explore CMs' experience of their work and the challenges they face when implementing their role in a collaborative care intervention in the Capital Region of Denmark (p. 167)	Eight CMs	Qualitative approach/ semi-structured interviews during the trial of the Collabri model	Collaboration with team members (location of the CM, role clarification, relationship and communication with the GPs and other primary care providers) Competency of the CM (motivation, capacity to adapt him/herself, leadership, clinical experience in mental health/ psychiatry and primary care, 1 year training in cognitive behavioural therapy) Strategies (supervision)

(Continued)

TABLE 2: (Continued)

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Webster et al. (2016)/ UK	A service development with the aim of training practice nurses to deliver brief behavioural activation interventions within a collaborative care framework One primary care clinic in the North of England three CMs (nurses)	Patients with depression and one or more long-term health conditions	[...] to examine potential barriers and facilitators to engaging with the intervention from the patient and clinician perspective in order to guide future service development and research in this area (p. 3)	Three CMs four patients five GPs one healthcare assistant one mental health specialist	Pilot study using a qualitative approach/semi-structured interviews (face to face) more than 2 months after the implementation of the service	Organization-related factors (priorities of the leaders, workload in primary care, complexity of the clientele) Collaboration with team members (relationship with patients) Competency of the CM (motivation, feeling confident with their skills in delivering a psychosocial intervention) Strategies (training, supervision)
Whitebird et al. (2014)/ USA	Depression Improvement across Minnesota-Offering a New Direction (DIAMOND)[11] 99 clinics (21 different healthcare organizations) 99 CMs (registered nurses, licensed practical nurses, certified medical assistants, clinical social workers)—the clinics hired the CM they wanted	Depression	To identify the care model factors that were key for successful implementation of collaborative depression care in a statewide Minnesota primary care initiative (p. 699)	42 clinics	Mixed method design incorporating both qualitative data from clinic site visits (DIAMOND data report strategy group used in implementation; a discussion guide focused on barriers and facilitators; narrative meeting, field notes) and quantitative measures of patient activation (PHQ-9 ≥ 10) and 6-month remission (PHQ-9 < 5) Care model factors identified from the site visits were tested for association with rates of activation	Collaboration with team members (location of the CM, role clarification) Competency of the CM (leadership, available) Strategies (supervision)
Williams et al. (2011)/ USA	DIAMOND Idem Idem	Depression	Examined and compared the first two clinics implementing DIAMOND at Mayo	Two Mayo family clinics Enrolled patients (n = 247, n = 219)	Retrospective study/ Outcomes measures between the two clinics were compared as follows: Percentage of patients 'activated' into CCM; 6-month depression remission rates; PHQ-9, Mood disorders questionnaire, Alcohol Used Disorders Identification test, and GAD-7 scores; and the dropout rates The analysis also includes number of CMs (full time)	Collaboration with team members (location of the CM, relationship between the CM, the patient, and the primary care providers)

(Continued)

TABLE 2: *(Continued)*

Authors, year/country of implementation	Name of the original intervention/number of sites/total number of CMs trained	Health conditions targeted by the intervention	Aim of the study	Study sample	Design/data collection	Main factors related to the adoption of the role of CM
Wozniak *et al.* (2015)/ CAN	TeamCARE[12] four nonmetropolitan primary care networks in Alberta four CMs (four PCNs trained as CM)	Type 2 diabetes and depression	[...] describe the degree of implementation fidelity of the TeamCare intervention at the organizational level, including the delivery of intervention components, to determine whether its execution affected its effectiveness (p. 84)	36 participants: administrators, specialists, CMs, other staff	Mixed method design/Data were collected throughout the implementation: Semi-structured interview (face to face), group meeting, document review, field notes	Competency of the CM (ability to learn quickly, effective communication skills, being motivated, capable or confident, being adaptable and well organized, clinical experience in mental health, and collaborative care) Collaboration with team members (location of the CM, communication and relationship, interprofessional respect) Strategies (supervision, training)

CM, care manager; CCM, collaborative care model; GP, general physician; PCN, primary care nurse; PHQ-9, Patient Health Questionnaire-9 item; GAD-7, generalized anxiety disorders-7 item.

In addition to the studies included in this review, the following publications were consulted in relation to the context of implementation of CCM interventions:

1. Buszewicz *et al.* (2010).
2. Unützer *et al.* (2001).
3. Rossom *et al.* (2017).
4. Roy-Byrne *et al.* (2010).
5. Katon *et al.* (2003).
6. Richards *et al.* (2008).
7. Brinck-Claussen *et al.* (2017).
8. Kehler Curth *et al.* (2017).
9. Ekers and Wilson (2008).
10. Dietrich *et al.* (2004).
11. Institute for Clinical Systems Improvement (2014).
12. Johnson *et al.* (2012).

