

BMJ Open Community-based person-centred integrated care (PIC) networks for healthy ageing in place: a scoping review protocol

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ABSTRACT

Introduction The economic case for preventive care delivered in or near citizens' homes is strong, and there is growing evidence of the role of local-level support in supporting people's health and well-being as they age. However, effective and consistent delivery of person-centred integrated care (PIC) at the community level remains elusive. Previous systematic reviews have focused on specific processes such as case management, but none have focused on the operational delivery of community-based care networks. In this study, we aim to identify what practice-based models of PIC networks exist at the local/neighbourhood level and what evidence is available as to their effectiveness for healthy ageing in place.

Methods and analysis We will undertake a scoping review following the framework proposed by Arksey and O'Malley and updated guidance by the Joanna Briggs Institute. Peer-reviewed sources will be identified through searches of seven databases, and relevant grey literature will be identified through websites of policy and voluntary sector organisations focused on integrated care and/or healthy ageing. Data from included studies will be extracted for relevance to the research questions, including aims and anticipated outcomes of network models, financial and management structures of networks, and evidence of evaluation. Summary tables and narrative comparisons of key PIC network features across settings will be presented.

Ethics and dissemination As no primary data will be collected, ethical approval is not required to conduct this scoping review. In addition to publication as a peer-reviewed article, the results of this review will be summarised as shorter discussion papers for use in follow-up research.

INTRODUCTION

Demographic and economic trends in recent decades have put unrelenting pressure on health and care systems. Population ageing that began in high-income countries is now a global issue, with the greatest rates of change occurring in low-income and middle-income countries.¹ At the same time, financial austerity policies and the ongoing impacts of the COVID-19 pandemic have

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This scoping review will identify an international range of person-centred integrated care (PIC) networks operating in local communities to support healthy ageing.
- ⇒ The rigorous methodology for scoping reviews outlined by the Joanna Briggs Institute will be followed.
- ⇒ For comprehensive coverage, we will search seven electronic databases of academic literature as well as grey literature stemming from relevant policy and voluntary sector organisations.
- ⇒ Included articles might vary widely in methodological quality. Although a formal quality assessment will not be conducted, we will provide a narrative summary of methodological limitations identified in primary sources.
- ⇒ Findings are intended to inform follow-up primary research on the feasibility of implementing PIC networks in specific community settings.

reduced resources for health and social care services, in spite of increased prevalence of long-term conditions associated with ageing (eg, dementia, diabetes and chronic pain). Reducing service needs by older people is a strategic priority for the sustainability of health and care systems.² The UK's Healthy Ageing Challenge³ aligns with this goal in calling for people to have 5 more years spent in good health, that is, increased 'health span', with a concurrent decrease in care needs and costs.

The ability of older adults to maintain good health, high quality of life and independence is often predicated on enabling environments and access to support from families and/or communities.¹ In high-income contexts, public expectations shifted across the 20th century away from institutionalised care of older adults,⁴ but policy discourse and health systems have been slow to catch up, with resources still concentrated on acute care in hospitals and care homes. Furthermore,

system fragmentation remains a huge barrier to realising the health policy goal of ‘person-centred integrated care’ (PIC),⁵ which refers to the coordination of disparate health and care services in line with individuals’ priorities for health and well-being. The economic case for preventive care delivered in or near citizens’ homes is strong,⁶ and there is a growing evidence base on the role of local-level support, for example, through voluntary, community and social enterprise organisations and connection services such as social prescribing, for supporting people’s health and well-being as they age.^{7,8} However, effective and consistent delivery of community-based care remains elusive. While recent evidence demonstrates that home-based support interventions can have positive health impacts for older people,⁹ access to these services is unequal¹⁰ and there are high costs (time and/or financial) associated with securing them.

