

SYSTEMATIC REVIEW

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Implementation strategies used in clinical practice guidelines in older adults' mental health and neurocognitive conditions: a scoping review

Stacey Hatch^{1,2}, Fardowsa Halane³, Jessie McGowan⁴, Jennifer Watt⁵ and Dallas P. Seitz^{6*}

Abstract

Background Caring for older adults with mental health conditions including neurocognitive conditions is complex. Clinical practice guidelines (CPGs) are intended to improve care for such conditions in older adults. This scoping review sought to systematically identify, synthesize, map evidence and identify the gaps in implementation strategies used in the implementation of CPGs for mental health conditions in older adults including neurocognitive conditions.

Methods This scoping review was conducted using the JBI Manual for Evidence Synthesis methods for scoping reviews. Six research databases (Ageline, MEDLINE, Cochrane Library, EMBASE, PsycINFO, JBI EBP) and grey literature were searched. Inclusion criteria for the articles were adults 65 and older and focused on older adults mental health and neurocognitive conditions. Strategies to the implementation of CPGs were categorized using the Effective Practice and Organization of Care (EPOC) framework.

Results A total of three articles were identified in this scoping review. Reported implementation strategies were tailored to providers, were educational, and interdisciplinary collaboration. CPGs length, perceived weakness of evidence, and providers' perception of relevance to patients were noted as challenges to implementing CPGs. Our search results demonstrated a paucity of literature with only three peer reviewed studies located.

Conclusions Despite the limited available literature, this review contributes to guideline to practice gap literature by synthesizing and identifying potentially effective implementation strategies. We make recommendations about how to potentially improve adherence to clinical practice guidelines that could be implemented by researchers, healthcare providers, and health systems policy decision makers to improve our healthcare systems.

Keywords Scoping review, Guideline implementation, Implementation strategies, Knowledge translation, Older adults, Mental health

*Correspondence:

Dallas P. Seitz
Dallas.Seitz@camh.ca

¹University of Calgary, Calgary, Alberta T2N 2T9, Canada

²Yorkville University, Fredericton, New Brunswick E3C 2R9, Canada

³Western University, London, Ontario N6A 3K7, Canada

⁴University of Ottawa, Ottawa K8H 1M5, Canada

⁵University of Toronto, Toronto M5S 1A8, Canada

⁶Centre for Addiction and Mental Health, 80 Workman Way, Toronto, Ontario M6J 1H4, Canada



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Background

Providing mental health care, including for neurocognitive conditions, to older adults and family caregivers can be complex and time-consuming, however collaborative care models across a diverse range of care settings have shown promise in effectively treating late life comorbid physical and mental health conditions [1–4]. As one in six people will be 65 years or older by the year 2050 [5], the world's aging population is expected to lead to increased medical and mental health comorbidity for older adults [2, 6]. The past two decades have seen growing international interest in the development of quality guidelines to support consistency of patient care, to provide patients with information about healthcare options, and to drive equitable public policy [7, 8].

There is increasing evidence that clinical practice guidelines (CPGs) can support evidence-based care by improving clinical pathways to diagnosis and care, and the development of programs [2]. CPGs are systematically developed recommendations produced by professional organizations or government bodies to guide decision-making based on best evidence and to set standards of practice [9–11]. CPGs recommendations provide guidance to healthcare providers regarding assessment, diagnosis and management of diseases and illnesses based on recent quality literature reviews [12]. CPGs represent a critical component in program planning, implementation and healthcare policy [3]. Adherence by healthcare providers to CPGs has long been associated with better patient outcomes, decreased mortality, and improved quality of patient care [12–14]. CPGs are perceived by healthcare providers as crucial decision-making tools when combined with clinical judgement and patient preferences but remain underused and are not always implemented in practice [9, 15–17]. Challenges to implementation across all healthcare settings prevent the effective translation of evidence into practice, despite the abundance of CPGs [18–20]. Increasing and applying knowledge about successful strategies for implementing CPGs can reduce the gap between scientific evidence and clinical practice [21, 22]. There is evidence to suggest that modifying or tailoring implementation strategies to practice behaviours is more effective than passive dissemination of CPGs recommendations or no intervention at all [23, 24].

The purpose of this scoping review is to systematically identify, synthesize, map evidence and identify the gaps in implementation strategies used in the implementation of CPGs for mental health conditions in older adults including neurocognitive conditions. The present scoping review aimed to answer the following research questions within the population, concept, context (PCC) framework [25].

1. What are the strategies used to implement CPGs for older adults' mental health conditions including neurocognitive conditions?
2. What are the outcomes of reported strategies in the knowledge implementation of CPGs for older adults' mental health conditions including neurocognitive conditions?