Characteristics of the CCM interventions

Across the 19 selected studies, a total of 14 individual CCM interventions implemented in five countries between 2000 and 2017 were identified. The implementation contexts of these 14 CCM interventions were not always described, and some data were difficult to find (e.g. number of CMs trained, number of clinics where the CCM intervention was implemented, initial training of the CM, location of the CM). Almost all CCM interventions included in this scoping review targeted all adults (18 years and older), except for the IMPACT intervention which focused on older people (60 years and older). The health conditions targeted by the CCM interventions varied as follows: depression ($n = 8$), depression with long-term conditions, such as diabetes and cardiovascular disease ($n = 4$), anxiety ($n = 1$), and anxiety and depression ($n = 1$).

The CM was always central to the intervention. The CM activities were generally similar between studies, except for variations in the specific psychosocial or psychotherapeutic interventions delivered to support behaviour change.

Among the CCM interventions, five hired only PCNs (Bennett et al. 2013; Gask et al. 2006; Murphy et al. 2014; Webster et al. 2016; Wozniak et al. 2015). Half of the CCM interventions ($n = 8$) included PCNs and CMs trained from a variety of mental health disciplines (e.g. psychologist, social worker, other mental health worker, community psychiatric nurse, mental health nurse) (Blasinsky et al. 2006; Coleman et al. 2017a,b; Curran et al. 2012; de Jong et al. 2009; Gask et al. 2010; Levine et al. 2005; Møller et al. 2018; Nutting et al. 2007, 2008; Overbeck et al. 2018a; Whitebird et al. 2014; Williams et al. 2011). In one CCM intervention, the initial training of the CM was not clearly specified (Lipschitz et al. 2017).

Generally, the process of hiring or choosing the right CM was described neither in the selected studies nor in the other related studies cited below Table 2. In three of the CCM interventions, leaders of each organization or GPs involved in the intervention were appointed to hire the right CM (de Jong et al. 2009; Webster et al. 2016; Williams et al. 2011). Some studies mentioned eligibility criteria for CMs, such as minimal experience in mental health, primary care nursing (Williams et al. 2011) or in care management of long-term conditions (Gask et al. 2006). In the Collabri model, eligibility criteria were more specific as the research team was looking for nurses with psychiatric or mental health experience and at least 1 year of training in cognitive behavioural therapy (Møller et al. 2018; Overbeck et al. 2018a). Information on the experience and competency of the CMs beyond their initial training were seldom specified in the selected studies (Blasinsky et al. 2006; Levine et al. 2005; Lipschitz et al. 2017; Wozniak et al. 2015).
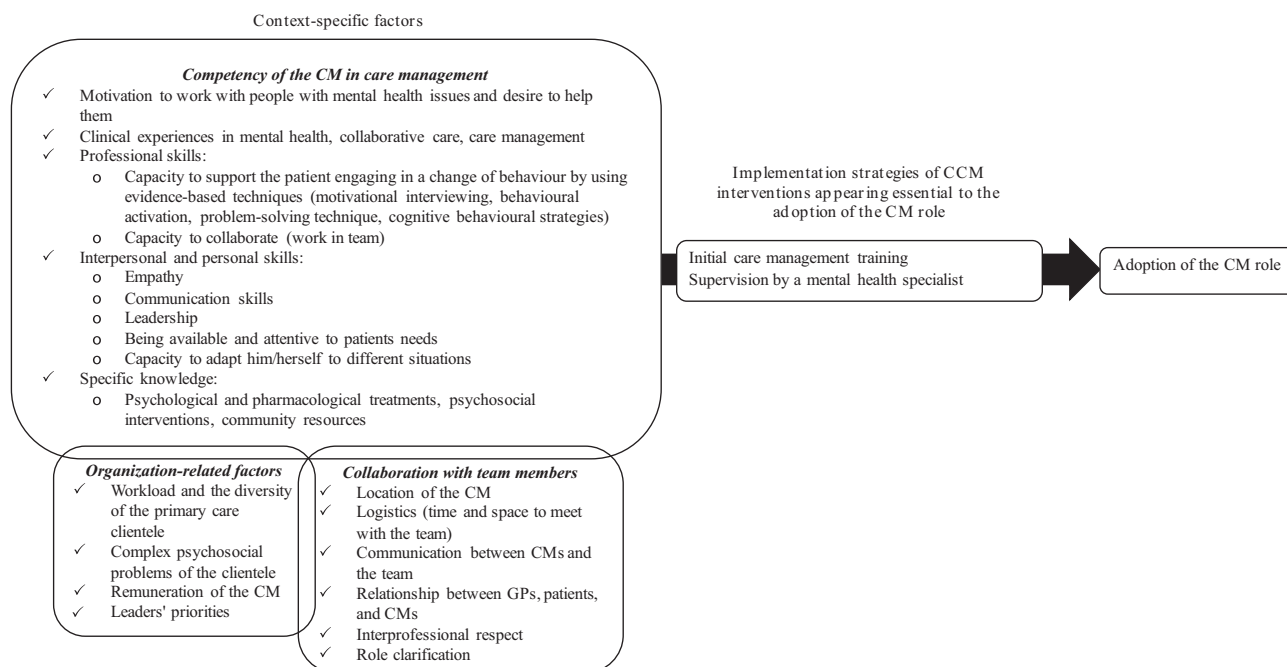
Collating, summarizing, and reporting results