A previous systematic review on outcomes for functionally dependent older adults living in the community versus care home settings¹¹ concluded that due to a dearth of high-quality studies, evidence of improved quality of life and physical function for community-based long-term care was only suggestive. Other relevant systematic reviews focused on specific processes of community-based support for older people: case management as a key integrated care intervention for older people with frailty in community settings¹²; case management of home support for people living with dementia¹³; personal assistance for older people without dementia¹⁴; comprehensive geriatric assessment for community-dwelling older people with frailty¹⁵ and collaboration between local health and government agencies for health improvement.¹⁶ None of these focused on the operational delivery of community-based care networks, although the principle of localised care for enabling people to age well at home was supported by a scoping review of place attachment and ageing by Aliakbarzadeh Arani *et al.*¹⁷

An example of coordinated community-based support for older people existed previously in the UK, coinciding with the implementation of the 1990 National Health Service (NHS) and Community Care Act that shifted local government responsibility away from institutionalised care. Within this context, Elderly Persons Integrated Care Systems (EPICSS) operated to provide a ‘one-stop shop’ of support for older people within specific geographical areas.¹⁸ EPICSS were based on the On Lok model in San Francisco, USA, which expanded nationally to become the Programme of All-inclusive Care for the Elderly operating in 32 American states.¹⁹ EPICS included a physical site for co-located services that spanned health and social needs; the Westway EPICS centre in London, for example, offered an on-site café, hairdresser, health clinic and associated services such as podiatry. The core process of the EPICS model was the holistic assessment of individual needs by a multidisciplinary professional team with shared responsibility for addressing those needs. It was thus an early example of PIC, with individually tailored care planning and service coordination at its heart. While

novel for its time, the EPICS model did not consider the value of intergenerational relationships and general community engagement, which are now recognised for supporting health and well-being.²⁰ Nor did EPICS specifically address the needs of people affected by dementia, one of the largest groups of older people to potentially benefit from community-based support.²¹ Within the UK, EPICS programmes ultimately closed following changes in leadership and cessation of funding, in spite of promising evidence of their success.²²

Through this research, we seek to understand what forms of PIC networks for supporting older people within their communities (similar to the previous EPICS model) are currently in operation across different national contexts. We also seek to identify the range of existing evidence of the effectiveness of community-level PIC networks for maintaining older people’s health and well-being, and thus reducing transitions to higher-intensity care as they age in place. Following the scoping review methodology outlined by the Joanna Briggs Institute (JBI), the aim of this study is to map the literature describing community-based PIC network models, in terms of the networks’ purpose, operational components and evidence of effectiveness. A scoping review is appropriate for our enquiry as it is used to examine the extent, range and nature of evidence of a topic²³ and can serve as a precursor to a systematic review with a more precisely defined research question.²⁴ While the research team intends to inform the development and implementation of ageing policy in its own geographical context (England, UK), this study will use an international comparative lens to identify cases of best practice that might be applied towards the operation of community-based PIC networks in a diversity of settings.

METHODS AND ANALYSIS

In conducting this scoping review, we will follow the framework proposed by Arksey and O’Malley,²⁵ taking account of recent methodological updates by Levac *et al.*²⁶ and the JBI.²⁴ In designing the study, we have used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews (PRISMA) checklist²³ to ensure completeness of data collection and reporting of results. Below we outline the study design through the steps presented by Arksey and O’Malley.

Identify the research question

As outlined in the Introduction, this study was motivated by a review of the previous EPICS model of PIC for older people that operated in the UK during the 1990s. In developing the EPICS model for the 21st century context, we will draw on lessons learnt from any similar models implemented elsewhere. The number, characteristics and evidence base for community-based care networks similar to EPICS are currently unknown. Therefore, we will undertake a scoping review to answer this research question: What practice-based models of PIC networks exist at

the local/neighbourhood level to support the health and well-being of older people and what evidence is available as to their effectiveness for healthy ageing in place?

The following subquestions will inform data extraction from selected studies to answer the primary research question:

- ▶ What are the aims and anticipated outcomes of existing PIC network models?
- ▶ What are the core components of existing PIC network models?
- ▶ To what extent has each PIC network model been evaluated for its effectiveness in achieving anticipated outcomes?

