Implementation and dissemination of home and community-based interventions for informal caregivers of people living with dementia: a systematic scoping review protocol

Eden Meng Zhu, Martina Buljac-Samardžić, Kees Ahaus, Nick Sevdalis, Robbert Huijsman

INTRODUCTION
Dementia is a neurocognitive disorder that affects over 36 million people and is expected to physically affect 66 million by 2030. People with dementia (PwD) generally become incapable of independent living and lose the capacity to independently make informed decisions. They require extensive care provided by caregivers throughout the remainder of their lives, often within a formal care institution (eg, nursing home, long-term residential care facility). Previous studies have indicated that PwD prefer home-based care with support from formal and informal caregivers. Informal caregivers are identified...
as any individual who provides ‘unpaid care to older and
dependent persons with whom they have a social relation-
ship, such as a spouse, parent, child, other relative, neigh-
bour, friend or non-kin’. For those at more advanced
stages of dementia, regular support from informal care-
givers is essential to maintaining activities of daily living.
As the global prevalence of dementia cases increases,
more spouses and children of PwD will adopt the role of
the primary informal caregiver and become inundated
with responsibilities.

Resultantly, the quality of life for informal caregivers
of PwD has become a global issue. Studies conducted
across Europe found that informal caregivers often
indicated a need for formal care for their relatives
with dementia due to the impacted quality of life they
experience in their role, the difficulties with managing
behavioural problems of PwD and the limited access to
effective community-based respite and supportive
care services. In response, researchers and health
policy actors have explored opportunities to develop
and implement community-based interventions for
informal caregivers of PwD that support and encourage
the delivery of long-term care at home, or ageing in
place, and delay institutionalisation. In the UK, ‘Living
well with Dementia’ is a top priority in the national
dementia strategy, which includes the development and
implementation of supportive services for caregivers of
PwD living at home. In the Netherlands, the Ministry
of Health, Welfare and Sport recently published The
National Dementia Strategy 2021–2030, which reported
an estimated national figure of 350 000 informal care-
givers for PwD, within a total national population of 17
million persons, 31% of whom devote more than 40
hours per week to providing informal care. The growing
focus towards improving support for informal caregivers
accelerates the development and implementation of
more evidence-based programmes that support and
sustain home-based and community-based care.

Furthermore, Wübker et al reported that the average
monthly cost of institutionalised and professional home-
based long-term care for PwD across eight European
countries amounted to 4491 Euro and 2491 Euro, respect-
ively. These results reveal the magnitude of the demand
for dementia care providers, the relatively high costs
of institutionalised care and the value of supplemental
formal home-based and community-based dementia care
resources. Previous studies have also indicated that PwD
personally prefer to receive delay institutionalisation
and receive care at home due to their desire to maintain
autonomy and preserve their personhood. Informal
caregivers of PwD have also previously associated institu-
tionalisation with abandonment and mainly considered
this option once the disorder progressed and presented
unmanageable complex care demands or once their
resources became limited or insufficient to sustain home-
based care. Additionally, informal care for PwD living
at home is the only feasible option in resource-limited
countries.

In response to this demand, health policy actors are
urged to invest in developing and implementing sustain-
able home and community-based care solutions for PwD
and their informal caregivers that delay or replace insti-
tutionalisation to conserve economic resources and to
satisfy the preferences of PwD and their informal care-
givers. Given these conditions, the self-efficacy and care-
giving competencies of informal caregivers ultimately
determine care outcomes for PwD and informal care-
givers; proper education, support and resources provided
by formal care providers are essential to support informal
caregivers in their role. Without adequate support,
according to the stress process theory, informal care-
givers are more vulnerable to developing depression
and anxiety and become more susceptible to developing
chronic illnesses exacerbated by stress and, subsequently,
compromising their caregiving abilities.