Methods

The review protocol was registered with Open Science Framework [26]. This scoping review was guided by the JBI Manual for Evidence Synthesis [27, 28]. Results are reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews statement [www.prismstatement.org] [29].

Inclusion criteria

Inclusion criteria were based on the population, concept and context (PCC) framework [30]. Peer-reviewed studies and grey literature were eligible for inclusion if the population included adults 65 and older with mental health conditions and/or dementias; caregivers to people with the above conditions; or healthcare providers (including nurses, physicians and allied health professionals) involved in their care and were available in English. Peer-reviewed studies were included if the core concept examined interventions or strategies to mobilize CPGs for older adults' mental health conditions including neurocognitive conditions, and if they were controlled trials, quasi-experimental trials, qualitative studies, prospective, or retrospective cohort group designs. Guidelines were defined as recommendations for patient care based on best evidence [31, 32]. The context of included peer-reviewed studies based in community, primary care, outpatient and hospital settings. Grey literature was considered eligible for inclusion if materials were aimed at older adult patients and older adults with lived experience of mental health conditions including neurocognitive conditions.

Search strategy

The search strategy was developed with a medical librarian (JM) and peer-reviewed by a second librarian in accordance with the Peer Review of Electronic Search Strategies (PRESS) checklist [33]. An initial ad hoc search strategy was developed using MeSH headings because there is no existing standard search syntax for the research questions. Consultations with relevant content experts enhanced the relevance of this scoping review, assisted in refining the research questions, and identified additional articles and resources [34]. An information scientist (LA) and a knowledge broker (CB) were consulted as content expert stakeholders and assisted in

discussions about implementation science methodology and grey literature search parameters. We attempted to reduce publication bias by including trial registries, and grey literature searches including unpublished studies [27].

The systematic search was conducted in three stages [34]. The first phase was an initial search conducted to identify other reviews on the topic [35]. The search for this phase was conducted four times between May 1, 2023, and May 30, 2023, in OVID's MEDLINE, Cochrane Central Register of Controlled Trials (CENTRAL), and the JBI (Joanna Briggs Institute) EBP (Evidence-Based Practice) Database. The second phase was conducted to identify keywords and MeSH terms in the existing literature and informed the development of the search strategy. A comprehensive search of peer-reviewed and grey literature was conducted in the third phase. Peer-reviewed literature was searched in the bibliographic databases Ageline (EBSCO), MEDLINE (OVID), Cochrane Library (OVID), EMBASE (OVID), PsycINFO (OVID), and the JBI EBP Database (OVID) from January 1, 2013, to June 8, 2023.

Search terms included controlled vocabulary of the included databases as well as text-word terms (Appendix A). All studies were uploaded to Covidence (2013) and duplicate articles were automatically excluded. The peer-reviewed search was updated on February 17, 2025, to search for any new resources that met the inclusion criteria. Searches of grey literature were developed and adapted to the research questions by the research librarian (JM) and conducted using a modified CADTH grey literature checklist (CADTH, 2018). The grey literature search was searched in the databases of Advanced Research Computing (ARC), TRIP Theses Canada (produced by Library and Archives Canada) and KT+ <https://plus.mcmaster.ca/kt/> (Appendix A). Individual websites located through the Trip Medical Database (<https://www.tripdatabase.com/>) were hand searched for: print magazines, website and social media outlets aimed at older adult patients and older adults with lived experience of mental health conditions including neurocognitive conditions; print magazines, website and social media outlets aimed at caregivers of older adults with mental health conditions including neurocognitive conditions; and websites and social media outlets aimed at healthcare providers who treat older adult mental health conditions including neurocognitive conditions. Grey literature was searched from inception to August 2, 2023, and updated on March 5, 2025 with one additional hour was allocated to the search. No new grey literature sources were identified (Appendix B).

Evidence selection

The updated methodological guidance for JBI scoping reviews [30] was used to screen abstracts and titles against the inclusion criteria by two independent reviewers (SH and FH). Any disagreements were resolved by third and fourth independent reviewers (DS and JW). Reference lists of included articles were searched for relevant articles. The first 10 studies were pilot tested with SH and FH to ensure consistency and adherence to JBI guidelines.

Data charting process

Data charting was conducted by SH and reviewed by DS and JW. The JBI standardized data extraction form was individualized for the purpose of this scoping review [30]. Iterative data charting allowed additional guidelines for data extraction to be included. Extracted data characteristics were year of publication; study citation; primary objective; study design; sample size; sample characteristics; population target (patient, caregiver, healthcare provider); context (community setting, primary care, outpatient, inpatient, long-term care); mental health conditions including neurocognitive conditions; intervention; specific targeted behaviour; single or multiple interventions; main outcome; secondary outcomes; results/findings; enablers; barriers; and emerging themes.

