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Characteristics of realist evaluation studies assessing interventions for improving the care of older adults: A scoping review

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Characteristics of realist evaluation studies assessing interventions for improving the care of older adults: A scoping review

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ABSTRACT

Objectives: Interventions aimed at improving the care of older adults are increasing. Realist evaluation is useful for assessing these interventions. To accumulate studies using this approach in this field, characteristics of relevant studies should be identified. This study aimed to map current literature using realist evaluation to assess interventions that can improve the care of older adults.

Design: A scoping review

Data Sources: MEDLINE, CINAHL, PsycINFO, Web of Science, Cochrane Library, ICHUSHI (Japanese database), and Google Scholar were used for searches between January 5 and February 4, 2022.

Eligibility criteria: Studies (1) including older adults and stakeholders involved in the care of older adults; (2) including statements indicating that the target interventions aimed to improve the care of older adults; and (3) using realist evaluation.

Data extraction: Data on country, study design, adherence to realist evaluation, and intervention aims/purposes were extracted and summarised using descriptive statistics. Adherence included developing theories and presenting these using context-mechanism-outcome configurations (CMOs).

Results: Forty-four studies were included, with 24 studies (54.5%) from the UK; no studies from Asian and African countries were found. Twenty-two studies (50.0%) used a mixed method design; among them, six studies (27.3%) included randomised controlled trials (RCTs). Theories were developed in 30 studies (68.2%) and presented using CMOs in 34 studies (77.3%). The most frequent intervention aimed at avoiding emergency admissions or reducing the duration of hospital stays (18.2%).

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Conclusion: Using realist evaluation for research on interventions to improve the care of older adults in ageing countries other than the UK should be considered. Increased use of the mixed methods design and RCTs is required to assess both intervention outcomes and their complex processes. To accumulate realist evaluation research aimed at avoiding emergency admissions of older adults is recommended in ageing countries where this methodology is not widely used.

Keywords: realist evaluation, older adults, ageing, interventions

Strengths and limitations of this study

- This scoping review mapped relevant studies using realist evaluation, which is suitable for uncovering mechanisms that lead to observed outcomes following an intervention and the contextual conditions that enabled this.
- This study followed Arksey & O’Malley’s five-stage framework and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Review guideline.
- No limitation was applied to context and publication year to extract broad and various relevant studies.
- The search was limited to articles published in English and Japanese.
- The quality assessment of the relevant studies was not conducted.

INTRODUCTION

Population ageing is a global issue. Between 2015 and 2050, the proportion of the global population aged >60 years is expected to increase from 900 million to 2 billion [1]. Many healthcare issues related to ageing need to be addressed, such as end-of-life decision-making of people with dementia and social isolation or loneliness, which negatively impact the physical and mental health of older adults [2, 3]. As these issues are often influenced by social factors, complex interventions and national or local policies are needed to improve the care of older adults. As the most appropriate paradigm for social intervention is realism [4], a realist evaluation based on realism seems appropriate for assessing interventions that include social factors. This method is being increasingly applied to assess these interventions [5].

Realist evaluation is a theory-driven approach developed by Pawson & Tilley [6]. The primary objective of their approach is to elucidate ‘what works, for whom, in what circumstances, and why?’ by uncovering the mechanisms that lead to observed outcomes following an intervention and the contextual conditions that enabled the outcomes [7]. To achieve this objective, both quantitative and qualitative methods are used in nature [8], and theories are developed, tested, and refined [6]. These theories have the following components: context (a concept that explains the pre-intervention circumstances influencing the mechanisms), mechanism (a concept that explains the processes and responses of stakeholders leading to specific outcomes), and outcome (a concept that explains the main results of interventions). Their relationship is expressed as context + mechanism = outcome (CMO) [9]. These findings are transferable in terms of generating middle-range theories (MRTs) using CMOs [10]. Owing to this characteristic, the number of studies using realist evaluation has increased approximately 10-fold in the last decade, and this method has been applied in the medical, health, and welfare areas. To the best of our knowledge, literature reviews of studies using realist evaluation have been conducted in areas of the healthcare system [11], knowledge translation [12], public health [13], nursing interventions [14], and health promotion [15]. According to these reviews, most of the included studies originated in the UK [11-15] and are qualitative [12, 14].

Realist evaluations are expected to play a key role in assessing interventions that can improve the care of older adults. The manner in which care is offered to older adults, especially those with dementia, is complex and involves multiple factors [16]. This approach is considered suitable for assessing such complex interventions [17]. Interventions in different settings can be assessed more effectively by exploring processes and outcomes using CMOs [18]. Furthermore, whether these interventions are sustainable or successful, especially in the care of older adults, depends on contextual factors [19],

and understanding the relevant process (contextual factors and causation) could allow us to identify more effective interventions [20]. Given that interventions and policies are increasingly being used to address healthcare issues related to population ageing, realist evaluation should be considered as an option to assess these interventions.

However, some critiques and challenges regarding its use have been mentioned. For example, realist evaluation does not have the same degree of validity, reliability, or generalisability as randomised controlled trials (RCTs) [21]. Its philosophical approach is not consistent [22]. Furthermore, the compatibility between realist evaluation and RCTs has been controversial [23-26], and this approach is time-consuming, as it demands substantial methodological knowledge [11]. Additionally, no standardised framework or structured guidance exists for this approach [12]. Previous literature reviews of studies using realist evaluation [12, 14, 15] have shown that the theories were not developed and tested because they were only qualitative. Although these issues could also occur in studies that use this approach to assess interventions that can improve the care of older adults, the associated issues in this area remain unclear. Therefore, mapping the relevant studies in this area is useful. By understanding the characteristics of the included studies, such as the country, study design, adherence to realist evaluation, and aims/purpose of the interventions, issues regarding how to increase the number of relevant studies could be identified, and we considered the implications of solving these healthcare issues. We aimed to map the current studies using realist evaluation to assess interventions that can improve the care of older adults. We sought to answer the following research question: ‘What characteristics are identified from the included studies?’ The identified characteristics will be useful for obtaining results that can have implications for further relevant studies that are expected to improve the care of older adults.

METHODS

A scoping review was conducted using Arksey and O’Malley’s five-stage framework [27]. Quality assessments were not conducted as we focused on mapping broad and variable relevant studies. This study protocol has not been registered in any registry.

Stage 1: Identifying the research question

The Population-Concept-Context framework [28] was used as follows:

- Population: Older adults and stakeholders involved in the care of older adults
- Concept: Using realist evaluation to assess interventions that can improve the care of older adults
- Context: All settings

Authors had discussions to operationally define the concept of ‘interventions that can improve the care of older adults’. Through discussions, interventions, projects, and policy initiatives that can address the healthcare issues of older adults along with social factors were defined.

Stage 2: Identifying relevant studies

MEDLINE (via PubMed) was used to identify studies with relevant keywords and Medical Subject Headings terms. A combination of search terms was developed by a librarian (see Appendix 1) and adapted for other databases. After selecting all the relevant studies, citation tracking was performed using the reference lists of the included studies. Finally, the grey literature was searched using Google Scholar. The search was limited to articles published in English or Japanese. The former was searched using MEDLINE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) (via EBSCO), PsycINFO (via EBSCO), the Cochrane Library, Web of Science, and Google Scholar. The latter was searched using the Igaku Chuo Zasshi (ICHUSHI) (a Japanese database). No restrictions were applied to the publication year. All searches were performed between January 5 and February 4, 2022.

Stage 3: Study selection

According to the operationalised definitions, the following eligibility criteria were applied: (1) including older adults and stakeholders involved in the care of older adults; (2) stating in the research background, aim, or method sections that the target interventions aimed at improving the care of older adults; and (3) using realist evaluation.

Although this study defined older adults as individuals aged >65 years, the term ‘older adults’ was applied based on the pertinent definition in each country where the study was conducted. Stakeholders included healthcare professionals, policymakers, and families. We excluded studies aimed at medical interventions, as well as summaries, reviews, syntheses, protocols, commentaries, and short reports.

EndNote (<https://www.myendnoteweb.com/>) was used for all analyses. After eliminating duplicates, a two-stage screening was conducted by the following three reviewers: Shinya Mitani (SM), Hirofumi Ogawara (HO), and Hiroki Fukahori (HF). First, these reviewers screened the titles and abstracts of all selected articles, and second appraised the full texts to determine whether the eligibility criteria were met. Disagreements between reviewers were resolved through discussions. If necessary, an independent reviewer joined the discussions until a consensus was reached. Finally, all reviewers agreed upon the selected studies determined to be relevant to this review.