**Rationale for review**
The implementation process of interventions that
support informal caregivers of PwD must be examined
in addition to intervention studies to gain a comprehen-
sive understanding of their usability and real-world value
and impact. As for effectiveness studies of interventions,
Cheng and Zhang recently published a meta-review that
included 60 separate review articles, amalgamating
over 500 individual articles that examined the effective-
ness of various informal caregiver-focused interventions. They
identified the main types of interventions available
for informal caregivers of PwD, including psychoedu-
cation and psychotherapy (eg, cognitive behavioural
therapy), support groups, respite care, caregiver training
(eg, occupational training) and mindfulness and exercise
programmes. However, previous studies have often
reported a need for additional implementation studies
that report strategies to ‘translate caregiver interventions
into practice’ and ‘evaluate the mechanisms for sustain-
ability within the healthcare system’.
Successful implementation also requires a comprehensive understanding of the barriers and facilitators to implementation and the
textual factors influencing dissemination of evidence-
based practices.

In light of this evidence, this review is grounded onto
theory and concepts developed within the recently
merged multidisciplinary field of implementation
science. Implementation science seeks to understand and characterise the process of translating evidence into
routine practice in healthcare settings, with the ultimate
aim of accelerating this translation and ensuring health-
care practice is consistently and appropriately evidence
based. In doing so, the field has developed a clear
focus on so-called ‘implementation strategies’, defined as
methods or techniques used to support and enhance the
adoption, implementation and sustainability of an inter-
vention clinical intervention. The most comprehensive
mapping of such implementation support interventions
was developed in the context of the Expert Recommenda-
tions for Implementing Change (ERIC) study.
literature review and an expert consensus process, ERIC developed a compilation of 73 implementation strategies that has allowed researchers to report implementation process details using a homogenous and consistent approach. Waltz et al further compiled the 73 strategies into nine thematic clusters, including evaluative and iterative strategies, provide interactive assistance, adapt and tailor to context, develop stakeholder relationships, train and educate stakeholders, support clinicians, engage consumers, use financial strategies and change infrastructure. These clusters will provide one part of the conceptual framework for this review. The other part of this framework will be offered by a brief taxonomy of ‘implementation outcomes’, defined as the effects of deliberate and purposive actions to implement new treatments or services. The most established taxonomy for these outcomes has been developed by Proctor et al, who identified acceptability, adoption, appropriateness, feasibility, fidelity, cost, penetration and sustainability as a core set of implementation outcomes to be measured and studies alongside patient and service-level outcomes. The corpus of evidence that this review will identify will be synthesised through the prism of implementation strategies and outcomes.

To-date, a few reviews have focused on implementation strategies in the area of dementia care. Lourida et al presented a scoping review of implementation and dissemination strategies of interventions for the dementia care recipient (ie, PwD). Bennet et al also published a systematic review on implementation studies of non-pharmacological interventions addressing behavioural and psychological symptoms of dementia. Although the reviews of Lourida et al and Bennett et al do focus on implementation strategies, interventions were not focused on informal caregivers. The review of Christie et al did focus on implementation strategy of interventions for informal caregivers of PwD living at home; however, they limited their focus to eHealth interventions and excluded implementation studies on the various other types of interventions available to support informal caregivers in their role. Furthermore, the UK National Institute for Health Research and the Dutch Research Council have both released calls for research proposals focusing primarily on supporting PwD and their informal caregivers carers and enhancing their quality of life. Based on these findings, this study aims to produce a scoping review to synthesise the available evidence relating to the implementation of interventions that support informal caregivers of PwD.

Review aim and objectives
The aim of the scoping review is to provide an overview of reported implementation insights of interventions for informal caregivers of PwD living at home. Our specific objectives are to identify the implementation strategies, implementation outcomes and barriers and facilitators that impede or support the dissemination and uptake of interventions. All three objectives are essential to developing a comprehensive review that will sufficiently inform the development of future interventions and their implementation plans without creating further information fragmentation.

METHODS
Scoping review methodology with a systematic search strategy will be applied to this review. According to Arksey and O’Malley, a scoping review is most suitable to summarise the range of evidence, to disseminate the research findings and to expose information gaps in the existing literature; scoping reviews also cover broader topics presented through various study designs. The proposed scoping review is guided by a five-step framework by Arksey and O’Malley, which includes (1) identifying research questions, (2) constructing a primary search strategy and (3) identifying and selecting relevant studies with a clear inclusion and exclusion criterion, (4) extracting and charting the relevant data and (5) summarising, collating and reporting the final results. This protocol was guided by the PRISMA-P (Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols) (see online supplemental file 1: PRISMA-P).