Synthesis of results

The aims and results of included studies were summarized by the first author (SH) and reviewed by co-authors (DS and JW). Peer-reviewed studies were not assessed for quality of evidence because our focus was to summarize existing resources and identify knowledge gaps [35]. SH grouped the study characteristics and results to summarize the findings, which were checked by co-authors (DS and JW).

Effective Practice and Organization of Care (EPOC)

The Effective Practice and Organization of Care (EPOC) taxonomy is used in scoping reviews to group diverse interventions to better understand how to improve particular outcomes [36]. The EPOC taxonomy was used to describe and categorize the interventions employed in each study [37]. The taxonomy outlines evidence-based health systems interventions aimed at enhancing guideline implementation to reduce guideline to clinical practice gaps [36]. EPOC is divided into four domains of intervention recommendations: delivery arrangements; financial arrangements; governance arrangements; and implementation strategies [37]. Intervention strategies and their effectiveness were described and classified using the EPOC category of 'Interventions Targeted at Healthcare Workers' within the implementation strategies domain and served to identify potential knowledge

Table 1 Characteristics of Studies

Author (Year)	Country	Methods	Study aim	Population and sample size
Aakhus et al., 2016 [38]	Norway	Pragmatic cluster randomised trial	Evaluate tailored interventions of six practice recommendations for the treatment of depression in patients 65 and older	Intervention arm: 51 GPs interviewed and/or emailed questionnaires; 66 patients. Control arm: 73 GPs interviewed and/or emailed questionnaires; 68 patients
Goodarzi et al., 2018 [39]	Canada	Qualitative: focus groups and interviews	Identify barriers and facilitators for implementation of clinical practice guidelines for anxiety and depression in Parkinson's disease (PD) and dementia patients	Geriatricians, cognitive neurologists, family physicians, geriatric psychiatrists, movement disorder clinic specialists and PD patients and caregivers ($n = 40$)
Akrour et al., 2022 [40]	Switzerland	Audit and feedback	Determine compliance with evidence-based recommendations and implement evidence-based recommendations for prevention and management of aggressive/agitation in dementia patients	34 nurses and nurse assistants working with 28 patient cases

to practice gaps [37]. While the 'Interventions Targeted at Healthcare Workers' category contains 20 specific subcategories, only the subcategories that are applicable to the implementation interventions selected in the studies

Table 2 Relevant EPOC Taxonomy subcategories: Interventions targeted at healthcare workers [37]

Audit and Feedback	A summary of health workers' performance over a specified period of time, given to them in a written, electronic or verbal format. The summary may include recommendations for clinical action
Monitoring the performance of the delivery of healthcare	Monitoring of health services by individuals or healthcare organisations, for example by comparing with an external standard
Communities of practice	Groups of people with a common interest who deepen their knowledge and expertise in this area by interacting on an ongoing basis
Continuous quality improvement	An iterative process to review and improve care that includes involvement of healthcare teams, analysis of a process or system, a structured process improvement method or problem solving approach, and use of data analysis to assess changes
Educational materials	Distribution to individuals, or groups, of educational materials to support clinical care, i.e., any intervention in which knowledge is distributed. For example, this may be facilitated by the internet, learning critical appraisal skills; skills for electronic retrieval of information, diagnostic formulation; question formulation
Educational meetings	Courses, workshops, conferences or other educational meetings
Educational outreach visits, or academic detailing	Personal visits by a trained person to health workers in their own settings, to provide information with the aim of changing practice
Inter-professional education	Continuing education for health professionals that involves more than one profession in joint, interactive learning
Managerial supervision	Routine supervision visits by health staff
Patient-mediated interventions	Any intervention aimed at changing the performance of healthcare professionals through interactions with patients, or information provided by or to patients
Routine patient-reported outcome measures	Routine administration and reporting of patient-reported outcome measures to providers and/or patients
Tailored interventions	Interventions to change practice that are selected based on an assessment of barriers to change, for example through interviews or surveys
Health conditions	Examples such as acute stroke, acute surgery, or alcohol
Practice and setting	Examples such as health promotion in dental settings

will be described. The characteristics of the included studies are presented in Table 1.

Relevant EPOC subcategories are presented in Table 2. Our findings are presented as a narrative summary.