Data were summarized with a thematic qualitative analysis using NVivo 11 software (Miles et al. 2014). All the selected studies were attentively read by the first author to identify relevant themes according to the research question. This step was followed by the construction of a thematic tree by regrouping emergent themes into more general themes (i.e. main factors). One author (EE) independently analysed half of the selected studies to validate the themes identified by the first author. Two authors (AG and EE) schematized the data (Fig. 2) to allow for visualization of the breadth of the data and identification of relationships between emerging themes. At the end of the process, all authors agreed on the main concepts emerging from analysis. Two categories of factors which may influence the adoption of the CM role were identified as follows: (i) strategies to implement CCM interventions, which were specifically geared towards adoption of the CM role and (ii) factors specific to the implementation context. These two factors appear to be an important consideration based on the themes identified in the thematic qualitative analysis process.

Essential strategies

Two important strategies related to care management were mentioned in nearly all selected studies: the CM's initial care management training and supervision by a mental health specialist. These implementation strategies of CCM interventions seemed to improve the adoption of the CM role.

The initial care management training was mentioned in all but one of the included studies (Lipschitz et al. 2017). Training duration varied between 1.5 days and 1 week. The content generally included a psychosocial or psychotherapeutic approach for the management of anxiety or depression, such as behavioural activation (Coleman et al. 2017a,b; Webster et al. 2016; Whitebird et al. 2014; Williams et al. 2011; Wozniak et al. 2015), problem-solving therapy or techniques (Murphy et al. 2014; Webster et al. 2016), motivational interviewing (Bennett et al. 2013; Coleman et al. 2017a,b;

Context-specific factors

Competency of the CM in care management
- ✓ Motivation to work with people with mental health issues and desire to help them
- ✓ Clinical experiences in mental health, collaborative care, care management
- ✓ Professional skills:
  - o Capacity to support the patient engaging in a change of behaviour by using evidence-based techniques (motivational interviewing, behavioural activation, problem-solving technique, cognitive behavioural strategies)
  - o Capacity to collaborate (work in team)
- ✓ Interpersonal and personal skills:
  - o Empathy
  - o Communication skills
  - o Leadership
  - o Being available and attentive to patients needs
  - o Capacity to adapt him/herself to different situations
- ✓ Specific knowledge:
  - o Psychological and pharmacological treatments, psychosocial interventions, community resources

Organization-related factors
- ✓ Workload and the diversity of the primary care clientele
- ✓ Complex psychosocial problems of the clientele
- ✓ Remuneration of the CM
- ✓ Leaders' priorities

Collaboration with team members
- ✓ Location of the CM
- ✓ Logistics (time and space to meet with the team)
- ✓ Communication between CMs and the team
- ✓ Relationship between GPs, patients, and CMs
- ✓ Interprofessional respect
- ✓ Role clarification

Implementation strategies of CCM interventions appearing essential to the adoption of the CM role

Initial care management training
Supervision by a mental health specialist

➡ Adoption of the CM role

FIG. 2: *Main factors influencing the adoption of the CM role when implementing the CCM. CM, care manager; CCM, collaborative care model; GP, general physician.*

Curran *et al.* 2012; Whitebird *et al.* 2014; Williams *et al.* 2011; Wozniak *et al.* 2015) or cognitive behavioural strategies (Curran *et al.* 2012; Møller *et al.* 2018; Overbeck *et al.* 2018a). Two CCM interventions (IMPACT and the Pathways Study) opted for an effective and well-known training programme to teach clinicians to deliver problem-solving therapy in primary care (Blasinsky *et al.* 2006; Gask *et al.* 2006). The content of the training also included an introduction to the CCM components specific to the intervention (e.g. tracking systems, treatments algorithms, relevant guidelines), as well as an overview of pharmacological treatments for depression and/or anxiety, and occasionally suicidal risk assessment (Murphy *et al.* 2014; Wozniak *et al.* 2015). In two studies, CMs received additional training specific to their needs before and during the implementation process (Coleman *et al.* 2017a,b; Wozniak *et al.* 2015). For instance, Wozniak *et al.* (2015) specified that CMs asked for further training during the implementation process, and they were referred to existing online training programs on specific topics: Diabetes Boot Camp, ASIST suicide Training, and Choices and Changes.