A brief protocol for this review has also been registered in the Open Science Framework (osf.io/tvdb5) to provide transparency throughout the review process. The final scoping review will follow thePRISMA-Extension for Scoping Reviews (see online supplemental figure 1: PRISMA-ScR).

Identifying the research questions
The main research question is ‘what are the implementation and dissemination strategies reported for home and community-based interventions that support the informal caregivers of people with dementia living at home?’. Three subquestions were developed that will lead to answering the main question:

1. What implementation strategies have been reported for interventions that support informal caregivers of people with dementia living at home?
2. What are the implementation outcomes reported for these interventions?
3. What are the reported barriers and facilitators of implementation and dissemination that impede or support the uptake and utilisation of these interventions?

Search strategy
First, a limited search of EMBASE and MEDLINE was conducted to identify articles focusing on interventions for caregivers of PwD; texts that fit the search domain were analysed to determine key index terms. Following, with additional support from a medical librarian, an initial search strategy comprised of the identified key terms relating to ‘dementia’, ‘informal caregivers’, ‘intervention’ and ‘implementation and dissemination’ was developed (see online supplemental file 3: Full Search Strategy). Articles published from inception through
8 March 2021 will be included. The search strategy will
be adapted for use in Embase, Medline (Ovid), Web of
Science and Cochrane Central Register of Controlled
trials (Wiley) to ensure comprehensive literature in the
final search outcomes. Results obtained across these
databases will be compiled and deduplicated prior to
screening.

Identifying and selecting relevant studies
The full process of identifying and selecting relevant
studies will have three stages. First, the titles and abstracts
of all unique results previous obtained will be imported
and screened manually by two independent reviewers
(EMZ and MB-S) using the novel ASReview tool (https://
asreview.nl/). According to van de Schoot et al. ASRe-
view is able to detect 95% of the eligible studies after
screening between only 8% to 33% of the studies, which
significantly reduces time spent screening titles and
abstracts. Ferdinands applied ASReview to a full set of
5050 studies that were previously manually identified and
screened by another reviewer to evaluate the tool’s opera-
tional performance. The results revealed that ASReview was
also able to obtain ‘more than 80% of relevant publica-
tions after screening only 10% of all publications’ and
‘identified 95% of relevant publications after screening
about 20% of all publications’, thus reducing screening
effort by 78%–82%. ASReview was selected as a screening
tool due to its novel use of machine learning to first find
and present the titles and abstracts in an efficient order,
from most relevant to least relevant, which will allow the
reviewers to manually filter all results quickly and effi-
ciently without compromising the review’s integrity.

The title and abstract screening process will use a two-
pronged approach. The first reviewer (EMZ) will manu-
ally screen all of the title and abstracts using ASReview and
includes and exclude studies based on the exclu-
sion criteria. The full text of included studies by the first
reviewer will be screened in the next stage. Following,
using ASReview, the second reviewer (MB-S) will manually
review all of the studies excluded by the first reviewer to
ensure that all relevant studies have been considered for
full-text assessment; once 50 successive articles have been
excluded, the second reviewer will stop screening. The
full texts of all studies included by the second reviewer will
also be assessed to avoid any false negatives.

Second, the selected studies will undergo a full-text eval-
uation, conducted by two independent reviewers (EMZ
and MB-S), who closely examine the population, inter-
vention and outcomes reported in the studies to deter-
mine if the study is suitable for the purpose of this review
and to avoid false positives obtained in the first step. If
there are any disagreements at this stage, a third reviewer
will read the full text and discuss the areas of contention
with the two independent reviewers to reach a consensus.
Third, included articles will undergo a reference list
check to ensure that relevant articles are found in this
proquest.com) will be used to manage full-text articles and
citations. The screening process and reasons for exclu-
sion will be reported using the PRISMA flow diagram (see
online supplemental figure 2: PRISMA-ScR).