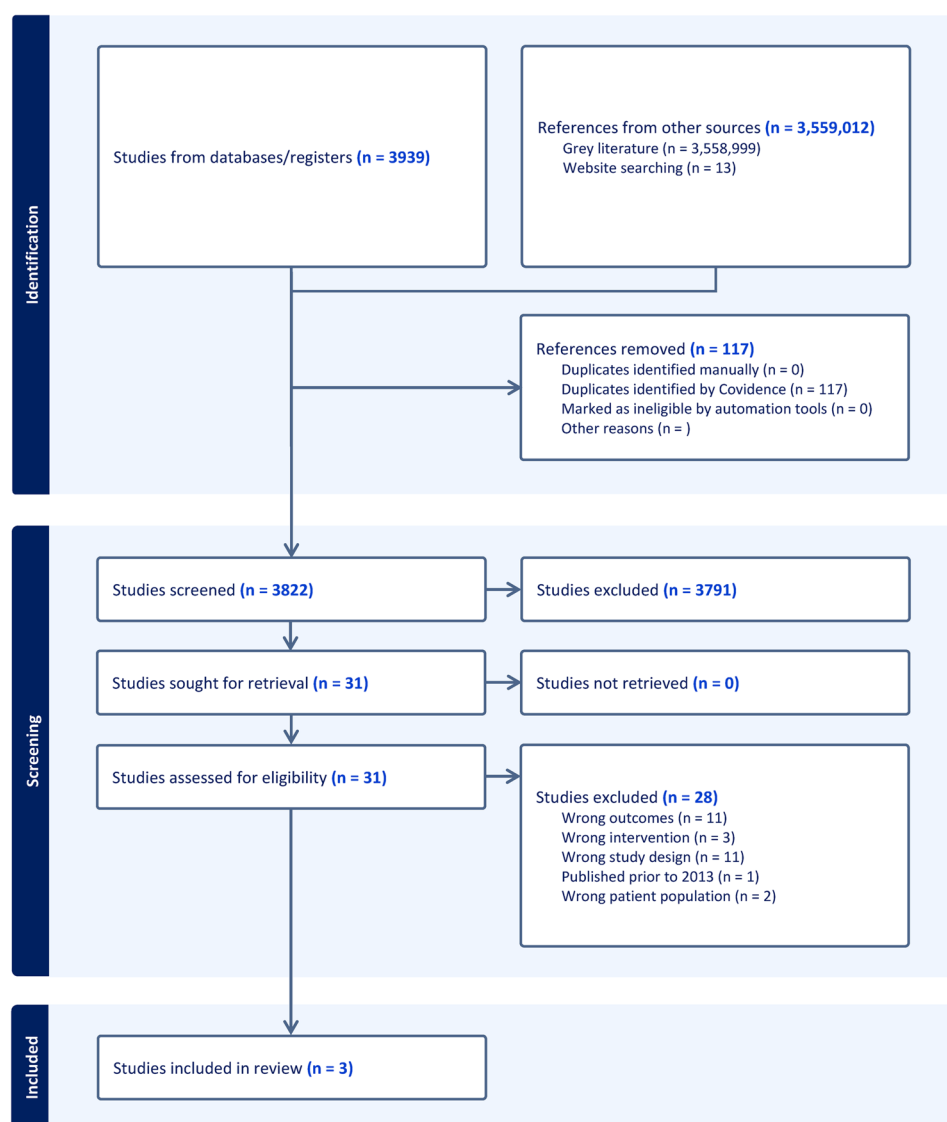


Fig. 1 PRISMA Flow Diagram

Results

Selection of the sources of evidence

A total of 3,939 peer-reviewed and grey literature sources were identified. After removal of 117 duplications, 3,822 resources were screened. A total of 31 studies were assessed for eligibility, with a further exclusion of 28 studies, resulting in three peer reviewed articles meeting inclusion criteria. Reasons for exclusion were that study outcomes or interventions not relevant to this review, or the study design did not meet eligibility criteria. The PRISMA flow chart is presented in Fig. 1.

Characteristics of the sources of evidence

The peer-reviewed search was updated on February 17, 2025. No new studies met the eligibility criteria for inclusion. No grey literature sources met inclusion criteria.

The updated search is shown in the updated PRISMA flow chart and is available as a supplemental file. The three reviewed studies meeting inclusion criteria were published between 2016 and 2022 (Table 1). All studies were published in peer-reviewed journals. The methodology varied between the studies: a cluster randomised trial [38]; a qualitative study [39]; and an evaluation of a quality improvement program [40]. The studies were conducted in Canada [39], Norway [38] and Switzerland [40]. The patient population of each study included adults 65 years and older. The patients in the studies had been diagnosed with depression, dysthymia, anxiety or depression in Parkinson's Disease (PD) or other dementias [38, 39], and behavioural symptoms of dementia [40]. A total of 360 participants comprising patients, caregivers and healthcare providers were engaged across the three studies. Sample sizes were 258 [38], 34 [40] and 40 [39]. Two

of the studies were conducted in primary care [38, 39] with one study conducted in an acute geriatric care unit [40]. The main objectives of the studies were to examine the barriers and facilitators to implementation of CPGs [38, 39] or evidence-based prioritized recommendations for best practices [40] in geriatric psychiatry care through interventions aimed at healthcare professionals.