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Stage 4: Charting the data

The following data are charted in a tabular form in Appendix 2: author(s), year of publication, title, journal, country, aim/purpose, participants and sample size, setting, study design, data collection and analysis methods, intervention name and contents, intervention providers, and adherence to realist evaluation. Regarding adherence, we assessed the extent to which the studies followed the recommendations described in a previous literature review [6]. These manners included constructing initial programme theories (IPTs) or developing theories, using a mixed methods design, and presenting MRTs using CMOs. Using this tabular form, SM presented the characteristics of the included studies utilising descriptive statistics. The presentation was then verified by HF and HO. Furthermore, the aims/purposes of the study were extracted for coding in the next stage.

Stage 5: collating, summarising, and reporting the results

The following characteristics were summarised: country, participants, sample size, intervention providers, study design, methods of data collection and analysis, adherence to realist evaluation, and intervention aims/purposes. To summarise the study designs and methods of data collection and analysis, we referred to previous literature [29, 30]. To depict the characteristics of ‘interventions that can improve the care of older adults’, which were defined in this study, we decided to summarise the aims/purposes of the interventions. First, the explanations of the interventions and related sections were read iteratively. Next, the content describing the aims/purposes of the intervention was extracted and coded. Finally, the codes were integrated based on their similarities. We will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Review guidelines.

Patient and public involvement

There was no patient or public involvement in this scoping review. Ethical approval was not required as the data were collected from published studies.

RESULTS

First, 959 studies were extracted from six databases. After removing duplicates, the titles and abstracts of 673 studies were screened. Thereafter, 75 studies were assessed by reading the full text, and 43 studies were obtained. Next, the grey literature was searched using Google Scholar. When searching for up to 700 articles, the number of related

articles decreased, and the search was terminated. Three studies were extracted. After screening the titles and abstracts, two studies were assessed by reading their full texts, and one study was considered eligible. Finally, 44 studies were included (Figure 1).

The key components of the included studies and their intervention aims and purposes are summarised in Table 1 and 2, respectively.

Table.1 Key components of the studies included

			*Multiple items are chosen		
	<i>n</i>	(%)		<i>n</i>	(%)
Country of origin (n=44)			Intervention providers (n=44)*		
The UK	24	(54.5)	Research institutions	13	(29.5)
Australia	7	(15.9)	Nation	11	(25.0)
Canada	3	(6.8)	Local authorities	10	(22.7)
Netherlands	3	(6.8)	Medical institutions	11	(25.0)
Denmark	2	(4.5)	Care facilities	10	(22.7)
Others ¹	5	(11.4)	Private companies	2	(4.5)
			Others ³	9	(20.5)
Participants (n=44)*			Not specified	3	(6.8)
Older adults	28	(63.6)	Study designs (n=44)		
Nurses	19	(43.2)	Qualitative designs	22	(50.0)
Relatives	16	(36.4)	Mixed methods designs	22	(50.0)
Care workers	12	(27.3)	Study designs used in qualitative designs (n=44)		
Physicians	11	(25.0)	Descriptive qualitative study	27	(61.4)
Occupational therapists	5	(11.4)	Case study	15	(34.1)
Volunteers	4	(9.1)	Grounded theory	1	(2.3)
Pharmacists	3	(6.8)	Ethnography	1	(2.3)
Care coordinators	3	(6.8)	Qualitative data collection methods (n=44)*		
Others ²	26	(59.1)	Interviews	40	(90.9)
Sample size (n=44)			Document reviews	23	(52.3)
Less than 20	11	(25.0)	Observations	16	(36.4)
20 to 39	12	(27.3)	Focus groups	12	(27.3)
40 to 99	12	(27.3)	Others ⁴	8	(18.2)
More than 100	8	(18.2)			
N/A	1	(2.3)			

(Continued on the next page)

Table.1 (Continued)

*Multiple items are chosen			
		<i>n</i>	(%)
Qualitative data analysis methods (n=44)*			
Thematic analysis	17	(38.6)	
Content analysis	4	(9.1)	
Constant comparative analysis	1	(2.3)	
Others ⁵	8	(18.2)	
Not specified	15	(34.1)	
Adherence to realist evaluation (n=44)			
Building IPTs or developing theories	30	(68.2)	
Using mixed methods	22	(50.0)	
Presenting MRTs with CMOs	34	(77.3)	
Study designs used in quantitative designs (n=22)*			
Experimental study			
RCTs	6	(27.3)	
Non-RCTs	1	(4.5)	
Pretest-Posttest design	6	(27.3)	
(no comparisons between groups)			
Posttest-only design	4	(18.2)	
(no comparisons between groups)			
Observational study			
Prospective cohort study	4	(18.2)	
Retrospective cohort study	1	(4.5)	
Descriptive study	2	(9.1)	

1. Brazil, Belgium, Finland, Norway, and Sweden
2. Physiotherapists, speech and language therapists, social workers, dentists, dieticians, clinical psychologists, chaplains, medical consultants, and policymakers
3. International organisations, non-profit organisations, the third sectors, and volunteer groups
4. Expert meetings and reviews of participatory appraisals, post-intervention participant feedback forms, previous studies, diaries, field notes, and video replays
5. Cross-case analysis, realist analysis framework analysis, and systematic text condensation
- IPTs: Initial Programme Theories, MRTs: Middle Range Theories, CMOs: Context-Mechanisms-Outcome configurations

Key components of the included studies

Most studies were conducted in the UK (54.5%). No such studies have been conducted in any Asian or African country. Older adults were the most frequently enrolled participants (63.6%). Most studies had a sample size of less than 40 (52.3%). The largest included 1161 participants, and the effect of dementia care education was tested by performing RCTs [31]. Conversely, the smallest group included eight stakeholders involved in developing remote medical access to support older adults in rural areas [32]. Academic institutions offered interventions more frequently (29.5%). No details regarding intervention providers were found in three studies (6.8%).

Qualitative and mixed method designs were used in 22 studies each (50.0%). The most frequently used qualitative design was the descriptive design (61.4%). Grounded

theory and ethnography were included in one study each. The most frequently used qualitative data collection and analysis methods were interviews (90.9%) and thematic analyses (38.6%). Some studies (34.1%) reported no specific data analysis. Quantitative study designs were divided into experimental and observational groups. Regarding experimental studies, six RCTs were performed in six studies (27.3%). One study, included in this review, utilised RCTs [31], whereas five remaining studies [20, 33-36] were conducted using RCTs as a part of the same research project (separate from the studies included in this review). For the non-RCT [37], the effect of diabetes education was examined using a quasi-experimental design. Among the observational studies, four were prospective cohort studies. Within this review, two of these studies [38, 39] employed this design in the respective papers, While the other two employed the design as a part of the same research project (separately from the studies included in this review) [2, 40]. One study used a retrospective cohort study design in another paper [41]. Descriptive study designs were used to develop the theories in two studies [42, 43].

Regarding adherence to realist evaluations, first, 30 studies (68.2%) built IPTs or developed theories. IPTs were built in 21 studies (47.7%) [2, 10, 16, 19, 20, 31, 33-35, 37-39, 44-52], whereas theories were developed in nine studies (20.5%) [32, 36, 42, 43, 53-57]. Of the former, 12 studies [2, 10, 16, 20, 31, 35, 38, 44-46, 50, 52] constructed IPTs with a single all-encompassing statement regardless of CMOs (e.g., telecare provides improved safety 24/7 and thus enables people to continue living safely in their own home for longer) [44]. Conversely, five studies [33, 37, 47-49] constructed IPTs that specified CMOs (e.g., if relatives are allowed more open visiting [C], they can become partners in care and be more involved in the planning, implementing, and delivering aspects of care [M]. This may have a positive impact on reducing harm and improving the quality of care [O] [47]. Four studies constructed IPTs in other ways (e.g., existing theories) [19, 34, 39, 51]. Second, 22 studies (50%) used the mixed methods design [2, 16, 20, 31, 33-43, 46-47, 49, 50, 58-60]. Third, 34 studies (77.3%) presented MRTs using CMOs, which varied across studies [2, 10, 16, 19, 20, 32-35, 37-39, 41-50, 53-59, 61-65]. CMOs were presented twice over time to assess the intervention sustainability [48], while they were shown at different levels — micro, meso, and macro — to evaluate the process and the intervention effect at different levels [58]. The theoretical formulae also differed across studies. ICAMO [32], I (Intervention) - C (Context) - A (Actor) - M (Mechanism) - O (Outcome) and ICMO [20], I (Intervention activities) + C (Context) + M (Mechanism) = O (Outcome) were used.