In accordance with Arksey and O’Malley’s scoping
review methodology and reporting guideline, the inclu-
sion and exclusion criteria may be iteratively refined
during the review process; any modifications made in
the full scoping review will be reported. This review will
consider all empirical studies published in peer-reviewed
journals to ensure veracity of information; it will exclude
any type of systematic reviews, book chapters, editorial
letters, opinion papers or grey literature. There are no
limitations on the types of interventions included, but
they must directly aim to impact the informal caregiver
of PwD. Literatures published in languages other than
English are excluded due to resource limitations. Study
should focus on the implementation and dissemination
of interventions for informal caregivers of PwD living
at home; for example, spouses, children, neighbours or
friends. All types of interventions are included in this
review if they directly support or impact the informal
caregiver of PwD living at home.

To be included in this review, studies must either: (1)
explicitly report detailed information on implementation
strategies used and implementation outcomes examined
for all types of evidence-based interventions, delivered at
home or within the community, that directly impact the
experience of informal caregivers of PwD living at home
or (2) present detailed information on the perceptions
and attitudes, or barriers and facilitators, involved in
the implementation and dissemination process of these
interventions from the informal caregiver perspective.
This review will exclude all studies that present interven-
tions delivered within formal institutional care settings or
have a primary focus on formal care providers as study
participants. Dyadic interventions that provide care for
PwD, without direct impact on the informal caregiver, will
also be excluded. Studies that involve interventions for
informal caregivers of people with conditions other than
dementia will also be excluded.

Data charting
Data from the included studies will be initially extracted
using a data extraction table that includes study character-
istics, including first author, year of publication, country,
study design and frameworks used, aim and purpose of
study, types of intervention as reported in Cheng et al.8
participant details (eg, number of participants, relation-
ship between informal caregiver and PwD) and main
outcomes reported within the included study.

An initial selection of 10 selected studies will be used
as a pilot sample. One reviewer will extract data from
this sample and populate the extraction form. The second
reviewer will assess the accuracy and suitability of the
domains analysed based on the study’s objectives;
agreements between two reviewers will be resolved
within the team. The data from the remaining included
studies will then be extracted by the first author using the
refined data extraction table. Any iterative modifications made to the data extraction table will be reported in the full scoping review article.

Collating, summarising and reporting the results
The main outcomes from this review will build on implementation science literature and use the 73 implementation strategies identified through the ERIC study, and the nine thematic clusters identified in Waltz et al to structure and homogenise the reporting of implementation data obtained through the included studies. Furthermore, reported implementation outcomes within these included articles will be extracted and structured with guidance from evidence provided in Proctor et al.

The focus on these two aspects will allow researchers to synthesise implementation evidence from interventions across various contexts. This review will also include the identified barriers and facilitators to implementation and dissemination, including organisational, professional, individual, financial and other perspectives, to gain a comprehensive understanding of the contextual factors that influence outcomes.

Patient and public involvement
A primary aim of this review is to offer an overview of what appears currently to be a rather disparate evidence base and to use formal implementation science concepts to synthesise and organise this evidence. People with dementia, formal or informal caregivers or healthcare professionals working in dementia services will be involved in the stages following the review publication. For example, a follow-up empirical study will validate the scoping review’s findings and explore end users’ perspectives on what might be viable and desirable approaches to tailor the implementation and dissemination of support interventions identified and/or to address the barriers to their scale-up application in support of informal caregivers. End users will not be involved in any phase of the review work. The first phase in which end users will be involved is when a viable and shareable summary of the review will be distributed.

RESULTS
Findings will be extracted and reported using a narrative synthesis approach to determine the key contextual determinants influencing the implementation and uptake process as well as the reported data regarding the implementation of caregiver-focused interventions to clarify the gaps that require further resource commitment and research. The results will also reveal the nature and trend of the existing literature in implementation science regarding informal caregiver interventions and explore how implementation is being reported to contribute to a more standardised homogeneous reporting strategy.