Aakhus et al. (2016) conducted a pragmatic cluster randomized trial of 80 Norwegian municipalities. The primary outcome was the evaluation of tailored interventions to improve adherence to six CPGs by general practitioner (GP) participants in the treatment of community-dwelling adults 65 and older with depression. A website was developed for 40 municipalities. The website provided recommendations for the treatment of depression in older adults, evidence for the recommendations, assessment and management tools, and online courses. The primary objective was to examine the effectiveness of tailored interventions to improve healthcare professionals' adherence to guidelines. Secondary outcomes included patient-administered self-assessments to measure outcomes. While Aakhus et al. (2016) targeted healthcare professionals, administrators and patients, for the purpose of this scoping review, only interventions aimed at healthcare professionals were reviewed.

Goodarzi et al. (2016) conducted a qualitative study with the primary objective of identifying barriers and facilitators in the implementation strategies of CPGs for anxiety and depression in patients with dementia or Parkinson's dementia. Findings were interpreted using the Theoretical Domains Framework [41, 42] and the COM-B system [43]. Focus groups were conducted with people living with dementia or Parkinson's disease, their caregivers and physicians. A total of five focus groups and five interviews were conducted; for the purposes of this scoping review, only the interventions applied to healthcare professionals were reviewed.

Akrour et al. (2022) conducted an audit and feedback framework to examine nursing staff adherence to the implementation of evidence-based recommendations for preventing and managing agitation and aggressive behaviours in a dementia acute care geriatric unit. The JBI Practical Application of Clinical Evidence Systems (JBI PACES) was utilized to identify gaps in practice and implement strategies for nursing staff to improve compliance with the recommendations.

Implementation strategies used in selected studies

The included studies used interventions that were tailored to healthcare providers. The studies sought to develop communities of practice and frequently engaged in continuous quality improvement of patient care. Educational strategies were reported, as were strategies focused on organizational change management.

Tailored interventions

Tailoring interventions refers to the individualization of evidence-based health services developed to meet the unique needs of people who use the health services [37]. EPOC (2015a) defines tailored interventions as the selection of implementation strategies to change healthcare worker behaviour, commonly identified through interviews or surveys [37]. Aakhus et al. (2016) integrated an iteratively developed tailored intervention strategy to increase GP participants' completion of surveys; when participants did not respond to telephone requests for post-intervention interviews, surveys were mailed to their office [38]. A further facilitator was a tailored approach for each of the included municipalities by providing both general information applicable across all municipalities, and information adapted to each region [38]. Participants also received information tailored to their specific professions [38]. The website provided information instructing GP participants about a related CME approved 15-hour course [38]. While physician participants in the Goodarzi et al. (2018) focus groups did not recommend specific tailored interventions, lack of CPGs utilization was frequently related to not tailoring CPGs to practice [39]. Akrou et al. (2022) attempted to tailor interventions through training nursing staff to recognize and manage behaviours specific to their patient population.

Communities of practice

Communities of practice have been demonstrated to be an important source of resilience and strength for healthcare workers by providing spaces for shared vulnerability and reflections of work related experiences [44]. Developing communities of practice by bringing together groups of people with common interests and goals who seek to deepen their knowledge and / or expertise is an implementation strategy that aims to change healthcare workers' behaviours [37]. Goodarzi et al. (2018) facilitated bringing together stakeholder groups of clinicians, patients and caregivers through focus groups and interviews. Akrou et al. (2022) reported regular interdisciplinary meetings with nurses, physicians and a geriatric psychologist. Interventions can be aimed at changing healthcare professionals' behaviours through interactions with patients, either directly, or through providing or receiving information from patients [37].

Patient-mediated interventions

Patient-mediated interventions were common to each study. Aakhus et al. (2016) identified potential patient participants through electronic medical records (EMR) searches or by their physicians if they met the eligibility criteria (community dwelling, aged 65 or older with depressive symptoms and had consulted with their

physician in the previous six months). The authors developed a website for all study participants and provided specific resources for patient participants such as a brochure on depression, access to an online course, checklists regarding sleep problems and anxiety, information about self-help activities and the contact information of voluntary community organizations [38]. At the six month mark of the study, patient participants were assessed for depression, anxiety, loneliness, pharmacological adherence and use of psychosocial interventions through interviews and questionnaires with few differences noted between the intervention and control groups. Goodarzi et al. (2018) engaged patient participants in focus groups and interviews. Akrou et al. (2022) indirectly included patient participants through consultations with healthcare providers about changes to agitation / aggression.