Aims/purposes of interventions

Thirteen aims/purposes of interventions are presented in Table 2. Multiple aims/purposes were identified for some interventions.

Table.2 Intervention aims/purposes

	n=44	
	n	(%)
Avoiding emergency admissions or reducing the duration of hospital stay [31, 38-39, 41, 55-57, 60]	8	(18.2)
Promoting EOLC [2, 38, 41, 53, 65-67]	7	(15.9)
Improving dementia care [2, 16, 39, 46, 53-54, 61]	7	(15.9)
Promoting changes in organisations such as elderly care facilities ¹ [16, 33, 48-49, 52, 58, 68]	7	(15.9)
Supporting ageing in one’s preferred place ² [10, 44, 51, 56, 64]	5	(11.4)
Promoting independence and care for ADL ³ [33, 36, 48, 50, 59]	5	(11.4)
Reducing the family care burden [46, 53, 63-64]	4	(9.1)
Improving medication management ⁴ [19, 35, 40, 43]	4	(9.1)
Preventing the exacerbation of chronic diseases [34, 37, 69]	3	(6.8)
Promoting fall prevention [20, 44, 58]	3	(6.8)
Preventing adverse events caused by social isolation and loneliness [42, 45, 56]	3	(6.8)
Promoting family involvement in the care of older adults [47, 64]	2	(4.5)
Improving medical access for older adults ⁵ [32, 62]	2	(4.5)

- 1. Improving work through task shifts between healthcare professionals, promoting work efficiency using the latest technology, and creating an atmosphere suitable for caring through educational interventions
 - 2. Promoting home medical care, improving the residential environment, and providing information about housing for older adults
 - 3. Promoting independence of living motions (seating and transferring) and daily life care such as oral care
 - 4. Promoting appropriate use of antipsychotics and self-management of benzodiazepines
 - 5. Improving the care of immigrant older adults and medical access for older adults living in rural areas
- EOLC: End of life care, ADL: Activities of Daily Living

The most frequently included aim was ‘avoiding emergency admissions or reducing the duration of hospital stay’ (18.2%). To achieve this, dementia care education was promoted among care home staff and video conferences were conducted to support them while responding to emergencies [57]. To promote end of life care (EOLC) (15.9%),

Advance Care Planning [2], Liverpool Care Pathway [67], and Namaste Care [53] were used. Furthermore, EOLC services were centralised [38], and end-of-life care education was provided to the care staff [41]. To improve dementia care (15.9%), a health literacy kit containing important medical and welfare information understandable to people with dementia and their families was developed [46]. The dementia-sensitive care was provided by a general hospital [16]. To prevent adverse events caused by social isolation and loneliness, befriender services were offered to older adults living alone [45]. To promote family involvement in patient care, the time taken to visit the hospital wards was deregulated [47]. Information communication technologies have been used to raise staff awareness regarding dehydration in care homes [68] and support post-stroke home rehabilitation [50]. Regarding the former, when imputing the residents' water intake on tablets, the risk of dehydration is conveyed to the staff. For the latter, users perform rehabilitation using an avatar on a computer, and the score is fed back to them in real time.

DISCUSSION

We conducted a scoping review to map 44 studies using realist evaluations to identify interventions that could improve the care of older adults. Most studies were conducted in the UK. Regarding adherence, the rate of using a mixed method approach was lower than that of constructing IPTs, developing theories, or presenting MRTs using CMOs. Among the quantitative designs used in the mixed method studies, RCTs were used in six studies. The most frequently included intervention aim/purpose was "avoiding emergency admissions or reducing the duration of hospital stays". We discuss issues regarding how to increase the number of studies in this specific area from the following perspectives: country, adherence to realist evaluation, and intervention aims/purposes. Finally, the implications of solving these issues are considered.

Country

Strategies to promote realist evaluations in countries other than the UK, where population ageing is ongoing, should be addressed. We found that most of the included studies originated in the UK, which is consistent with the results of previous literature reviews [11-15]. This may be explained by the fact that the UK is the birthplace of this approach, and many studies used citations from the work of Pawson and Tilley [6]. Meanwhile, no relevant studies from Asian and African countries were identified, although its use is recommended there because of population ageing. One explanation for fewer such studies having been conducted in Asia may be the low degree of familiarity with realist evaluations. The lack of such studies in Africa is likely to be related to the less advanced

population ageing in this region [70], because of which there may be few interventions for improving the care of older adults. Population aging is expected to occur in Asia and Africa [70], and interventions and policy initiatives should be increasingly implemented to improve the care of older adults. Despite the ageing populations in many Asian countries, realist evaluation of interventions to improve the care of older adults is scarce. The gap should be closed by accumulating international findings and including theories on improving the care of older adults through realist evaluation.

Adherence to realist evaluation

Increasing the rate of use of the mixed method approach is required because, in this study, its use was seen in only half of the examined studies. This result agrees with previous literature reviews [12, 14] and could be attributed to the limitations and challenges of conducting a realist evaluation. As this approach is considered time- and resource-intensive [12], conducting interventions, analyses, and evaluations while facing time and resource restraints is challenging [52, 65], and a full realist evaluation is not always feasible [71]. Theory development using only qualitative designs can be considered when time and resources are limited or when studies using realist evaluations are performed for the first time. However, qualitative designs are unsuitable for testing the CMOs' hypotheses [72]. Similarly, quantitative designs are unsuitable for exploring contexts and mechanisms. Using mixed method approach could overcome these limitations. Due to population ageing, healthcare issues are expected to become more complicated, and interventions and policy initiatives must also be complex or multi-disciplinary. The rate of using the mixed method approach should be increased to assess not only the intervention effects but also the complicated processes using realist evaluation. However, researchers should be careful about time and resource management when conducting mixed method studies using realist evaluations.

When using the mixed methods approach, increasing the rate of RCTs is desirable because a robust study design is required for testing theories and evaluating outcomes [23]. We found that RCTs were combined with realist evaluation in six studies (27.3%), and this result is consistent with those of previous literature reviews [12, 14]. This may be due to the characteristics of RCTs, which involve formidable tasks (e.g., designing studies thoroughly, conducting trials, analysing data, interpreting findings, and disseminating results) [73]. However, combining realist evaluations with RCTs is necessary because theory testing and outcome evaluation would be difficult without RCTs [74]. Realism is the most appropriate paradigm for conducting social interventions

in RCTs [4]. Our study indicated that increasing the rate of combining RCTs with realist evaluations is desirable for conducting more robust studies.

Intervention aims/purposes

This study demonstrated that realist evaluations should be further used to assess complex interventions to avoid emergency admissions in countries with an ageing population where realist evaluations are not widely used (e.g., Asian countries). Our results showed that ‘avoiding emergency admissions or reducing the duration of hospital stay was the most frequent aim, and this may be because most included studies originated in the UK. The National Health Service in the UK has issued a long-term plan [75] emphasising support for people to age well (e.g., helping more people to live independently at home for longer periods and listening to people about the care they receive, particularly EOLC). The contents of this plan are closely related to ‘avoiding emergency admissions’ as seen in our results, and it is expected that various interventions will be implemented as a part of this plan. A previous study [76] reported that complex interventions to avoid emergency admissions were related to a reduction in the number of unplanned admissions and medical costs. Realist evaluations are suitable for assessing both the outcomes and the processes of such complex interventions.

Meanwhile, as ‘preventing adverse events caused by social isolation and loneliness’ was less frequently included in the studies, realist evaluations should be further used to assess the related interventions. This result could be explained by the fact that our final search was conducted on February 4, 2022. Social isolation and loneliness are widespread among older adults [3], and the recent COVID-19 pandemic has exacerbated these issues [77]. As new pandemics could always occur in the future [78], social interventions to alleviate adverse effects on older adults will be required. As the structure of loneliness is complex and multi-dimensional [79], the related interventions are also expected to be complex and multi-disciplinary. Realist evaluations should be conducted to assess these interventions.

Limitations

This review has two limitations. First, the search was not updated regularly during the analysis because of time constraints. A previous literature review [14] regularly updated its search and utilised snowballing to maximise the retrieval of relevant search results. These methods may lead to new relevant studies. Second, a quality assessment was not conducted, as our focus was to map a broad range of relevant studies.

Conclusion

We conducted a comprehensive mapping of relevant studies utilising realist evaluations to assess interventions that can improve the care of older adults. By gaining a comprehensive understanding of the characteristics of the included studies, we identified the challenges pertaining to the limited number of studies employing this methodology in this specific area, along with their implications and possible solutions.