Ethics and dissemination
This scoping review aims to guide the direction of future research towards the evidence-driven implementation of effective, evidence-based practices that support informal caregivers of people living with dementia at home. The review will not require ethical approval since it will not involve fresh primary data collection, and the findings will be published in a peer-reviewed journal and disseminated at future conferences on geriatric care and implementation science.

Online supplemental figure 1 presents the PRISMA ScR, which will be used to guide the reporting of the final scoping review. Online supplemental figure 2 presents the PRISMA flow diagram, which will provide transparency during the text screening and final inclusion and exclusion process in the final scoping review.

Acknowledgements
The authors wish to thank Dr Sabrina Meertens-Gunput from the Erasmus MC Medical Library for developing and updating the search strategies and Dr Rens van de Schoot from Utrecht University for his consultation on the operationalisation of ASReview for title and abstract screening.

Contributors
EMZ and MB-S formulated the idea, and developed the research questions and the methodology of this review and review protocol. KA, RH and NS contributed to designing the research methods. EMZ drafted the manuscript, and all authors contributed the editing and approval of the final manuscript.

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Competing interests
NS is the director of the London Safety and Training Solutions Ltd, which offers training in patient safety, implementation solutions and human factors to healthcare organisations and the pharmaceutical industry. The other authors have no conflicts of interest to declare.

Patient consent for publication
Not applicable.

Provenance and peer review
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Supplemental material
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Eden Meng Zhu http://orcid.org/0000-0001-5039-0578

REFERENCES
# PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol

<table>
<thead>
<tr>
<th>Section and topic</th>
<th>Item No</th>
<th>Checklist item</th>
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<td><strong>ADMINISTRATIVE INFORMATION</strong></td>
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<td><strong>Title:</strong></td>
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<tr>
<td>Identification</td>
<td>1a</td>
<td>Identify the report as a protocol of a systematic review</td>
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<tr>
<td>Update</td>
<td>1b</td>
<td>If the protocol is for an update of a previous systematic review, identify as such</td>
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<tr>
<td><strong>Registration</strong></td>
<td>2</td>
<td>If registered, provide the name of the registry (such as PROSPERO) and registration number</td>
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<td><strong>Authors:</strong></td>
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<tr>
<td>Contact</td>
<td>3a</td>
<td>Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author</td>
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<tr>
<td>Contributions</td>
<td>3b</td>
<td>Describe contributions of protocol authors and identify the guarantor of the review</td>
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<tr>
<td><strong>Amendments</strong></td>
<td>4</td>
<td>If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments</td>
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<td><strong>Support:</strong></td>
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<td>Sources</td>
<td>5a</td>
<td>Indicate sources of financial or other support for the review</td>
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<td>Sponsor</td>
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<td>Provide name for the review funder and/or sponsor</td>
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<td>Role of sponsor or funder</td>
<td>5c</td>
<td>Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
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<tr>
<td><strong>Rationale</strong></td>
<td>6</td>
<td>Describe the rationale for the review in the context of what is already known</td>
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<tr>
<td><strong>Objectives</strong></td>
<td>7</td>
<td>Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)</td>
</tr>
<tr>
<td><strong>METHODS</strong></td>
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<td><strong>Eligibility criteria</strong></td>
<td>8</td>
<td>Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review</td>
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<tr>
<td><strong>Information sources</strong></td>
<td>9</td>
<td>Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage</td>
</tr>
<tr>
<td><strong>Search strategy</strong></td>
<td>10</td>
<td>Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated</td>
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<td><strong>Study records:</strong></td>
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<tr>
<td>Data</td>
<td>11a</td>
<td>Describe the mechanism(s) that will be used to manage records and data throughout the review</td>
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**management**

### Selection process

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<tr>
<td>11b</td>
<td>State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)</td>
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### Data collection process

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<tr>
<td>11c</td>
<td>Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators</td>
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### Data items

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<tr>
<td>12</td>
<td>List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications</td>
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### Outcomes and prioritization

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<td>13</td>
<td>List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale</td>
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### Risk of bias in individual studies