Continuous quality improvement

Continuous quality improvement initiatives have been adopted in many healthcare settings to enhance health systems quality, following an iterative process that engages healthcare teams in the analysis of collected data to determine any changes and improvements to programs and systems [37, 45]. Only one of the three included studies described continuous quality improvement strategies [40]. After completing the implementation of best-practice recommendations phase of the project, Akrou et al. (2022) conducted an audit of nurses' compliance to the recommendations, then developed further recommendations based on the audit results. Audit interviews with nurse participants revealed that nurses felt uncomfortable with patients whose behaviours were considered agitated or aggressive [40]. A 9-item list of suggestions to support nursing staff was developed with nurses to improve patient care and documentation [40]. Recommended strategies included reinforcing the importance of listening during to nurses during interdisciplinary meetings to reduce their mental workload, supporting interdisciplinary collaboration efforts, and holding regular meetings with nursing staff to address problems caused by their lack of collaboration and adherence to case plans [40]. Twice yearly training courses for new hires and a mentorship program for the first month of employment were recommended to ensure the sustainability of the recommendations [40].

Education

Educational interventions aimed at healthcare providers include interventions such as games, materials, meetings, outreach visits and academic detailing [37]. Aakhus et al. (2016) developed a website to distribute evidence-based recommendations implemented for the study. The website facilitated learning critical appraisal tools

by including evidence for each recommendation, diagnostic and treatment tools, and educational resources required for the intervention [38]. Paper-based materials, such as templates, manuals and pamphlets, were distributed by mail and in-person visits [38]. An online course developed for healthcare professionals was approved for continuous medical education credits by the Norwegian Medical Association [38]. Nurses in an acute geriatric care unit were provided training detecting, deterring, and managing patients' challenging behaviours to comply with best practice recommendations [40]. Aakhus et al. (2016) distributed paper-based templates, manuals, pamphlets and materials at outreach visits to GP participants.

Organizational change management

Academic detailing is the most frequently used implementation strategy in organizational management efforts to change healthcare provider behaviour, multiple interventions may also be considered [46]. Audit and feedback consists of providing written, electronic or verbal performance summaries to healthcare providers, usually over a specific period [37]. Akrou et al. (2022) conducted audits of performance to assess improvements in adherence to best practices and to identify areas for improvement at baseline and four months. The audits examined organizational processes, education for healthcare providers, consultations between healthcare providers and patients, caregivers and families to identify precipitating triggers for behaviours, risk assessments for patients at risk, and the development and implementation of individualized care plans for patients with patients, caregivers and families. All audit summaries were shared with nursing staff during post-intervention feedback, who identified the need for further training, leading to the development of specialized and on-going training for new hires [40].

Managerial supervision, typically consisting of routine supervision or visits by healthcare staff, may also be utilized to promote behavioural change in healthcare providers [37]. Akrou et al. (2022) created a core group of multidisciplinary nursing healthcare providers and a scientific development officer to manage and coordinate project implementation. The head nurse conducted managerial supervision of nursing staff to resolve any disputes regarding continuity of care. Situations regarding managing challenging patient behaviours were discussed during morning nursing handover meetings; the head nurse frequently encouraged nursing staff to ask for patient referrals to experts such as psychologists or psychogeriatrics [40]. The head nurse was also responsible for ensuring that assessments and measures used to describe intervention strategies were completed [40].

Finally, informing the public about intervention strategies through releasing the performance data of healthcare providers may be an effective strategy in the organization

of care [37]. Akrouer et al. (2022) made a public presentation about the results of the study, which the authors reported attracted funding.

Challenges to implementation

The studies noted challenges to the implementation of CPGs: physicians' lack of knowledge of the breadth of CPGs; perceived weak evidence to support recommendations; and CPGs length, language and irrelevance of topics to healthcare professionals' practice [39, 40]. Participants across all studies noted that a barrier to implementation was lack of time to administer guidelines [38–40]. A common noted barrier was lack of consistency amongst guidelines, with participants noting that they sometimes disagreed with CPGs recommendations [39]. Technical challenges were cited by participants who struggled to use website-directed resources on GP websites or EMR software [40].