Various learning methods were used during training: role-playing (Blasinsky *et al.* 2006; Curran *et al.* 2012; Gask *et al.* 2006; Levine *et al.* 2005), didactic materials (Curran *et al.* 2012; Gask *et al.* 2006), observation of

videotape and feedback (Blasinsky *et al.* 2006; Gask *et al.* 2006; Levine *et al.* 2005; Nutting *et al.* 2007, 2008), and case discussions (Bennett *et al.* 2013; Nutting *et al.* 2007, 2008; Wozniak *et al.* 2015).

Even though the importance of training CMs was highlighted, little data on the impact of such training were reported. One study suggested that training in behavioural activation has the potential to improve the confidence of PCNs regarding the care of clients with mental health needs (Webster *et al.* 2016). More specifically, in the IMPACT study, CMs became more competent in delivering problem-solving therapy as the number of completed training sessions increased (Unützer *et al.* 2001).

In addition to initial training in care management, CMs had access to supervision by a mental health specialist (e.g. psychologist, psychiatrist, or other mental health professionals) or by a GP with an interest in mental health. The aim of the supervision was generally to provide an opportunity for CMs to discuss their cases and concerns, or to receive recommendations on medication management or possible changes in the psychological approach. In de Jong's study (2009), supervision was based on problem-solving therapy sessions recorded with patient permission.

Supervision frequency ranged from weekly (Curran *et al.* 2012; Gask *et al.* 2010; Nutting *et al.* 2007,

2008), twice a month (Gask *et al.* 2006), every 6 weeks (de Jong *et al.* 2009), to three or four times a year (Bennett *et al.* 2013). Generally, the specialists were available when the CMs needed them for the duration of the CCM intervention implementation.

The importance of supervision was outlined in most of the selected studies (Coleman *et al.* 2017a; Gask *et al.* 2010; Møller *et al.* 2018; Murphy *et al.* 2014; Nutting *et al.* 2007, 2008; Overbeck *et al.* 2018a; Webster *et al.* 2016; Whitebird *et al.* 2014; Wozniak *et al.* 2015). Supervision by a mental health specialist was deemed to have many benefits, such as increasing CMS' confidence in their capacity to take care of people with mental health problems (Nutting *et al.* 2008; Whitebird *et al.* 2014). The CM role can be emotionally stressful, and supervision seems to help the CM deal with the negative impact of the role on their psychological and mental well-being (Murphy *et al.* 2014; Webster *et al.* 2016). For instance, in Murphy *et al.*' study (2014), one nurse stopped delivering the intervention because she found it too emotionally stressful, as she did not have access to supervision due to time restraints and lack of funding.

Context-specific factors

Even though these strategies had the potential to improve CMs' performance, several factors specific to the context of implementation may also influence the adoption of the role. Three main factors related to the context of implementation were identified as follows: organization-related factors, collaboration with team members, and competency of the CM in care management. Although interdependent, these three context-specific factors are presented separately.

Organization-related factors
Aspects specific to the organization where the implementation took place seem to influence the adoption of the CM role and the sustainability of the entire CCM intervention. The workload in primary care settings appears to be an obstacle to the adoption of the role because it is sometimes difficult for primary care providers, specifically for GPs, to have additional time for the team meetings or consultations (Blasinsky *et al.* 2006; Møller *et al.* 2018; Nutting *et al.* 2008; Webster *et al.* 2016). Managing the demands of a programme targeted towards a specific clientele while answering to the wide range of needs in primary care patients may also be challenging (Blasinsky *et al.* 2006; Overbeck *et al.* 2018a). However, in one study, GPs and nurses

reported little to no increase in their workload, and some clinicians even mentioned their workload decreased with the CCM implementation (Curran *et al.* 2012).

Furthermore, the clientele often has complex psychosocial problems making it sometimes difficult to engage patients in their care (Curran *et al.* 2012; Nutting *et al.* 2007, 2008). CMs interviewed in the included studies frequently mentioned having to deal with many other related problems during consultations (e.g. health complications, housing issues, work problems), which made it harder to assist patients in managing or solving mental health-related problems (Gask *et al.* 2006). The time needed to complete the CM tasks for these patients with complex needs could become an implementation problem (Coleman *et al.* 2017a). For instance, in one study, nurses stopped their CM activities because of time/staffing constraints (Murphy *et al.* 2014). There was a significant need to benefit from support of other professionals, such as social workers and community resources (Coleman *et al.* 2017a; Curran *et al.* 2012). The necessity to adjust the intervention to account for comorbidities was also often mentioned (Gask *et al.* 2010; Møller *et al.* 2018; Nutting *et al.* 2008).

In some cases, remuneration of the CM was tied to the implementation of the CCM intervention, which turned into a barrier to the sustainability of the entire CCM when research funding ceased. The issue often revolved around who is going to pay for that additional professional (Blasinsky *et al.* 2006; Curran *et al.* 2012; Nutting *et al.* 2008). Moreover, leaders' priorities influenced the degree of adoption of the CM role and of the other components of the CCM as well (Lipschitz *et al.* 2017; Nutting *et al.* 2007; Overbeck *et al.* 2018a; Webster *et al.* 2016). The lack of a shared vision among clinicians and leaders regarding the process of changing practices was a serious barrier to the dissemination of one CCM intervention (Nutting *et al.* 2007). The two most recent studies of this review concluded by stressing the importance of addressing the needs of specific populations and engaging relevant stakeholders in the intervention design and implementation process (Coleman *et al.* 2017b; Møller *et al.* 2018).