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<tr>
<td>14</td>
<td>Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis</td>
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### Data synthesis

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<td>15a</td>
<td>Describe criteria under which study data will be quantitatively synthesised</td>
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<td>15b</td>
<td>If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall’s τ)</td>
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<tr>
<td>15c</td>
<td>Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)</td>
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<td>15d</td>
<td>If quantitative synthesis is not appropriate, describe the type of summary planned</td>
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### Meta-bias(es)

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<td>16</td>
<td>Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)</td>
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### Confidence in cumulative evidence

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<td>17</td>
<td>Describe how the strength of the body of evidence will be assessed (such as GRADE)</td>
</tr>
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</table>

* It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.

**Figure 1. Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist**

<table>
<thead>
<tr>
<th>SECTION</th>
<th>ITEM</th>
<th>PRISMA-ScR CHECKLIST ITEM</th>
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<tr>
<td>Title</td>
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<td>Identify the report as a scoping review.</td>
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</tr>
<tr>
<td><strong>ABSTRACT</strong></td>
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<tr>
<td>Structured summary</td>
<td>2</td>
<td>Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
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<tr>
<td>Rationale</td>
<td>3</td>
<td>Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Objectives</td>
<td>4</td>
<td>Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td><strong>METHODS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol and registration</td>
<td>5</td>
<td>Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>6</td>
<td>Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Information sources*</td>
<td>7</td>
<td>Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Search</td>
<td>8</td>
<td>Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Selection of sources of evidence†</td>
<td>9</td>
<td>State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Data charting process‡</td>
<td>10</td>
<td>Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Data items</td>
<td>11</td>
<td>List and define all variables for which data were sought and any assumptions and simplifications made.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Critical appraisal of individual</td>
<td>12</td>
<td>If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>SECTION</td>
<td>ITEM</td>
<td>PRISMA-ScR CHECKLIST ITEM</td>
<td>REPORTED ON PAGE #</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>---------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>sources of evidence§</td>
<td></td>
<td>methods used and how this information was used in any data synthesis (if appropriate).</td>
<td></td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>13</td>
<td>Describe the methods of handling and summarizing the data that were charted.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>RESULT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection of sources of evidence</td>
<td>14</td>
<td>Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Characteristics of sources of evidence</td>
<td>15</td>
<td>For each source of evidence, present characteristics for which data were charted and provide the citations.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Critical appraisal within sources of evidence</td>
<td>16</td>
<td>If done, present data on critical appraisal of included sources of evidence (see item 12).</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Results of individual sources of evidence</td>
<td>17</td>
<td>For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>18</td>
<td>Summarize and/or present the charting results as they relate to the review questions and objectives.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summary of evidence</td>
<td>19</td>
<td>Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Limitations</td>
<td>20</td>
<td>Discuss the limitations of the scoping review process.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Conclusions</td>
<td>21</td>
<td>Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>FUNDING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding</td>
<td>22</td>
<td>Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.</td>
<td>Click here to enter text.</td>
</tr>
</tbody>
</table>

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.
† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote).
‡ The frameworks by Arksey and O’Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of “risk of bias” (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

Figure 2. PRISMA 2009 Flow Diagram

Records identified through database searching
(n = )

Additional records identified through other sources
(n = )

Records after duplicates removed
(n = )

Records screened
(n = )

Records excluded
(n = )

Full-text articles assessed for eligibility
(n = )

Full-text articles excluded, with reasons
(n = )

Studies included in qualitative synthesis
(n = )

Studies included in quantitative synthesis
(meta-analysis)
(n = )
Supplemental File 3: Full Search Strategy

Embase.com

('dementia'/exp OR 'mild cognitive impairment'/de OR (dementia* OR Alzheimer* OR Mild-cognitive-impairment*):ab,ti,kw) AND (((caregiv* OR care-giv* OR carer* OR in-home-care* OR care-provider*) NEAR/3 (spous* OR famil* OR child* OR parent* OR informal* OR program* OR elder*)) OR dementia*-carer*):ab,ti,kw) AND