As most studies originated in the UK, ways to promote its use in countries other than the UK, where the population is ageing (e.g., Asian and African countries), should be identified. Accumulating findings on why only a few such studies exist in these regions may offer some explanations. Because the frequency of using mixed methods was lower than that of the other components, increasing their use is required. Time and resource management can resolve this issue. Due to time and resource constraints, theory development is acceptable when using mixed methods. If conducting mixed method studies is feasible, combining them with RCTs is desirable for a more robust evaluation. Regarding intervention aims/purposes, ‘avoiding emergency admissions or reducing the duration of hospital stay’ was the most frequently included aim, whereas ‘preventing adverse events caused by social isolation and loneliness’ was less frequently included. Realist evaluation seems highly suitable for assessing complex interventions to avoid emergency admissions in countries where this method is not widely used. Realist evaluation is recommended to assess interventions to prevent adverse events caused by social isolation and loneliness, which are expected to increase in the future.

To enhance future research prospects, a systematic review of these relevant studies is recommended. Assessing the quality of those studies and synthesising their results could contribute to the further accumulation of evidence in this specific area.

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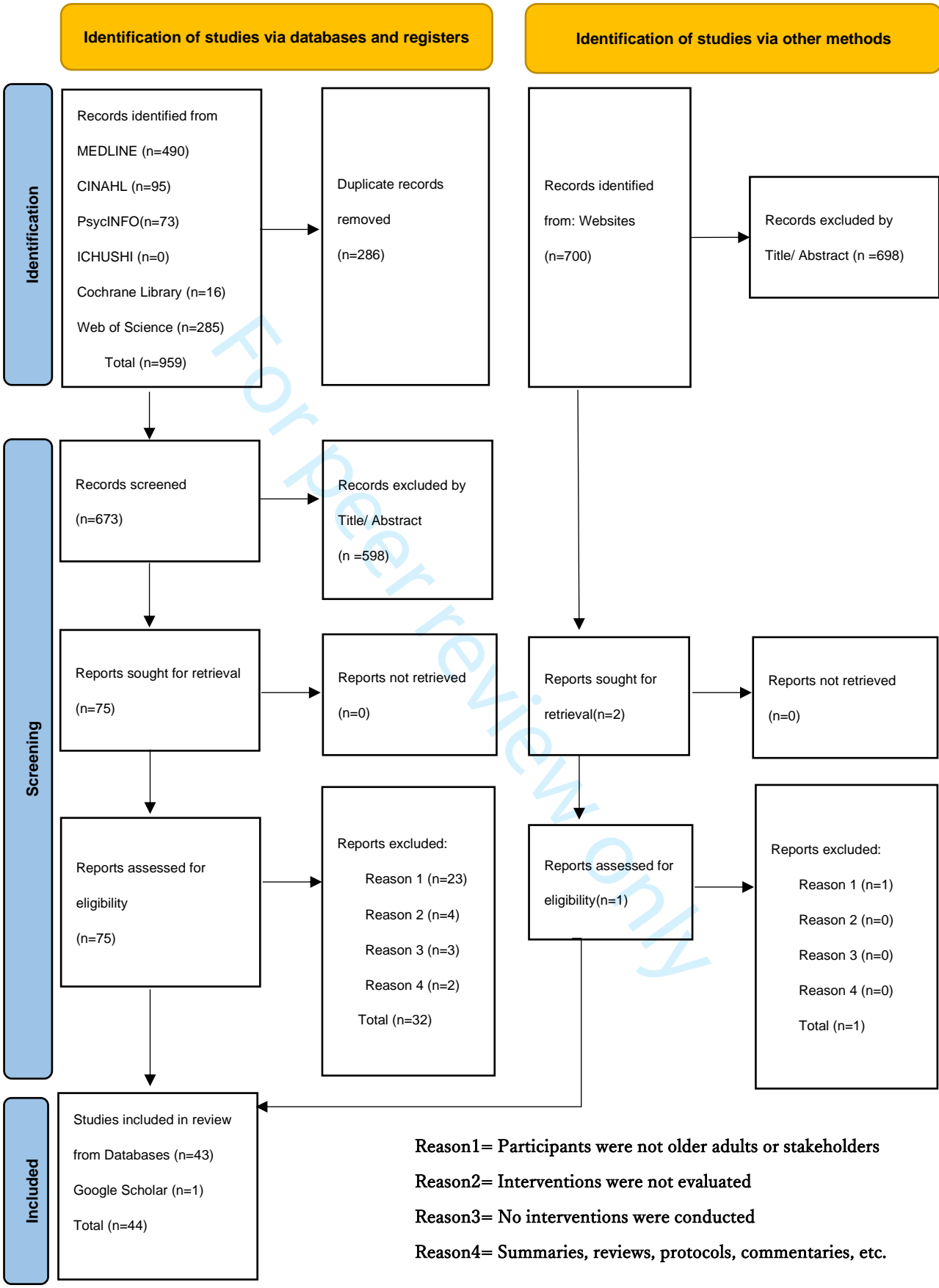
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Figure.1 PRISMA flow diagram of the selection process

APPENDIX 1

Combination of search terms

MEDLINE (via PubMed)

#	Query	Search details	Results
1	((("aged" OR ("the aged")) OR (aging)) OR (ageing)) OR ("aging population") OR ("ageing population") OR ("older adult") OR ("older adults")) OR ("older people") OR (elder*) OR (senior) OR (seniors)	"aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging population"[All Fields] OR "ageing population"[All Fields] OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR "senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields] OR "senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]	6,206,856
2	((("realist evaluation") OR ("realist evaluations") OR ("realistic evaluation") OR ("realistic evaluations") OR ("critical realist evaluation") OR ("realist case study") OR ("critical realist approaches") OR ("critical realist approach") OR ("realist review") OR ("realist synthesis")) OR ("critical realism") OR ("realist approach") OR ("realist approaches") OR ("critical realist approach") NOT ("realist review") NOT ("realist synthesis"))	((("realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields] OR "critical realist evaluation"[All Fields] OR "realist case study"[All Fields] OR "critical realism"[All Fields] OR "realist approach"[All Fields] OR "realist approaches"[All Fields] OR "critical realist approach"[All Fields]) NOT "realist review"[All Fields]) NOT "realist synthesis"[All Fields]	1,008
3	(#1) AND (#2)	((("aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) OR ("aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) OR "aging population"[All Fields] OR "ageing population"[All Fields] OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]) OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields])) AND ((("realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields]) OR "critical realist evaluation"[All Fields] OR "realist case study"[All Fields] OR "critical realism"[All Fields] OR "realist approach"[All Fields] OR "realist approaches"[All Fields] OR "critical realist approach"[All Fields]) NOT "realist review"[All Fields]) NOT "realist synthesis"[All Fields]	490

CINAHL (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR "aging population" OR "ageing population" OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	1,153,491
S2	realist evaluation OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "critical realist evaluations" OR "realist approach" OR "realist approaches" OR "critical realist approach" OR "critical realism" OR "realist case study" NOT "realist review" NOT "realist synthesis"	765
S3	S1 AND S2	95

PsycINFO (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR "aging population" OR "ageing population" OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	763,782
S2	"realist evaluation" OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "critical realist evaluation" OR "realist approach" OR "realist approaches" OR "critical realist approach" OR "critical realism" OR "realist case study" NOT "realist review" NOT "realist synthesis"	923
S3	S1 AND S2	73

Web of Science

#	Query	results
#1	ALL=("the age") OR ALL=(aged) OR ALL=(aging) OR ALL=(ageing) OR ALL=("aging population") OR ALL=("ageing population") OR ALL=("older adult") OR ALL=("older adults") OR ALL=("older people") OR ALL=(elder*) OR ALL=(senior) OR ALL=(seniors) OR ALL=("frail elderly")	4,298,466
#2	ALL=("realist evaluation") OR ALL=("realist evaluations") OR ALL=("realistic evaluation") OR ALL=("realistic evaluations") OR ALL=("critical realist evaluation") OR ALL=("realist approach") OR ALL=("realist approaches") OR ALL=("critical realist approach") OR ALL=("realist case study") OR ALL=("critical realism") NOT ALL=("realist review") NOT ALL=("realist synthesis")	4,370
#3	#1 AND #2	285