Collaboration with team members
This category of context-specific factors refers to the capacity of the CM and the team of providers to collaborate and work as a team. The role of CM relies on the collaboration between primary care providers, patients, and mental health specialists. However, the

capacity of the CM to collaborate efficiently with the team of providers and patients relies on many characteristics of the organization and of the individuals involved in the care.

First, the physical location of the CM seems to influence the degree of collaboration that can be reached between them and the GPs and other providers (Curran *et al.* 2012; de Jong *et al.* 2009; Wozniak *et al.* 2015). Indeed, the CM was not always located within the primary care clinic. At times, the CM worked in a centralized clinic or a hospital department, but some clinicians preferred when the CM was located on site (Møller *et al.* 2018; Nutting *et al.* 2008; Whitebird *et al.* 2014). The colocation of CMs with primary care providers, especially GPs, could enhance the communication and the relationship between members of the whole team. In fact, colocation generates more frequent 'nonformal' meeting opportunities such as during lunchtime or group meetings (Curran *et al.* 2012).

Moreover, clinicians appeared to appreciate face-to-face communication because it helped rapid information sharing, thus optimizing interactions with the CM (Curran *et al.* 2012; Lipschitz *et al.* 2017; Nutting *et al.* 2008; Overbeck *et al.* 2018a). For instance, Whitebird *et al.* (2014) found better 6 months postintervention remission rates when the clinicians and CM shared face-to-face information when referring a patient. In contrast, in one study where the CM was located outside of the primary care clinic, the CMs and the GPs felt that they did not really collaborate but rather proceeded to an exchange of information or a 'transfer' of patients (Møller *et al.* 2018).

In order to improve the interaction between the CM and the team of providers, some authors proposed to include a logistical component when implementing the CCM (Lipschitz *et al.* 2017; Overbeck *et al.* 2018a), such as dedicated moments and meeting spaces (Lipschitz *et al.* 2017). Collaboration between the CM and the team is an essential component of the CCM, and it was deemed important that the CM, the GPs, and other team members have the appropriate time and space to collaborate (Curran *et al.* 2012; Lipschitz *et al.* 2017; Møller *et al.* 2018; Overbeck *et al.* 2018a).

Beyond the colocation of the CM, the use of standardized tools such as the Patient Health Questionnaire (PHQ-9) was a valuable strategy to enhance communication among clinicians as it acted as a reference point to rapidly monitor the evolution of the patient's health condition (Blasinsky *et al.* 2006; Lipschitz *et al.* 2017; Nutting *et al.* 2007). Nevertheless,

communication difficulties were sometimes associated with the inability of computer systems to signal problems with specific patient results or the limited access to the electronic patient record by some members of the team (Coleman *et al.* 2017a; de Jong *et al.* 2009; Lipschitz *et al.* 2017).

The relationship between CMs and GPs was also an important ingredient in the adoption of the CM role (Lipschitz *et al.* 2017; Nutting *et al.* 2008; Overbeck *et al.* 2018a; Williams *et al.* 2011). CMs who had previously worked with the GPs and the primary care providers seemed to have an advantage over those newly introduced to the team. The discontinuity of the individual fulfilling the role through implementation seemed to influence the team's trust in the CM (Williams *et al.* 2011; Wozniak *et al.* 2015).

Furthermore, in some studies, GPs' attitude regarding the CM may have influenced the adoption of the role (Møller *et al.* 2018; Wozniak *et al.* 2015). Depending on the culture of the organization, some GPs were accustomed to referring patients to a psychiatrist or other mental health specialist and exchange information directly with that person without an intermediary like the CM (Gask *et al.* 2010). In addition, when there is a hierarchy between the GP and the CM, it can be harder for the CM to use his or her leadership in order to optimize collaboration (Wozniak *et al.* 2015). Interprofessional respect and trust truly need to be instilled in the relationship, but this was not always the case according to some selected studies (Gask *et al.* 2010; Møller *et al.* 2018; Wozniak *et al.* 2015).

Given that the patient is the core member of the collaborative care team, the quality of the relationship between them and the CM also influenced the capacity to build an efficient collaboration. Again, a CM who was already acquainted with a patient appeared to have an advantage, simply because less efforts were required compared to building a new relationship (Webster *et al.* 2016). Patients' level of motivation to engage in treatment seemed to influence their relationship with the CM (Bennett *et al.* 2013), and lack of motivation quickly proved challenging to the CM in fulfilling his or her role (Coleman *et al.* 2017a).