('implementation science'/de OR (implement* OR adopt* OR uptake OR Appl* OR Carry-out OR Perform* OR Usage OR Practice OR Enactment OR Fulfil* OR knowledge-transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained-integration* OR intention-to-chang* OR embed* OR normali* OR Disseminat* OR diffus* OR (translat* NEAR/3 knowledge*)) OR scale-up OR scaling OR barrier* OR change-in-practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* NEAR/3 attitude*)):ab,ti,kw) AND

('intervention study'/de OR 'training'/de OR 'health program'/exp OR 'education'/de OR (intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) NEAR/3 (application*)) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* NEAR/3 therap*) OR respite* OR day-care* OR evidence-based-practice* OR (modif* NEAR/3 environment*) OR information-management-system* OR consultation* OR local-champion* OR local-leader* OR local-network* OR organi*ational-change* OR cognit*-behav* OR therap*:ab,ti,kw) NOT [(conference abstract]/lim OR [editorial]/lim OR [letter]/lim OR [note]/lim OR [Review]/lim OR (review):ti) NOT (acetylcholinesterase* OR donepezil* OR huntington* OR Parkinson):ti

Medline (Ovid)

(exp Dementia/ OR Cognitive Dysfunction/ OR (dementia* OR Alzheimer* OR Mild-cognitive-impairment*):ab,ti,kf.) AND (((caregiv* OR care-giv* OR carer* OR in-home-care* OR care-provider*) ADJ3 (spous* OR famil* OR child* OR parent* OR informal* OR program* OR elder*)) OR dementia*-carer*):ab,ti,kf.) AND

(Implementation Science/ OR (implement* OR adopt* OR uptake OR Appl* OR Carry-out OR Perform* OR Usage OR Practice OR Enactment OR Fulfil* OR knowledge-transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained-integration* OR intention-to-chang* OR embed* OR normali* OR Disseminat* OR diffus* OR (translat* NEAR/3 knowledge*)) OR scale-up OR scaling OR barrier* OR change-in-practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* NEAR/3 attitude*)):ab,ti,kf.) AND

('intervention study'/de OR 'training'/de OR 'health program'/exp OR 'education'/de OR (intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) NEAR/3 (application*)) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* NEAR/3 therap*) OR respite* OR day-care* OR evidence-based-practice* OR (modif* NEAR/3 environment*) OR information-management-system* OR consultation* OR local-champion* OR local-leader* OR local-network* OR organi*ational-change* OR cognit*-behav*- therap*:ab,ti,kf) NOT [(conference abstract]/lim OR [editorial]/lim OR [letter]/lim OR [note]/lim OR [Review]/lim OR (review):ti) NOT (acetylcholinesterase* OR donepezil* OR huntington* OR Parkinson):ti
OR Practice OR Enactment OR Fulfil* OR knowledge-transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained-integration* OR intention-to-chang* OR embed* OR normali* OR Disseminat* OR diffus* OR (translat* ADJ3 knowledge*) OR scale-up OR scaling OR barrier* OR change-in-practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* ADJ3 attitude*)).ab,ti,kf.) AND (Education/ OR education.fx. OR Learning/ OR (intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) ADJ3 (application*))) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* ADJ3 therap*) OR respite* OR day-care* OR evidence-based-practice* OR (modif* ADJ3 environment*) OR information-management-system* OR consultat* OR local-champion* OR local-leader* OR local-network* OR organi*ational-change* OR cognit*-behav*.-therap*).ab,ti,kf.) NOT (letter* OR news OR comment* OR editorial* OR congres* OR abstract* OR book* OR chapter* OR dissertation abstract*).pt. NOT (review).ti. NOT (acetylcholinesterase* OR donepezil* OR huntington* OR Parkinson).ti.