Cochrane Library

#	Query	results
#1	("the aged") OR (aged) OR (aging) OR (ageing) OR ("aging population") (Word variations have been searched)	772,818
#2	("ageing population") OR ("older adult") OR ("older adults") OR ("older people") OR (elder) (Word variations have been searched)	111,830
#3	(senior) OR (seniors)	5687
#4	#1 OR #2 OR 3	579,417
#5	("realist evaluation") OR ("realist evaluations") OR ("critical realist evaluation") OR ("realistic evaluation") OR ("realistic evaluations") (Word variations have been searched)	57
#6	("realist approach") OR ("realist approaches") OR ("critical realist approach") OR ("realist case study") OR ("critical realism") (Word variations have been searched)	41
#7	("realist review") OR ("realist synthesis") (Word variations have been searched)	25
#8	#5 NOT #6 NOT #7	68
#9	#4 AND #8	16

Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
Aagaard K, Meléndez-Torres GJ, Overgaard C. Improving oral health in nursing home residents: A process evaluation of a shared oral care intervention. J Clin Nurs 2020.	Denmark	To evaluate the process of implementing an oral care intervention in nursing homes in a Danish municipality	(n=41) Nursing home residents, care professionals, assistant nursing home managers, dental practitioners, and the project dentist	Three nursing homes	Multiple case studies, along with randomised controlled trials (RCTs)	Interviews, observations, and group interviews	Thematic analysis and cross-case analysis	Shared oral care includes educating care staff on oral hygiene, assessing residents' oral health, and designing an individual oral care plan	The Danish National Board of Health	✓	✓	✓
Barker R, Wilson P, Butler C. How does the English national end-of-life care policy imp on the experience of older people at the end of life? Findings from a realist evaluation. Prim Health Care Res Dev 2021.	UK	To explore the extent to which national policy in end-of-life care (EOLC) in England influences and guides local practice, helping to ensure care for older people at the EOL is of a consistently good quality	(n=98) Patients, carers, clinicians (physicians, health care assistants, palliative care nurses, etc.), and non-clinical staff (care home and hospice managers, local authority leads, chaplains etc.)	Three sites in London	Multiple case study	Interviews, meeting observations, and documentary analysis	Not specified	National policy in end-of-life care influences and guides local practice, helping to ensure that older adults want to be cared for and die in familiar surroundings	The national government	✓		
Berge MS. Telecare - where, when, why, and for whom does it work? A realist evaluation of a Norwegian project. J Rehabil Assist Technol Eng. 2017.	Norway	To highlight where, when, why, and for whom telecare works, drawing on data from the evaluation project	(n=19) Users and relatives	Medium-sized municipality	Descriptive qualitative design	Interviews	Not specified	Telecare is individually tailored and linked to the call centre. The devices comprise the sensors that react to changes in the activity pattern, fall sensors, and movement sensors	The national Government	✓		✓
Boumans J, van Boekel LC, Verbiest MEA et al. Exploring how residential care facilities can enhance the autonomy of people with dementia and improve informal care. Dementia (London) 2022.	Netherlands	To explore how residential care facility (RCF) staff can enhance autonomy and improve informal care by looking at the influence of interactions (contact and approachability between residents, staff members, and informal caregivers) and the physical environment, including the use of technologies	(n=12) RCFs staff, board members of the RCFs, informal caregivers/relatives of residents with dementia	Two sites in the southern part of the Netherlands	Multiple case study	Interviews, observations, and documents analyses	Realist logic of analysis	Person-centred care in RCFs ensures people with dementia who are receiving care can make their own choices and facilitates their autonomy and informal care provision	Not specified			✓
Clark AM, Whelan HK, Barbour R, et al. A realist study of the mechanisms of cardiac rehabilitation. J Adv Nurs 2005.	UK	To explore patient's experiences of cardiac rehabilitation (CR) and perceptions of the mechanisms and contexts influencing its long-term effectiveness	(n=47) Patients	Deprived region of the West of Scotland	Qualitative design	Focus groups	Not specified	Cardiac Rehabilitation programs offer a range of services that can support the secondary prevention of coronary heart disease (CHD)	National health service (NHS) trust with Scottish Intercollegiate Guidelines Network (SIGN)			
Coorey G, Peiris D, Neubeck L, et al. A realist evaluation approach to explaining the role of context in the impact of a complex eHealth intervention for improving prevention of cardiovascular disease. BMC Health Serv Res 2020.	Australia	To elucidate contextual factors at play in participant responses to the eHealth intervention and describe mechanisms by which the impact on outcomes arose	(n=36) Participants from the intervention group who completed 12 months of study follow-up	Twenty-four primary health care services Sydney	Qualitative study along with RCTs	Interviews	Thematic analysis	The intervention of eHealth is designed to improve the recipient's cardiovascular disease (CVD) risk factor profile by facilitating health-related behaviour change, including increased engagement with care providers	The George Institute for Global Health, funded by the Australian National Health and Medical Research Council	✓	✓	✓

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Couturier Y, Lanneville D, Lane J, et al. Implementation conditions leading to the scale-up of an innovation involving the optimal use of antipsychotics in long-term care centers: the Optimising Practices, Use, Care and Services-Antipsychotics (OPUS-AP) program. Res Social Adm Pharm 2022.	Canada	To present the conditions leading to the scale-up of an innovative program on the appropriate use of antipsychotics in long-term care (LTC) centres	(n=46) Local project managers, nurses, families, and professionals	An integrated health area of Quebec	Mixed methods along with a prospective short study	Interviews	Qualitative data analysis	OPUS-AP program aims to improve LTC residents' care by increasing knowledge and competency among staff, resident-centred approach, non-pharmacologic interventions, and by deprescribing antipsychotics when appropriate	Governance board, including policymakers, researchers, and managers, headed by regional health authorities, acting as representatives for all CEOs across Quebec		✓	
Dalkin SM, Lhussier M, Kendall N, et al. Namaste care in the home setting: developing initial realist explanatory theories and uncovering unintended outcomes. BMJ Open 2020.	UK	To develop initial program theories detailing if, how and under which circumstances Namaste Care works when implemented at home	(n=35) Twenty-seven volunteers and eight family carers	A hospice in the North East of England, operating in the community through volunteers.	Qualitative study	Interviews and focus groups	Realist analysis	The End-of-Life Namaste Care Program can improve communication and the relationships families and friends have with the person with dementia	A hospice in the community that is a registered charity receiving some income from the NHS	✓		✓
Day A, Phelps K, Maltby J, et al. A realist evaluation of loneliness interventions for older people. Age Ageing 2021.	UK	To develop a program theory to inform the design of loneliness interventions and guide any future evaluations	(n=54) Twelve service providers, 24 old people, and 18 carers	Leicester and Leicestershire	Mixed methods	Interviews, focus groups, documentary analysis, and cataloguing available services from provider organisations and websites.	Qualitative data analysis	Loneliness interventions include social activity, emotional support, and advice and information	Local councils of Leicester and Leicestershire	✓	✓	✓
Devi R, Chadborn NH, Meyer J, et al. How quality improvement collaboratives work to improve healthcare in care homes: a realist evaluation. Age Ageing 2021.	UK	To understand how quality improvement collaboratives (QICs) work when designing and implementing evidence-based approaches to healthcare in care homes	(n=32) Care home staff, pharmacists, Physicians, dieticians, care home nurse specialists, care coordinators, care home managers, geriatricians, and so on.	Four sites and 29 care homes	Multiple case study	Interviews, focus groups, and observations	Not specified	Quality Improvement Collaboratives bring together multidisciplinary teams in a structured process to improve care quality in care homes	Teams of health and social care professionals that established the QIC and provided advice on on-site team composition and focus of intervention	✓		✓
Efstathiou N, Lock A, Ahmed S et al. A realist evaluation of a 'single point of contact' end-of-life care service. J Health Organ Manag 2020.	UK	To explore whether the provision of coordinated end-of-life care (EOLC) would support patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	(n=256) Thirty staff of "Single point of contact" and 226 patients and carers/ friends who completed the satisfaction questionnaire	Sandwell, West Birmingham, West Midlands	Mixed methods	Interviews, observations of management meetings, documents, satisfaction surveys, and activity/ performance indicators	Simple descriptive analysis	"Single point of contact" aims to coordinate EOLC, including EOLC facilitators and an urgent response team, for supporting patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	Clinical Commissioning Group (CCG)	✓	✓	✓
Fakoya OA, McCorry NK, Donnelly M. How do befriending interventions alleviate loneliness and social isolation among older people? A realist evaluation study. PLOS ONE 2021.	UK	To address the gap in the evidence-base by going beyond the identification of 'what works' to gain an in-depth understanding of how befriending interventions work, for whom, and in what circumstance	(n=46) Two service managers, 4 service coordinators, 17 befrienders, 14 service users, and 9 family members related to the service users	Northern Ireland	Multiple case study	Interviews and review of service documents	Retroductive approach	Befriending provides relationships and social contact to individuals experiencing loneliness and isolation in community and residential settings	Befriending Network	✓		✓