Identify the relevant studies

An initial search strategy was developed using the MEDLINE/PubMed and Web of Science databases, which together offer broad coverage of peer-reviewed studies across medical and social sciences. Preliminary internet searches were also conducted using Google, to explore the availability of non-peer-reviewed material ('grey literature', eg, reports, policy papers, unpublished papers or theses). Within PubMed, an initial search of key terms 'integrated care' yielded 8173 results, and 'care network' yielded 3545 results. Following the JBI PCC framework, an initial search protocol that included terms for older people (Population), integrated care network models (Concept) and community-based support for healthy ageing in place (Context) yielded 543 results from PubMed and Web of Science databases after removal of duplicates. In line with JBI guidance,²⁴ the titles and keywords of these studies were analysed using NVivo software (V.12) to identify any recurring concepts or equivalent terms not already included in the search protocol. Following this analysis, the search protocol was expanded to include the proposed terms listed in [table 1](#).

This search protocol will be applied to a range of appropriate databases to ensure broad coverage across a full spectrum of academic fields, with no restrictions in language or publication dates. In addition to MEDLINE/PubMed and Web of Science, searches will be run in Abstracts of Social Gerontology (ageing), ASSIA (applied social sciences), CINAHL (nursing and allied health),

Scopus (science, medicine and some social science) and PsycINFO (psychological, social and behavioural sciences).

Identified sources from all databases will be collated into a reference management system for the removal of duplicate references. Grey literature will be identified by screening a selection of results from Google (using combinations of search terms from [table 1](#)) in order of relevance, and by searching websites of policy and voluntary sector organisations focused on integrated care and/or healthy ageing. Relevant organisations include the WHO, Centre for Policy on Ageing, Centre for Ageing Better, Age UK, UK Department for Health and Social Care, The Kings Fund, EngAgeNet, The Health Foundation and the International Foundation for Integrated Care.

Study selection

The criteria shown in [table 2](#) will be applied independently by two researchers to select relevant studies. The target population of 'older people' will generally refer to people aged 60 years or older, as defined by the United Nations and in line with usage of the term in England's National Health Service; however, the ambiguity of the term is acknowledged, and some flexibility on age cut-off may be applied for studies that report on support networks for conditions associated with older age (eg, frailty), even if some study participants are under 60. Initial screening will be limited to title and abstract, with a selection of sources reviewed by both researchers to check for consistent application of inclusion criteria. Sources retained after this stage will then undergo full-text review, and reasons for study exclusion will be recorded. Any disagreements will be resolved through discussion, with a third researcher arbitrating as needed. After full screening, reference lists of included studies will be reviewed to identify any further relevant sources. In line with the exploratory nature of a scoping review, any studies meeting the inclusion criteria will contribute to data extraction and analysis, irrespective of methodological quality. Any quality limitations of included studies will be reported in the review article.

Table 1 proposed search protocol

Domain	Equivalent/related search terms
Population: older people AND	"older adults" OR "older people" OR elder* OR seniors OR "senior citizen*" OR frail* OR aged OR "oldest old"
Concept: integrated care networks AND	"integrated care" OR "care network" OR "community care model" OR "care coordination"
Context (geographic): community-based support (neighbourhood level) AND	neighbourhood OR neighborhood OR local OR community
Context (process): healthy ageing in place	"healthy ageing" OR "healthy aging" OR "ageing in place" OR "aging in place" OR "ageing at home" OR "aging at home" OR "living at home" OR "living in the community"

Table 2 inclusion and exclusion criteria for study selection

Inclusion criteria	Exclusion criteria
Correct population: older people living independently at home	Older people living in residential care/care homes/nursing homes or with 24-hour presence of paid care staff
Home is in the general community (ie, neighbourhood is not age-segregated), including retirement housing where links to the wider community are maintained	Age-segregated developments without immediate links to the general community
A practice-based model of integrated care is described, that is, focused on operational delivery of multiple care services, either in research trials or natural settings	Papers focused on conceptual models
Neighbourhood/local community level of operation	Larger regional/district/state-level operation (eg, Integrated Care Boards)
Operational configuration of a network is described, for example, financial or management structures to bring together multiple care providers	Single services or interventions; informal connections between services
Network spans health and general care services, including support offered by voluntary sector organisations	Networks are limited to healthcare providers only (eg, all services are within the NHS)
Models focused on general support for ageing, including addressing frailty or complex care needs	Models focused on specific diseases or patient populations (eg, Parkinson's), models based on end-of-life care

NHS, National Health Service.