Finally, another important area in which collaboration could be optimized was the clarification of the respective roles of the CM and of each team member (Coleman *et al.* 2017b; Lipschitz *et al.* 2017; Overbeck *et al.* 2018a; Whitebird *et al.* 2014). Some activities of the CM may overlap with those of other clinicians. This made it especially important to clarify the CMs' activities, referral modalities, and how the CM would

be interacting with both patients and providers (Lipschitz *et al.* 2017; Whitebird *et al.* 2014).

Competency of the CM in care management
Competency in care management refers to the specific knowledge and the professional, interpersonal, and personal skills needed to provide quality care management for people with common mental illnesses and/or physical long-term diseases in primary care settings. In other words, competency in care management refers to the capacity of the CM to perform the activities related to the role of CM.

One of the most important ingredients that the CM needed was the motivation to work with people with mental health problems and the desire to help them. The CM had to be interested in this clientele in order to fully engage in their care (Bennett *et al.* 2013; Curran *et al.* 2012; de Jong *et al.* 2009; Webster *et al.* 2016; Wozniak *et al.* 2015). In three studies where the intervention targeted people with both physical and mental health problems, the nurse CMs were often more comfortable in their skills to address the physical conditions (Coleman *et al.* 2017a; Murphy *et al.* 2014; Webster *et al.* 2016). Interestingly, sometimes the interest or motivation regarding mental health would grow throughout the implementation process (Webster *et al.* 2016). Coleman *et al.* (2017a) also demonstrated that greater familiarity and feeling comfortable with caring for people with depression could lead to better health outcomes for patients with both depression and diabetes and/or cardiovascular disease.

Previous clinical experience of the CM seemed to influence their level of comfort with mental health issues (Bennett *et al.* 2013) and their capacity to deliver psychosocial interventions (Gask *et al.* 2006). For instance, in Bennett *et al.*'s study (2013), the nurse CMs who were more confident with mental health issues at the beginning of the trial had a more therapeutic, counselling-oriented approach and were less directive.

Opinions diverged regarding the specific clinical experience needed to play the CM role in the selected studies. In one study, participants held various opinions, with preference ranging from clinical experience in collaborative care in both long-term disease and mental health, to experience in care management of long-term disease or mental health (Wozniak *et al.* 2015). In the study of Møller *et al.* (2018), a nurse with experience in mental health reported that if CMs were only nurses with psychiatric experience, it would be a major barrier to the sustainability of the model due to

the limited number of these experienced nurses compared to the needs of the population. However, finding the person with the right qualities and who can work well in the clinic's setting seemed to be a challenge to the implementation of the CCM in other studies (Lipschitz *et al.* 2017; Whitebird *et al.* 2014).

Generally, the CM should have practical and theoretical knowledge on psychotherapeutic and pharmacological treatments for depression and anxiety (Coleman *et al.* 2017a; de Jong *et al.* 2009). The CM should also have the skills to support patients engaging in a change of behaviour by using an evidence-based psychological approach (Bennett *et al.* 2013; Coleman *et al.* 2017a; Gask *et al.* 2006; de Jong *et al.* 2009; Overbeck *et al.* 2018a; Webster *et al.* 2016), including the capacity to inform and educate patients on their physical and mental health conditions (Bennett *et al.* 2013; Lipschitz *et al.* 2017). In addition, a set of CM interpersonal skills has been identified, including the capacity to show empathy, attentiveness to the clientele's needs, and personal availability (Bennett *et al.* 2013; Curran *et al.* 2012; de Jong *et al.* 2009; Wozniak *et al.* 2015). The CM's capacity to adapt to different situations, related to factors such as clientele diversity and challenges with working in collaboration with a variety of actors, is likewise essential (Møller *et al.* 2018; Overbeck *et al.* 2018a). The importance of having strong communication skills to enhance collaboration between team members was also documented (Bennett *et al.* 2013; Wozniak *et al.* 2015). Two studies also pointed out the importance of leadership by CMs when implementing such a new role in a primary care clinic (Overbeck *et al.* 2018a; Whitebird *et al.* 2014).

DISCUSSION

Two categories of factors seeming to influence the adoption of the CM role when implementing the CCM were identified and described as follows: strategies to implement CCM interventions and context-specific factors. Identified strategies, that is initial care management training and supervision by a mental health specialist, appeared essential in order to allow nurses to perform the CM role adequately when caring for people with anxiety or depression and comorbidities. These implementation strategies mainly aim to improve the CM's competencies.

The implementation strategies are therefore related to only one of the context-specific factors, that is the individual's competency in care management. According to our results, a competent CM should be

motivated by the role; have professional, interpersonal, and personal skills, such as empathy and the ability to provide psychosocial interventions to help modify behaviour with efficiency; possess specific knowledge on the treatment of common mental illnesses; and have some experience in care management, mental health care or collaborative care. Other important aspects include the drive to help the patient, leadership, and clinical experience, which have also been identified as context-specific factors influencing the activities of nurses in primary care settings (Poitras *et al.* 2018). For all these reasons, recruiting a competent CM can be challenging, as is the case in other types of interventions oriented towards the care management of a complex clientele (Hudon *et al.* 2017).