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Flynn R, Mrklas K, Campbell A, et al. Contextual factors and mechanisms that influence sustainability: a realist evaluation of two scaled, multi-component interventions. BMC Health Serv Res 2021.	Canada	To identify and explain the contextual factors and causal mechanisms that enabled or hindered the sustainability of two large-scale, system-wide EBIs implemented across the Strategic Clinical Networks™, of the Alberta health system in Canada	(n=30) Seventeen participants from Case A, Intensive Care Unit (ICU) with Delirium intervention, and 13 participants from Case B, Long-term care (LTC) and designated supportive living (DSL) with appropriate use of antipsychotics (AUA)	ICU, long-term care facility, and designated supportive living in Alberta	Case study	Interviews and document reviews	Cross-case comparison analysis	Strategic Clinical Networks that comprise multi-stakeholders work collaboratively to identify care gaps and implement evidence-based interventions that improve health outcomes and health service delivery	Alberta Health Services	✓		✓
Francis-Coad J, Etherton-Beer C, Bulsara C et al. Evaluating the impact of a falls prevention community of practice in a residential aged care setting: a realist approach. BMC Health Serv Res 2018.	Australia	To evaluate the impact of a falls prevention Community of Practice (CoP) on its membership, actions at the facility level, and actions at the organisation level in translating falls prevention evidence into practice	(n=260) CoP partnered university researchers with staff across the 13 facilities. All facilities were represented by 20 members comprising 14 allied health professionals, 5 care/deputy care managers, and 1 researcher.	Residential aged care facilities	Convergent parallel mixed methods	Surveys, audits, observations, and interviews	Content analysis and inferential statistical analysis	Community of Practice for fall prevention enables sharing of expertise and ideas, to innovate for change in pursuit of fall prevention	Not specified		✓	✓
Gordon AL, Goodman C, Davies SL, et al. Optimal healthcare delivery to care homes in the UK: a realist evaluation of what supports effective working to improve healthcare outcomes. Age Ageing 2018.	UK	To explore how healthcare configuration influences resource use	(n=320–355) Two hundred thirty-nine residents were recruited for assessing NHS resource use, 35 residents, 18 relatives, 15 home staff (staff and managers), and 48 NHS professionals (community nurses, physicians, and allied health professionals). (Some residents might have been recruited for both resource use assessments and interviews)	Four care homes from sites	Case studies along with a prospective cohort study	Interviews, focus group, and records of resource uses and health costs	Realist analysis and inferential statistical analysis	The interventions led by NHS for providing optimal health care delivery to care homes address unplanned hospital admissions, duration of hospital stay, use of out-of-hours services, medication use, and satisfaction of resident, carer, and staff	NHS	✓	✓	✓
Grace S, Horstmanshof L. A realist evaluation of a regional Dementia Health Literacy Project. Health Expect 2019.	Australia	To evaluate the Dementia Health Literacy Project using a realist evaluation framework	(n=48) Thirteen people (the Project Officer, one service provider, 11 people with dementia and their family/carers) and 13 members of social groups of older adults. Twenty-two clinicians who responded to the survey of feedback on the Dementia Support Kit.	North coast region of New South Wales	Descriptive qualitative design	Interviews, surveys, and documentary analysis	Not specified	Dementia Health Literacy Project adopted an experience-based co-design approach to design a Dementia Support Kit to provide useful information to people with dementia and their families and carers	Primary Health Network in the region	✓	✓	✓
Handley M, Bunn F, Goodman C. Supporting general hospital staff to provide dementia sensitive care: A realist evaluation. Int J Nurs Stud 2019.	UK	To explain the factors that support hospital staff to provide dementia-sensitive care and with what outcomes for patients with dementia.	(n=66) A total of 36 hospital staff (health care assistants, nurses, medical staff, allied health care professionals, and support staff), 28 patients with dementia, and 2 family carers of patients with dementia	Two NHS Trusts in the East of England	Two-site case study	Interviews, non-participant observation, review of medical notes, organisational document, and Neuropsychiatric Inventory Questionnaire	Thematic analysis and descriptive statistical analysis	The interventions aim to support hospital staff in providing dementia-sensitive care	Department of Health, whose priority policy is to improve dementia care in general hospitals	✓	✓	✓

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Harding AJE, Hean S, Parker J et al. It can't really be answered in an information pack. A realist evaluation of a telephone housing options service for older people. Soc Policy Soc 2020.	UK	To report a qualitative realist evaluation on the efficacy of a UK telephone service providing information on specialist housing to older people	(n=20) Sixteen older people and 4 telephone service advisers	Not specified	A simple explanatory case study	Observations of key meetings, review of documents, focus groups, and interviews	Thematic analysis	UK telephone housing options service aims to provide information on specialist housing for older people	The national advice service' and the organisation that manages information directly on UK housing options for older people, funded by the UK government			✓
Haynes A, Gilchrist H, Oliveira JS, et al. Using realist evaluation to understand process outcomes in a COVID-19-impacted yoga intervention trial: A worked example. Int J Environ of Environ Res Public Health. 2021.	Australia	To provide a worked example of a realist process evaluation conducted in parallel with a randomised controlled trial of yoga classes for older adults aimed at preventing falls	(n=24) Twenty-one older adults who participated in the Successful AGEing (SAGE) yoga trial and 3 yoga instructors.	Not specified	Descriptive qualitative design	Interviews, review of post-intervention and participant feedback forms	Qualitative data analysis	SAGE yoga is an exercise program in which participants attend 40 weeks of twice-weekly yoga-based exercise classes designed to prevent falls or a seated yoga relaxation program	Not specified	✓	✓	✓
Hoens S, Smetcoren AS, Switsters L et al. Community health workers and culturally competent home care in Belgium: A realist evaluation. Health Soc Care Community 2021.	Belgium	To investigate through a realist evaluation how the work training programme for 10 Community Health Workers (CHWs) contributed to culturally competent home care services	(n=25) Ten CHWs, 6 care employees, 2 trainers, and 7 project coordinators	Deprived urban area in Brussels	Qualitative study	Interviews and focus groups	Thematic analysis	Work training programs with CHWs were developed to respond to the need of home care organisations to provide culturally competent care in a super-diverse neighbourhood	European Social Fund (ESF)project within which a work training programme for CHWs was developed			✓
Hurst H, Griffiths J, Hunt C, et al. A realist evaluation of the implementation of open visiting in an acute care setting for older people. BMC Health Serv Res 2019.	UK	To evaluate the implementation of open visiting, the barriers to implementation, sustainability, and the impact of open visiting on communication between healthcare professionals, families, and carers	(n=30) Medical, nursing, allied health professionals, patients, and relatives/ carers 47 questionnaires were completed	Two acute care wards for older people in the north of England	Descriptive qualitative design	Interviews and questionnaire	Descriptive analysis of pre-implementation questionnaires and qualitative data analysis for interviews	Open visiting refers to the principle that visiting hours are not restricted in the hospital setting, and relatives and carers can visit at any time	NHS Trusts	✓	✓	✓
Janssen MM, Vos W, Luijkx KG. Development of an evaluation tool for geriatric rehabilitation care. BMC Geriatr 2019.	Netherlands	To find out the elements with which the quality of daily Geriatric Rehabilitation Care (GRC) practice can be evaluated and improved and to translate this theoretical knowledge into a practical GRC evaluation tool that has added value for and is usable in GRC practice.	(n=10) Participants from 3 GRC organisations, including nurses, occupational therapists, speech therapists, elderly care physicians, coordinating nurses, GRC managers	Three GRC organisations from two different regions in the Netherlands	Qualitative study	Interviews, participation in expert meetings, and focus groups	Not specified	GRC is a multidisciplinary rehabilitation care for older and vulnerable clients who are admitted and need short-term rehabilitation in a nursing home	GRC organisations	✓		✓
Jonsson F, Carson DB, Goicolea I, et al. Strengthening community health systems through novel ehealth initiatives? Commencing a realist study of the virtual health rooms in rural Northern Sweden. Int J Health Policy Manag 2022.	Sweden	To explore how and under what circumstances the so-called Virtual Health Rooms (VHRs) are expected to improve access to person-centred care and strengthen community health systems, especially for elderly residents of rural areas.	(n=8) Key stakeholders working with eHealth, business development, digitalisation, and process management	Northern rural Sweden	Descriptive qualitative design	Interviews	Thematic analysis	VHRs aim to improve access to person-centred care and strengthen community health systems in rural areas	The Centre for Rural Medicine	✓		✓