Discussion

Our review highlights the strategies and outcomes of reported strategies in the implementation of CPGs for older adults' mental health conditions including neurocognitive conditions. Our literature search of peer-reviewed and grey literature identified only three studies and demonstrated that few studies had developed implementation strategies to support adherence to CPGs for older adults' mental health including neurocognitive conditions. For the purpose of identifying effective implementation efforts, interventions were classified into the EPOC sub-category of interventions targeted at healthcare workers, under the Implementation Strategies category. No single study engaged in all of the recommended sub-categories of interventions. However, some common themes emerged. Participants across the studies noted several suggestions for tailoring interventions to develop effective strategies for CPG utilization. Each study recommended the use of tailored interventions, which aligns with calls for the adaptability of CPGs to local contexts [9]. In their systematic review and meta-analysis of 23 studies Baker et al. (2015) showed that tailoring interventions to determinants of practice is a more effective facilitator of clinical guideline adherence and improvements to professional practice than either no intervention or passive dissemination, however it was not possible to identify which specific elements of tailored strategies were effective. Future studies could compare the effectiveness of diverse tailoring interventions to determine their impact on clinical guideline adherence in the care of older adults' mental health including neurocognitive conditions.

An additional emerging theme was the significance of creating communities of practice [38–40]. Study participants noted the importance of interdisciplinary care

teams in the assessment, diagnosis and treatment across a range of settings, and as a potential facilitator to CPGs utilization [39, 40]. These interventions align with findings that developing communities of care can create resilient healthcare workers [44]. In a systematic review of 25 studies with a total of 12,268 patients, patient-mediated interventions were found to improve healthcare providers' adherence to recommended clinical practices when compared to usual care or no intervention [47]. Additionally, one study included in this scoping review demonstrated the potential link between interdisciplinary communities of practice and the improved coordination of care and management of care processes [40], which aligns with EPOC recommendations by promoting behavioral changes in healthcare professionals—both in how they interact with patients and how they collaborate with each other—to improve patient care [37].

Educational interventions were noted as a potentially effective strategy for increasing use of CPGs [39, 40]. Nurses in an acute care geriatric unit identified the need for further training during post-intervention feedback discussions, which led to the development of on-going training and specialized training for new hires after the end of the study [40]. This finding aligns with the wider body of systematic reviews of implementation strategies for CPGs, in which educational interventions are commonly used [20, 48, 49]. A recent systematic review of 21 studies of implementation strategies to improve adherence to guidelines in primary care clinics, the majority of which were clustered RCTs, concluded that individual educational interventions strategies alone, such as audit and feedback or academic detailing, were less effective than a tailored integration of multiple interventions were mostly like to improve organizational change behaviour [46]. A recommendation for future research would be to examine whether focused training and specific educational materials, or individualized tailored approaches to promote organizational change management, could be effective facilitators of guidelines and best practice recommendations adherence.

The included studies also reported common challenges to implementing CPGs: lack of practitioners' knowledge of CPGs; lack of clinical time to learn about and implement CPGs; lengthy recommendations perceived by practitioners as irrelevant to their patients; and discomfort with technology where CPGs were web- or EMR-based. Our findings highlight current gaps in patient care, despite an evidence base demonstrating the improvement to patient outcomes where CPGs are utilized.

Our findings represent important gaps in the literature: lack of research reporting implementation strategies for the uptake of CPGs for older adult mental health including neurocognitive conditions; little discussion of the importance of evaluation of implementation strategies

of CPGs; and tremendous variability in the implementation strategies reported. Few CPGs or best practice recommendations identify, integrate or evaluate implementation strategies during development, making effective interventions difficult to determine. The potential implications for patient care of such gaps are critical to address due to our global aging population in order to enhance mental health practitioners' ability to provide best practices evidence-based care for patients.

Challenges to the methodology of studies attempting to determine effective implementation strategies align with the literature. In a scoping review of 86 CPGs in low and middle-income countries, the most frequently noted weaknesses were lack of methodological rigour and of stakeholder engagement, and limited methods of implementation strategies [50]. Watkins et al. (2015) concluded, in their systematic review of 19 implementation studies of adherence to CPGs by pharmacists in community settings, that poor methodology resulted in inconclusive findings. Improvements to selection of methodology and rigour in methods could contribute to identifying, evaluating and understanding strategies for sustainable interventions [22]. Researchers should consider which study designs would be most appropriate to their research question [22].

While our scoping review looked at interventions aimed at healthcare providers only, physician participants noted that CPGs should first and foremost be determined to be relevant to all end users [39]. End users may include multidisciplinary healthcare providers with different specialties and backgrounds, patients, families, healthcare organizations and policy makers. A recent guideline for the assessment and management of the behavioural and psychological symptoms in dementia engaged people with lived experience, as well as patients, caregivers and clinicians, in its development to identify topics of relevance [51]. A recommendation for future research would be to examine the impact of including people with lived experience on the implementation of guidelines.