Charting the data

Data will be extracted from each selected study onto a template containing the following fields: author names, publication year, source (eg, journal name and volume number), study design and methodology, name or description of network model, year that the model was first implemented and year stopped (if applicable), geographic setting, aims and anticipated outcomes of network model, targeted population, financial structure of network, management structure of network, network components (ie, services provided, mechanisms for service coordination) and evidence of evaluation. Data extraction will be conducted independently by two researchers for the first 10% of selected studies to ensure consistency of approach, with review and arbitration by a third researcher as needed. Thereafter data extraction will be done by one researcher per study, with regular research team meetings to share emergent findings and to discuss any queries raised.

Collating, summarising and reporting the results

A PRISMA flow diagram (figure 1) will be presented to show the number of sources screened and the reasons for study exclusion, in order to arrive at the final set of sources for the review. To describe the extent and range of evidence of community-based PIC network models, summary tables of included sources will be presented; these will be adapted from the data extraction template in order to address the main research question and its subquestions. Comparisons across studies of key components (eg, holistic assessment, case management, social prescribing and voluntary sector support) will be presented narratively, in order to highlight common aspects or points of divergence in how PIC network

models are implemented across geographic settings. While scoping reviews do not involve a formal Risk of Bias assessment or meta-synthesis analysis, we will provide a narrative summary of the methodological quality of included studies, to both highlight any limitations in the available evidence and to identify any high-quality evaluations of PIC network models that could be the focus of detailed further analysis.

Patient and public involvement

No members of the public were directly involved in the development of the scoping review protocol. However, the overall research focus was informed by public and stakeholder involvement to develop the concept of PIC networks from the previous EPICS model. A workshop held in January 2023 brought together stakeholders from the voluntary sector, local government organisations, care service providers, older people's advocacy organisations and researchers from multiple academic disciplines on healthy ageing to share knowledge of care practices and service coordination from multiple geographical contexts. Feedback on experiences, challenges and opportunities for locally based support for healthy ageing was collected through engagement with a local organisation run by and for older people in February 2023. Public engagement continued through the summer and autumn of 2023 to prompt ongoing feedback on challenges and opportunities for developing local PIC networks, via meetings at local community centres and a larger-scale event at the town hall. The research team maintains links with these stakeholders and public representatives, who will be invited to form an advisory board as the main review is conducted.