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Kupeli N, Sampson EL, Leavey G, et al. Context, mechanisms and outcomes in end-of-life care for people with advanced dementia: family carers perspective. BMC Palliat Care 2019.	UK	To explore the context, mechanisms, and outcomes for providing good palliative care to people with advanced dementia residing in UK care homes	(n=14) Health and social care professionals, including healthcare assistants, care home managers, commissioners for older adults' services, and nursing staff.	Private care homes and services offered by the NHS	Descriptive qualitative design along with a prospective cohort study	Interviews, literature reviews, workshops with stakeholders, and information from an ongoing cohort study within the research program	Thematic analysis	End-of-life care for people with advanced dementia is expected to provide proactive and coordinated palliative care	Not specified	✓	✓	✓
Lawson S, Mullan J, Wong G, et al. Family carers' experiences of managing older relative's medications: insights from the MEMORABLE study. Patient Educ Couns. patient ed. 2022.	UK	To explore the burdens experienced by family carers who support older relatives to manage their medications at home through Medication Management in Older people: Realist Approaches Based on Literature and Evaluation (MEMORABLE)	(n=16) Family carers of older relatives	Not described in detail	Descriptive qualitative design	Interviews	Not specified	MEMORABLE aims to understand medication management from the viewpoint of older people living with co-morbidities treated with complex medication regimens, family carers, and health and care practitioners	Research institution			✓
Lewis A, Harvey G, Hogan M, et al. Can oral healthcare for older people be embedded into routine community aged care practice? A realist evaluation using normalisation process theory. Int J Nurs Stud 2019.	Australia	To evaluate the extent to which the intervention has been embedded and sustained into routine community aged care practice 3 years after the initial implementation project	(n=14) Twelve staff members from corporate, management, and direct care positions and 2 consumers representing high and low-care recipients	Metropolitan and country sites in South Australia	Single case study	Interviews and documentary review	Thematic analysis	Better Oral Health in Home Care aims to improve the oral health of older people receiving community aged care services	The South Australian Dental Service	✓		✓
Lhussier M, Dalkin S, Hetherington R. Community care for severely frail older people: developing explanations of how, why and for whom it works. Int J Older People Nurs 2019.	UK	To develop an initial explanatory (programme) theories to enhance understanding of the Community Well Team (CWT), whom it works for and in which circumstances	(n=12) Five severely frail older patients and 7 CWT members	Rural areas with dispersed small villages and market towns in the north of England	Descriptive qualitative design	interviews, focus groups, medical case notes, literature review	Realist analysis	CWT provides integrated and comprehensive care for severely frail patients aged 75 or older to reduce avoidable hospital admissions and enable home living for longer	National policy directives to support older people in the community	✓		✓
Lovink MH, Laurant MGH, van Vught AJ, et al. Substituting physicians with nurse practitioners, physician assistants or nurses in nursing homes: a realist evaluation case study. BMJ Open 2019.	Netherlands	To gain insight into how the substitution of elderly care physicians (ECPs) by nurse practitioners (NPs), physician assistants (PAs), or registered nurses (RNs) in nursing homes is modelled in different contexts and what model in what context contributes to perceived quality of healthcare, and to provide insight into elements that contribute to an optimal model of substitution of ECPs by NPs, PAs or RNs	(n=146) Three NPs; 2 PAs; and 2 RNs in 7 different nursing homes 15 ECPs; 2 Medical doctors (MDs); 11 managing directors/managers/supervisors; 33 nursing team members; and 78 residents/relatives	Seven nursing homes	Multiple case study	Interviews, observations, questionnaires, and collecting internal policy documents	Cross-case analysis	Substitution of physicians with NPs, PAs, or RNs aims to maintain quality nursing home care by achieving as least as a good resident and process of care outcomes as care provided by physicians	Not specified	✓	✓	✓
Martin P, Tannenbaum C. A realist evaluation of patients' decisions to deprescribe in the EMPOWER trial. BMJ Open 2017.	Canada	To test the mechanism during Eliminating Medications Through Patient Ownership of End Results (EMPOWER) trial and investigate the contexts that led to positive or negative deprescribing outcomes	(n=261) Older chronic benzodiazepine consumers who received the EMPOWER intervention and had complete 6-month follow-up data	Montreal urban area in Quebec	Fixed methods, conducted alongside the EMPOWER RCT)	Interviews and questionnaire	Thematic analysis and descriptive statistical analysis	EMPOWER includes a self-assessment and presentation of the evidence-based risks related to benzodiazepine use in an effort to elicit cognitive dissonance, and it provides a self-guided tapering schedule	Université de Montréal, Institut Universitaire de Gériatrie de Montréal, Canadian Institutes of Health Research, and Canadian Deprescribing Network	✓	✓	✓

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Masterson-Algar P, Burton CR, Rycroft-Malone J, et al. Towards a programme theory for fidelity in the evaluation of complex interventions. J Eval Clin Pract 2014.	UK	To address the challenge of investigating fidelity in the implementation of a complex rehabilitation intervention designed to increase the level of independence in personal activities of daily living of stroke patients living in UK care homes	(n=17) Occupational therapists(OTs)	Care homes	Descriptive qualitative design	Interviews and review of clinical incident reports from the trial	Not specified	Occupational Therapy in Care Homes (OTCH) aims to enhance independence in the activities of daily living (ADLs) of patients of nursing and residential UK care homes living with stroke	Team of trial occupational therapists	✓	✓	
McConnell T, O’halloran P, Donnelly M, et al. Factors affecting the successful implementation and sustainability of the Liverpool Care Pathway for dying patients: a realist evaluation. BMJ Support Palliat Care 2015.	UK	To identify the influences that facilitated or hindered the successful Liverpool Care Pathway (LCP) implementation	(n=24) Two policymakers and 22 participants with experience and/or involvement in the LCP (3 palliative care consultants, 3 previous LCP facilitators, 2 service managers, 4 medical consultants, 4 ward sisters, 4 staff nurses, and 2 junior doctors)	One health and social care trust in Northern Ireland	Case study	Interviews	Thematic analysis	LCP aims to improve best practices in end-of-life care recommended for use in all care settings	Cancer and Specialist Services, and Acute Services, with a focus on two hospital wards from each service group			
Newbould L, Ariss S, Mountain G et al. Exploring factors that affect the uptake and sustainability of videoconferencing for healthcare provision for older adults in care homes: a realist evaluation. BMC Med Inform Decis Mak 2021.	UK	To explore factors affecting the uptake and sustainability of videoconferencing in care homes, to establish what works for whom, in which circumstances and respects	(n=25) Residents, relatives, managers, nurses, senior care assistants, night nurses, care assistants, deputy managers, day care assistants, night care assistants, team leaders, and activity coordinators	Three care homes in Yorkshire and the Humber	Grounded theory approach	Interviews	Thematic analysis	Videoconferencing removes geographical barriers to care, improves the continuity of care and access for those with physical disabilities, and allows the assessment of residents before a possible admission to the hospital	Forty-four Clinical Commissioning Groups (CCGs) with a fund of NHS England	✓		✓
Pals RA, Olesen K, Willaing I. What does theory-driven evaluation add to the analysis of self-reported outcomes of diabetes education? A comparative realist evaluation of a participatory patient education approach. Patient Educ Couns. patient ed. 2016.	Denmark	To explore the effects of the Next Education (NEED) patient education approach in diabetes education	(n=251) Participants were at eight intervention sites (n=193) and six control sites (n=58). Of them, 29 participants were interviewed.	Not specified	Quasi-experimental study	Interviews, observations, and questionnaires	Descriptive statistical analysis, inferential statistical analysis, and systematic text condensation	NEED supports educators in tailoring patient education to the needs and challenges of individual participants living with diabetes and to ensure that participants engage in dialogue with peers as well as educators	Steno Diabetic Center	✓	✓	✓
Parker J, Mawson S, Mountain G, et al. Stroke patients’ utilisation of extrinsic feedback from computer-based technology in the home: a multiple case study realistic evaluation. BMC Med Inform Decis Mak 2014.	UK	To describe the application of an innovative evaluative methodology to explore the utilisation of feedback for post-stroke upper-limb rehabilitation in the home and refine the underpinning theories embedded within the self-Management Supported by Assistive, Rehabilitation and Telecare Technologies (SMART)system	(n= approx.20) Five residents with stroke, their carers, 7 physical therapists, and 7 occupational therapists	Not specified	Multiple case study	Interviews, focus groups, observations, and review of documents and materials such as video replay and Nottingham Extended Activities of Daily Living (NEADL)	Thematic framework analysis and descriptive statistical analysis	SMART rehabilitation technology system monitors and tracks the upper arm rehabilitation movements in real time by enabling the user to adopt theories and principles underpinning post-stroke rehabilitation and self-management	Community Stroke teams with The Engineering and Physical Sciences Research Council (EPSRC) that funded SMART Rehabilitation research programme	✓	✓	✓
Sanerma P, Paavilainen E, Åstedt-Kurki P. Home care services for older persons. The views of older persons and family members: A realistic evaluation. Int J Older People Nurs 2020.	Finland	To evaluate person-centred care in older person's home care services from the perspective of older adults and family members, using realistic evaluation methods	(n=13) Six older persons of home care and 7 family members	The centre of a big city and a rural environment	Descriptive qualitative design	Interviews	Content analysis	Home care services help the older person to cope at home when it is feasible and in the older person's interest and to support the older adults' individual lives at home	Not specified			✓