Apart from previous experience of the CM, there was limited information regarding the initial competencies of the CM in the selected studies. Attention was more focused on describing the main tasks or activities of the CM rather than the individual's competency in care management. Indeed, description of the competencies needed to fulfil the CM role was often absent in the 14 CCM interventions. Therefore, it is difficult to assess whether the CCM implementation strategies (training and supervision) were effective in improving CM competencies.

In the IMPACT study, Unützer *et al.* (2001) found a positive relationship between the number of training sessions and the CM's competence in delivering problem-solving therapy in primary care. However, the rating of competency was based on the CM's skill to deliver with fidelity the seven stages of problem-solving therapy in primary care (Hegel *et al.* 2000). Implementing such a specific training programme in real-world settings could be challenging, especially given time and cost constraints associated with the management of primary health care (Hegel *et al.* 2000; Webster *et al.* 2016).

Specific learning methods used to train the CM during CCM implementation interventions (e.g. case discussion, role-playing, observation, and feedback through video recording, use of didactic materials) were similar to those found in an integrative review on mental health education programmes for generalist health professionals (Brunero *et al.* 2012). According to this review of 25 studies, the most frequent pedagogical approach used to train generalists in mental health was experiential learning, with some studies combining both didactic and experiential styles of learning (Brunero *et al.* 2012). Experiential learning refers to constructing knowledge and meaning through real-life experience (Yardley *et al.* 2012). However, the efficacy of experiential learning in changing behaviour or improving the quality of professional activities is not well documented (Brunero *et al.* 2012; Thistlethwaite *et al.* 2012). This is not surprising, as instruments used to measure competencies often do not consider the professional's real-world activities, even though activities are the main medium through which competencies are demonstrated in clinical practice. As highlighted in the study of Brunero *et al.* (2012), the instruments used to assess competency often measure knowledge, skills or attitudes. Scientific data on the relationships between competencies, role-specific activities, and the learning methods used to train CMs remain sparse, especially considering the impact of context-specific factors.

In addition to the competency of the CM in care management, the adoption of the CM role is affected by other context-specific factors. Consequently, when implementing the CCM, strategies to optimize the adoption of the CM role should not be oriented solely towards the competencies of the CM, who also needs a favourable context in order to perform their activities with competency.

One of the main activities of the CM is to collaborate within a team. However, the results of this review show that the capacity to collaborate efficiently is often hard to achieve for a variety of reasons, including organizational and individual factors. For instance, various factors were identified, such as the location of the CM, the difficulty to find the time and space to meet with the team, the lack of clarity regarding the respective roles of the CM and other team members, GPs' attitudes towards the CM role, and the lack of efficient mechanisms of communication. These factors also emerged from numerous studies on enablers and barriers affecting interprofessional collaboration in primary care and in the caring for people with long-term conditions (Chong *et al.* 2013; Gucciardi *et al.* 2016; Sangaleti *et al.* 2017). Studies also mention the importance of having a clinical information system that allows the team (primary care providers and specialists) to share data, using standardized tools and electronic discharge summaries, dedicating time and space for meetings, clarifying team members' roles and responsibilities, and developing relationships between providers and patients (Chong *et al.* 2013; Gucciardi *et al.* 2016; Sangaleti *et al.* 2017). These results highlight the importance of including specific strategies aiming to improve collaborative practices when implementing the CCM in primary care settings (Lipschitz *et al.* 2017; Wozniak

et al. 2015). In fact, even though CCM interventions usually include strategies to enhance communication between the CM, GPs, and the mental health specialist, such as meetings or electronic records, these strategies are often not sufficiently adapted to the setting, and there is sometimes no guidance provided on how their effects should be enhanced or who needs to be involved in the process (Overbeck *et al.* 2018b).

Furthermore, collaborative and competency factors related to the CM role are also influenced by organization-related factors. Some factors related to the organization's context, such as the workload in primary care and the psychosocial complexity of the clientele, are not surprising results given they were both highlighted in the two recent systematic reviews on CCM implementation enablers and barriers (Overbeck *et al.* 2016; Wood *et al.* 2017). Indeed, by its underlying mission of promoting and managing the health of the population, primary care has a wide range of clientele for which it is responsible for addressing any health-related problem (Fiscella & McDaniel 2018). Therefore, when developing an intervention in primary care, it appears important to be mindful of the needs of the range of people consulting in primary care.

One of the first CCM interventions (i.e. IMPACT) targeted people suffering from a specific mental health condition (i.e. depression). However, a study on the sustainability of the IMPACT intervention has shown that it was adapted matter-of-factly by organizations for other conditions and even for generic disease management (Blasinsky *et al.* 2006). Since 2000, there has been an evolution regarding the choice of health conditions targeted by CCM interventions.