Web of Science
(TI=(dementia* OR Alzheimer* OR Mild-cognitive-impairment*) OR AB=(dementia* OR Alzheimer* OR Mild-cognitive-impairment*)) AND (TI=((caregiv* OR care-giv* OR carer* OR in-home-care* OR care-provider*) NEAR/2 (spous* OR famili* OR child* OR parent* OR informal* OR program* OR elder*)) OR dementia*-care* OR AB=((caregiv* OR care-giv* OR carer* OR in-home-care* OR care-provider*) NEAR/2 (spous* OR famili* OR child* OR parent* OR informal* OR program* OR elder*)) OR dementia*-care*)) AND (TI=(implement* OR adopt* OR uptake OR Appl* OR Carry-out OR Perform* OR Usage OR Practice OR Enactment OR Fulfil* OR knowledge-transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained-integration* OR intention-to-chang* OR embed* OR normali* OR Disseminat* OR diffus* OR (translat* NEAR/2 knowledge*)) OR scale-up OR scaling OR barrier* OR change-in-practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* NEAR/2 attitude*)) OR AB=(implement* OR adopt* OR...
uptake OR Appl* OR Carry-out OR Perform* OR Usage OR Practice OR Enactment OR Fulfil* OR knowledge-transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained-integration* OR intention-to-chang* OR embed* OR normali* OR Disseminat* OR diffus* OR (translat* NEAR/2 knowledge*) OR scale-up OR scaling OR barrier* OR change-in-practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* NEAR/2 attitude*)) AND (TI=(intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) NEAR/2 (application*))) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* NEAR/2 therap*) OR respite* OR day-care* OR evidence-based-practice* OR (modif* NEAR/2 environment*) OR information-management-system* OR consultation* OR local-champion* OR local-leader* OR local-network* OR organi*ational-change* OR cognit*- behav*-therap*) OR AB=(intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) NEAR/2 (application*))) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* NEAR/2 therap*) OR respite* OR day-care* OR evidence-based-practice* OR (modif* NEAR/2 environment*) OR information-management-system* OR consultation* OR local-champion* OR local-leader* OR local-network* OR organi*ational-change* OR cognit*- behav*-therap*) AND DT=Article NOT TI=(acetylcholinesterase* OR donepezil* OR huntington* OR Parkinson)

Cochrane Central

(((dementia* OR Alzheimer* OR Mild NEXT cognitive NEXT impairment*):ab,ti,kw) AND (((caregiv* OR care NEXT giv* OR carer* OR in NEXT home NEXT care* OR care NEXT provider*):ab,ti,kw) NEAR/3 (spous* OR famil* OR child* OR parent* OR informal* OR program* OR elder*)) OR dementia* NEXT care*):ab,ti,kw) AND ((implement* OR adopt* OR uptake OR Appl* OR Carry NEXT out OR Perform* OR Usage OR Practice OR Enactment OR Fulfil* OR knowledge NEXT transfer* OR feasib* OR adapt* OR accept* OR appropriate* OR cost* OR fidelit* OR sustainab* OR penetrat* OR reach* OR utili* OR sustained NEXT integration* OR intention NEXT to NEXT chang* OR...
embed* OR normali* OR Disseminat* OR diffus* OR (translat* NEAR/3 knowledge*) OR scale NEXT up OR scaling OR barrier* OR change NEXT in NEXT practice* OR Obstruct* OR Obstacle* OR Facilitat* OR Threat* OR access* OR retention OR retain* OR compatib* OR brakes OR levers OR (perception* NEAR/3 attitude*))):ab,ti,kw) AND ((intervent* OR training* OR educat* OR coach* OR learn* OR platform* OR innovation* OR program* OR session* OR technolog* OR audit OR reminder* OR ((web OR mobile*) NEAR/3 (application*))) OR trainer* OR coach* OR psychoeducation* OR audit* OR feedback* OR psychotherap* OR (occupation* NEAR/3 therap*) OR respite* OR day NEXT care* OR evidence NEXT based NEXT practice* OR (modif* NEAR/3 environment*) OR information NEXT management NEXT system* OR consultation* OR local NEXT champion* OR local NEXT leader* OR local NEXT network* OR organi*ational NEXT change* OR cognit* NEXT behav* NEXT therap*):ab,ti,kw) NOT (acetylcholinesterase* OR donepezil* OR huntington* OR Parkinson):ti