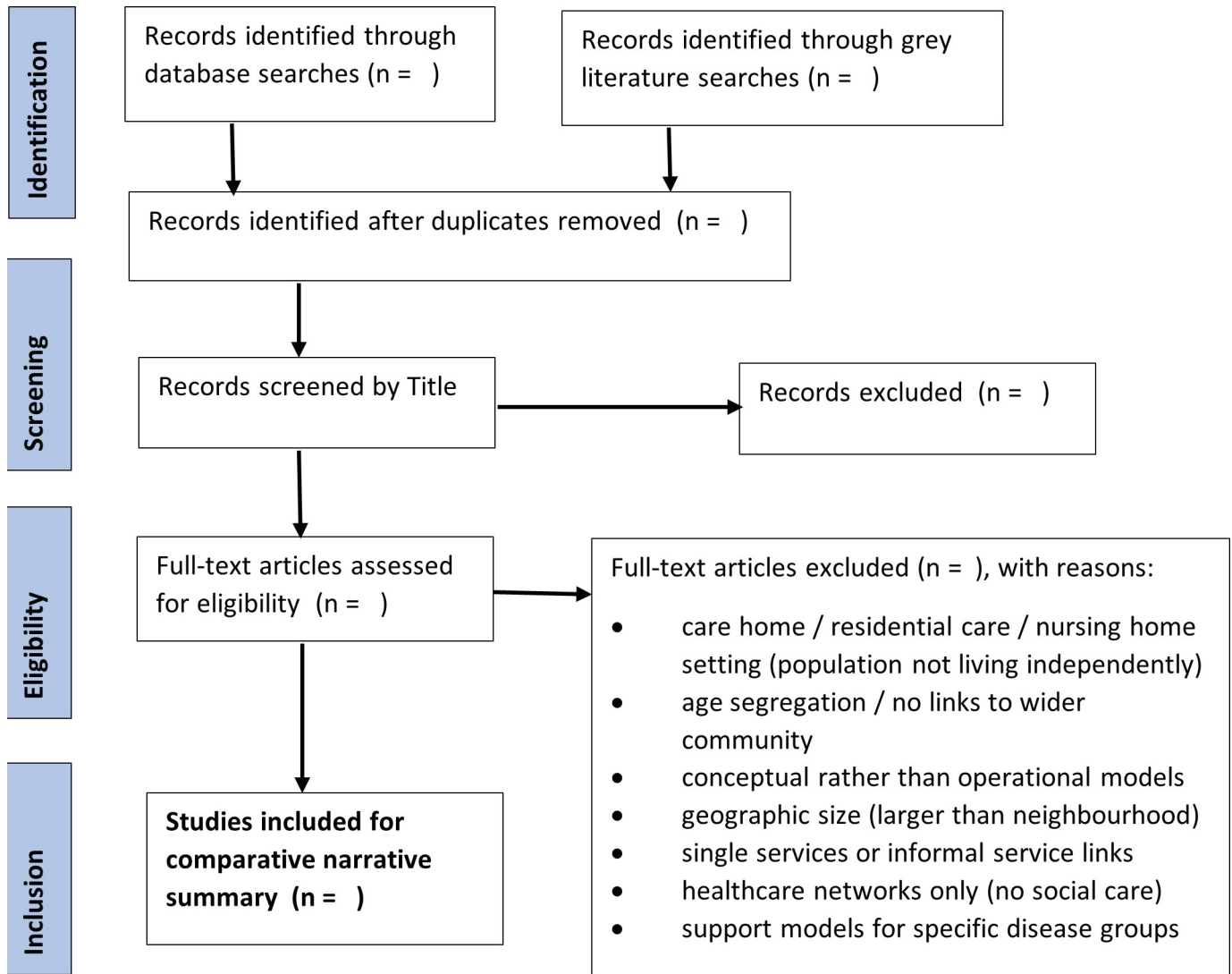


Figure 1 PRISMA flow diagram for scoping review process. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Summary, ethics and dissemination

Now that PIC is a firmly established tenet of the UK's NHS, revisiting the principles of the EPICS model and considering how they might be applied in the current demographic and economic climate is timely. In particular, an updated model should consider opportunities for intergenerational engagement²⁰ and the role of digital infrastructure in supporting healthy ageing. Interaction between the generations improves well-being and mental health for both young and old, and intergenerational living can help address loneliness through conducive spaces designed to encourage regular interaction; intergenerational communities have the opportunity to provide an effective social service and support network for residents of all ages. An effective digital infrastructure can facilitate coordinated care planning and should enable local support networks to be integrated with community-oriented primary care, with proactive preventative interventions that aim to improve population health and health equity.

The proposed scoping review will address knowledge gaps on how existing services and supports may be configured as operational networks for supporting healthy ageing in place, drawing on the principles of an updated EPICS model. In identifying a range of PIC Network case examples and any evidence demonstrating their effectiveness, we will better understand how older people can be supported to live well in their communities for as long as possible. If enough PIC network models with a sufficient evidence base are identified, further work could include a systematic review of the effectiveness of PIC networks for delaying transition to high-intensity long-term care, in order to identify the most promising models for adaption and implementation at scale.

As no new data will be collected from older people during this study, ethical approval is not required to conduct this scoping review. However, it is our intention that the findings of this review will inform a follow-up project on the implementation of PIC networks in specific settings. In addition to publication as a peer-reviewed



article, the results of this review will be summarised as shorter discussion papers to prompt new data collection through a series of citizen and stakeholder workshops on PIC network implementation. Ethical approval will be sought separately for this anticipated follow-up research. In the event of protocol amendments, the date of each amendment will be documented and accompanied by a description of any changes and the rationale.