Understanding how CPGs may be perceived across countries could provide insight into eliminating challenges to their use. The studies' reported common challenges to the implementation of CPGs align with research conducted in low and middle income countries across both physical and mental health issues, where guidelines can be perceived as unclear or too difficult to implement [52]. A recent systematic review of 23 international CPGs concluded that encouraging healthcare leadership teams to strive to identify facilitators to improve guideline implementation into clinical practice could support best practices while reducing inconsistencies in the mental health care for older adults [53]. Future developers of CPGs could consider how to increase clarity of language, knowledge and awareness of the breadth

of CPGs, perhaps through such initiatives as developing abbreviated versions of CPGs like pocket cards for use in acute settings and ensure that only high quality evidence supports recommendations.

Finally, key to any future CPGs development would be an understanding of the environment in which CPGs struggle to be developed and implemented by researchers and healthcare providers. A recent scoping review of 48 studies conducted for the World Health Organization (WHO) examined barriers to the implementation of WHO clinical and public health guidelines [52]. The authors concluded that guideline non-adherence could be attributed to a lack of training of healthcare providers, human healthcare resources limitations, and few policies to promote compliance to guidelines [52]. These findings align with this scoping review. We further note that the inability to implement best practice recommendations was found to be related to inequitable policies protecting our most vulnerable, such as those related to masking and PPE policies during COVID-19 [54]. With significant limitations on the time and resources of researchers, healthcare professionals and policy makers, issues of quality and shortages of CPGs are noted internationally [55]. A final recommendation is advocating for policy to devote funds for implementation strategies of CPGs and that the training of healthcare professionals be considered a critical component in guideline adherence.

Strengths and limitations

Our scoping review was comprehensive and developed with the guidance of a medical science librarian and the support of subject matter experts. Since the reliability and validity of a scoping review is dependent on presenting the results in a transparent and replicable method, we relied on the evidence based JBI Manual for Evidence Synthesis for guidance [27, 28]. Following these guidelines served to ensure transparency in the search strategy and identified clear inclusion and exclusion criteria to effectively screen full text articles. However, our scoping review had methodological limitations. Our search strategy cast a wide net to include both peer reviewed and grey literature, and due to a paucity of literature on the topic, only three studies met the inclusion criteria. Our search terms may have been too narrow to capture CPGs and clinical recommendations for best practices, despite locating 3,939 artifacts. In addition, we reviewed resources available in English only. Scoping reviews are demanding in their use of resources and frequently require multiple reviewers and time to reflect on and discuss decisions regarding the inclusion and exclusion of artifacts [56]. Our scoping review may have benefited from more than two reviewers to facilitate discussions regarding inclusions and exclusions of artifacts.

A limitation to one of the three included studies is noted. Aakhus et al. (2016) considered their study to be underpowered with inconclusive results due to the inability to recruit the required number of GP participants within the time limits of the project [38]. The authors noted that their tailored intervention strategy likely had minimal effect on guideline adherence by GPs [38]. Response rates were not equal across municipalities, further biasing results [38]. Difficulty in engaging GPs in a study may be related to the reason that prevents clinicians from utilizing CPGs: lack of clinical time.

Conclusion

The current scoping review sought to identify effective implementation strategies for CPGs to improve CPGs adherence. A substantial paucity of research was identified. While limited available literature indicates inconclusive results, this review maps current CPGs implementation strategies and in doing so, identifies critical gaps in the CPGs implementation research for older adult mental health conditions including neurocognitive conditions. Future developers of CPGs should include implementation evaluation as a critical component to guideline development to ensure that research efforts are optimized, and that guideline topics are relevant to practitioners and represent a required unmet need in patient care.

Abbreviations

CPGs	Clinical Practice Guides
EPOC	Effective Practice and Organization of Care Taxonomy
PCC	Population, Concept, Context framework
JB	Joanna Briggs Institute
WHO	World Health Organization

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12877-026-08005-5>.

Supplementary Material 1: Appendix A: Peer reviewed literature search strategy (updated on February 17, 2025).

Supplementary Material 2: Appendix B: Grey literature search.

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Authors' contributions

SH is the principle co-author and attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. SH, DPS and JAW conceived and designed the study. JM developed the search criteria and conducted literature searches. SH accessed the included studies and conducted the grey literature searches. SH drafted the manuscript. JM reviewed the search strategy description. The aims and results of included studies were summarized by the first author (SH) and reviewed by co-authors (DS and JW). All authors critically revised the manuscript.

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Data availability

All data supporting the findings of this study are available within the paper and its Supplementary Information.

Declarations

Ethics approval and consent to participate

not applicable.

Consent for publication

not applicable.

Competing interests

The authors declare no competing interests.

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