Furthermore, a UK survey has shown an increase in the workload of GPs and nurses in primary care between 2007 and 2014 (Hobbs *et al.* 2016). GPs also mentioned challenges in caring for people with complex needs in primary care, as they do not always perceive that their practice is prepared to manage the care of this clientele (Osborn *et al.* 2015). There is a need to increase the connections between primary care, community services and social services for both access to and coordination of care (Osborn *et al.* 2015). It is also worth emphasizing the challenges that PCNs face when supporting patients in resolving more complex problems and the need to train CMs in optimizing collaborative practice and delivering psychosocial interventions to change behaviours. Nevertheless, the degree of difficulty in coordinating care will vary depending on the functioning of the organization. If the CM needs to invest a considerable amount of time

to coordinate care because of organizational constraints, it might be pertinent to delegate that function to other members of the team who will ensure a bridge between professionals and services (Hunt *et al.* 2016).

To our knowledge, this is the first review with an emphasis on the main factors influencing the adoption of the CM role when implementing the CCM in primary care. This review has contributed to identify a gap in the literature regarding the competency of CMs in care management and a lack of knowledge on the relevant strategies to use to overcome specific contextual factors when implementing the CCM. The results presented come from 14 individual CCM interventions implemented in five countries—including the largest initiative in the USA—and are based on studies implemented over an important period of time (17 years). The review was conducted following a well-recognized methodology by a team with a variety of research and clinical backgrounds (nursing (AG-EE), family medicine (CH), psychology (PR), psychiatry (JDC)).

However, this study did not include grey literature documents, nor did we validate the results with a group of stakeholders as proposed by Levac *et al.* (2010). These steps could have contributed to identifying other factors or to refining our interpretation. One of the limitations of the scoping review design is that it does not allow us to assess the effectiveness of an intervention, nor to confirm the existence of a relationship between two concepts; rather, a scoping review provides a narrative or descriptive account of available research (Arksey & O'Malley 2005). In that respect, the broad range of publication types and designs among studies included in this review allow for a more complete description of the concept of interest.

Additionally, it was occasionally difficult to locate information on the context of implementation for individual CCM interventions (e.g. number of professionals included, number of sites, the location of the CM, initial training of the CM). Information was often not standardized from one study to another, making it more difficult to extract the data. When relevant, we looked at other publications reporting on the same CCM intervention as the included studies, but the additional information on the context was often related to the patients rather than the professionals or the organizations participating in the study. This caveat of the published literature limits the accuracy of the information we report in the context of implementation, as well as our ability to understand the full impact of the main factors and the relationships between them. A systematic review of reviews including 70 articles on

barriers and enablers to achieving change in primary care also pointed out the lack of information about the context in which barriers and facilitators occur in implementation studies (Lau *et al.* 2016). Additionally, the aim of this scoping review was to identify the main factors influencing the adoption of the CM role in a variety of primary care settings. Indeed, the diversity of the contexts found in included studies allowed for the description of a wide range of factors. However, results of this review might not be transferable to every context, and the impact of the individual factors might be different between countries due to specificity of each healthcare systems and of local needs.

CONCLUSION

The competency of the CM in care management appears to be an important ingredient to facilitate the adoption of the role when implementing the CCM. However, there is a need to better understand the relationships between the individual's competencies, the CM activities, the strategies used while implementing a CCM intervention, and the other context-specific factors. Considering that PCNs have the capacity and opportunity to fulfil many activities pertaining to the role of CM in their day-to-day practice, it is important to understand which strategies to use and when to use them, and how they might improve their competencies specific to care management. In addition, the adoption of the CM role when implementing the CCM in primary care can be optimized by developing or selecting implementation strategies that can overcome other context-specific factors. Given the current lack of scientific data on the impact of these strategies, researchers, and stakeholders (i.e. patients, administrators, primary care providers, mental health specialists, etc.) are encouraged to evaluate them and to expand current knowledge on the relationships between implementation strategies and context-specific factors.

RELEVANCE FOR CLINICAL PRACTICE

This scoping review has contributed to mapping the gap in the literature concerning the adoption of the CM role when implementing a CCM intervention. The results can help researchers and stakeholders to be mindful of factors specific to their context in order to develop or select appropriate implementation strategies and to elaborate an implementation plan adapted to their local needs. CMs' activities have a significant overlap with those of PCNs, but nurses tend to have a lack of confidence in their ability to provide psychosocial interventions, which is partly congruent with a lack of training. Given the holistic nature of PCNs' practice and their relationship with patients, they have the potential to contribute to improving the quality of care for people with common mental illnesses in primary care. Thus, the CCM, including the role of CM, is a good framework for primary care clinics to optimize the care of people with mental health problems by leveraging staff and collaboration mechanisms that are already in place.

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