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Disclaimer The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

- WHO. Integrated care for older people (ICOPE): guidance for person-centred assessment and pathways in primary care. 2019. Available: <https://www.who.int/publications/i/item/WHO-FWC-ALC-19.1>
- Hope P, Bamford S-M, Beales S, et al. Creating sustainable health and care systems in ageing societies. In: *Report of the Ageing Societies Working Group*. 2012. Available: <https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/public/Ageing.pdf>
- UK Research and Innovation. Our story so far: healthy ageing challenge report 2022. 2022. Available: <https://www.ukri.org/publications/our-story-so-far-healthy-ageing-challenge-report-2022/>
- Bauld L, Chesterman J, Davies B, et al. Caring for older people. In: *Caring for Older People: An Assessment of Community Care in the 1990s*. London: Routledge, 2018. Available: <https://www.taylorfrancis.com/books/9781351783521>
- Lloyd HM, Pearson M, Sheaff R, et al. Collaborative action for person-centred coordinated care (P3C): an approach to support the development of a comprehensive system-wide solution to fragmented care. *Health Res Policy Syst* 2017;15:98.
- Muir R, Quilter-Pinner H. Powerful people: reinforcing the power of citizens and communities in health and care. Institute for Public Policy Research; 2015. Available: <https://www.ippr.org/articles/powerful-people-reinforcing-the-power-of-citizens-and-communities-in-health-and-care>
- Husk K, Elston J, Gradinger F, et al. Social prescribing: where is the evidence? *Br J Gen Pract* 2019;69:6–7.
- Carpenter J, Spencer B, Moreira da Souza T, et al. Exploring lessons from COVID-19 for the role of the voluntary sector in integrated care systems. *Health Soc Care Community* 2022;30:e6689–98.
- Boland L, Légaré F, Perez MMB, et al. Impact of home care versus alternative locations of care on elder health outcomes: an overview of systematic reviews. *BMC Geriatr* 2017;17:20.
- Public Health England. Place-based approaches for reducing health inequalities. 2021. Available: <https://www.gov.uk/government/publications/health-inequalities-place-based-approaches-to-reduce-inequalities/place-based-approaches-for-reducing-health-inequalities-main-report>
- Young C, Hall AM, Gonçalves-Bradley DC, et al. Home or foster care versus institutional long-term care for functionally dependent older people. *Cochrane Database Syst Rev* 2017;4.
- Sadler E, Khadjesari Z, Ziemann A, et al. Case management for integrated care of older people with frailty in community settings. *Cochrane Database Syst Rev* 2023;5.
- Reilly S, Miranda-Castillo C, Malouf R, et al. Case management approaches to home support for people with dementia. *Cochrane Database Syst Rev* 2015;1.
- Montgomery P, Mayo-Wilson E, Dennis JA. Personal assistance for older adults (65+) without dementia. *Cochrane Database Syst Rev* 2008.
- Briggs R, McDonough A, Ellis G, et al. Comprehensive geriatric assessment for community-dwelling, high-risk, frail, older people. *Cochrane Database Syst Rev* 2022;5.
- Hayes SL, Mann MK, Morgan FM, et al. Collaboration between local health and local government agencies for health improvement. *Cochrane Database Syst Rev* 2012;10.
- Aliakbarzadeh Arani Z, Zanjari N, Delbari A, et al. Place attachment and aging: A Scoping review. *Journal of Human Behavior in the Social Environment* 2022;32:91–108.
- Mapp S. EPIC style of care. Community care (online resource for social work professionals). 2000. Available: <https://www.communitycare.co.uk/2000/03/21/epic-style-of-care/>
- McNabney MK, ed. Community-Based Integrated Care for Older Adults: A Practical Guide. Cham, Switzerland: Springer, 2022.
- Kaplan M, Thang LL, Sánchez M, et al. Intergenerational contact zones. In: Hoffman J, ed. *Intergenerational contact zones: place-based strategies for promoting social inclusion and belonging*. New York: Routledge, 2020. Available: <https://www.taylorfrancis.com/books/9780429583438>
- Backhouse A, Ukoumunne OC, Richards DA, et al. The effectiveness of community-based coordinating interventions in dementia care: a meta-analysis and subgroup analysis of intervention components. *BMC Health Serv Res* 2017;17:717.
- Foote C, Stanners C. Integrated Care for Older People: New Care for Old – A Systems Approach. London: Jessica Kingsley Publishers, 2002.
- Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for Scoping reviews (PRISMA-SCR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
- Peters MDJ, Godfrey C, Mclnerness P, et al. Chapter 11: Scoping reviews (2020 version). In: Aromataris E, Munn Z, eds. *JBI Manual for Evidence Synthesis*. JBI. Available from: 2020. Available: <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-12>
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology* 2005;8:19–32.
- Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.