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Sattar Z, Wilkie S, Ling J. The impact of a refurbishment programme on older people living in sheltered housing. Hous Care Support 2021.	UK	To explore residents' perceptions of a refurbishment program to sheltered housing schemes and its impact on their well-being	(n=45) Residents living in each Extra Care Housing (ECH)	Nine ECH schemes	Qualitative study	Interviews and participatory appraisals	Thematic analysis	ECH schemes fall within the specialist housing characterised by shared facilities and activities	Not specified	✓		
Sheaff R, Sherriff I, Hennessy CH. Evaluating a dementia learning community: exploratory study and research implications. BMC Health Serv Res 2018.	UK	To analyse the impact of different governance approaches adopted by the local networks in England to reduce unplanned inpatient bed-days for people aged 75 and over	(n=38) Staff working in NHS, local authority social care, and third sector	Nine sites in the UK	Descriptive qualitative design	Document analysis and structured questionnaire	Analysis of the structured questionnaire and content analysis	Improving the Future for Older People initiative (IFOP) aims to enhance older people’s quality of life by reducing bed usage and admissions without compromising continuity of care or positive experiences of discharge	A group of nine councils with their NHS and third-sector partners	✓	✓	
Sheaff R, Windle K, Wistow G, et al. Reducing emergency bed-days for older people? Network governance lessons from the ‘Improving the Future for Older People’ program. Soc Sci Med 2014.	UK	To make a preliminary exploratory attempt to evaluate the Dementia Learning Community (DLC) empirically, assess how far the model has been implemented and its effects, and elicit, test, and refine the underlying ‘theory-in-use’ logic model of how a DLC works.	(n=1161) Thirteen intervention homes comprising 330 residents and 245 staff, and 10 control homes comprising 288 residents and 298 staff	Care homes in England	Mixed methods including RCTs and ethnography	Interviews, questionnaires, and field notes	Inferential statistical analysis and thematic analysis	DLC Logic model aims to reduce unplanned hospital admissions from care homes of those with dementia by training staff, changing work routines, improving quality of life, and reducing demands on external services	The national government	✓	✓	
Silva BB, Fegadolli C. Implementation of pharmaceutical care for older adults in the Brazilian public health system: a case study and realistic evaluation. BMC Health Serv Res 2020.	Brazil	To evaluate the implementation of Ambulatory Care Pharmacy services for older adults at Paulista Institute of Geriatrics and Gerontology (IPGG), which is recognised in the city of São Paulo for offering pharmaceutical care services for over 10 years continuously	(n=14) Eleven health professionals (pharmacists, members of the multi-professional team, management board of IPGG, members of the medical team, and so on), and 3 pharmaceutical care service users	Geriatrics Gerontology Institute of São Paulo (known as IPGG)	Case study	Interviews, participant observations, and reviews of institutional documents	Thematic analysis	Ambulatory Care Pharmacy services for older adults offers pharmaceutical care services for over 10 years continuously, and this initiative and process is independent of external academic interventions or educational institutions	IPGG	✓	✓	✓
Steven A, Wilson G, Young-Murphy L. The implementation of an innovative hydration monitoring app in care home settings: A qualitative study. JMIR MHealth UHealth 2019.	UK	To examine the implementation of Hydr 8 in a sample of care homes in one area of England	(n=28) Twenty-one care staff members, 5 management, 1 administrative assistant, and 1 registered nurse staff	Care homes within one CCG locality in the North of England	Qualitative study	Interviews and observations	Thematic analysis	Hydr 8 aims to facilitate accurate recording and communication of residents’ fluid intake and ultimately increase care quality and patient safety	Care homes collaborated with Elaros, North Tyneside Clinical Commissioning Group, and the Academic Health Science Network North East and North Cumbria			

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
Taylor J, Barker A, Hill H, et al. Improving person-centered mobility care in nursing homes: A feasibility study. Geriatr Nurs 2015.	Australia	To evaluate the feasibility of an intervention to improve person-centred mobility care during resident transfers and to estimate sizes for a randomised controlled trial	(n=63) Twelve residents and 51 staff (carer, nurse supervisor, lifestyle staff, MH trainer, nurse, manager, physiotherapists)	Ninety-bed nursing home with 3 high care units, including one dementia-specific, in Melbourne	Mixed methods in a parallel design	Surveys (pre-post design) and focus groups	Thematic analysis and descriptive statistics	The intervention is a multi-faced training intervention focused on person-centred mobility care that contributes to the resident's independence and quality of life, assisted by multidisciplinary facilitators and a dance therapist	Two researchers conducted the intervention.		✓	✓
Tolson D, McIntosh J, Loftus L, et al. Developing a managed clinical network in palliative care: a realistic evaluation. Int J Nurs Stud 2007.	UK	To evaluate, refine and inform the ongoing development of the Managed Clinical Network (MCN) (coordinated approach to inter-disciplinary care), and to reflect on the merits and limitations of using realistic evaluation as a formative design and describe how we identified the most effective configuration of CMO to develop the best practice model for the MCN.	Not specified Three older men, their families, doctors, and nurses providing direct care participated, along with 13 members of the network management group.	Rural primary care setting in Scotland	Case studies	Interviews and review of documents, including flip chart notes, diagrams, individual notes, and facilitator field notes	Constant comparative analysis	MCN is a linked group of health professionals and organisations from primary, secondary, and tertiary care working in a coordinated manner, unconstrained by existing professional and service boundaries, and aims to implement a guideline concerned with the care of individuals with cancer-related pain	The Scottish Executive Health Department			✓
Wiechula R, Kitson A, Marcoionni D et al. Improving the fundamentals of care for older people in the acute hospital setting: facilitating practice improvement using a Knowledge Translation Toolkit. Int J Evid Based Healthc. 2009.	Australia	To develop and implement a structured intervention known as the Knowledge Translation (KT)Toolkit to improve the fundamentals of care for the older person in the acute care sector	(n=42-70) Health professionals in the acute care facility (7 teams ranging from 6 to 10 members)	Large tertiary acute care hospital in a central metropolitan location	Secondary analysis	Routine data from local audits and safety and quality reports as pre- and post-measures of any improvements in practice	Not specified	KT Toolkit improves the fundamentals of care for the older person in the acute care sector	State policy initiatives on improving the care of older people	✓		
Wye L, Lasseter G, Percival J et al. What works in ‘real life’ to facilitate home deaths and fewer hospital admissions for those at end of life?: results from a realist evaluation of new palliative care services in two English counties. BMC Palliat Care 2014.	UK	To add to the evidence base of applied examples by presenting findings from a realist evaluation of a major service re-configuration of end-of-life care services known as 'Delivering Choice'	(n=148) Forty-three family carers and service users, 11 staff delivering or managing Delivering Choice services, and 94 staff eligible to use the services, including those who did and did not refer	North Somerset and Somerset	Descriptive qualitative studies, along with the retrospective cohort study	Interviews, observations, and review of documents and database.	Content analysis and framework analysis	Delivering Choice has 19 projects running across England and Scotland and works with local providers and commissioners to develop 24-hour end-of-life care services to meet local needs	Local professionals from the NHS and local authorities, clinicians, and managers from the acute, primary, and community sectors, hospice staff, and a small local Marie Curie Cancer Care-funded team		✓	✓

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

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	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.	1-2
INTRODUCTION			
Rationale	3	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.	4
Objectives	4	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.	4
METHODS			
Protocol and registration	5	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.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5
Information sources*	7	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.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix.1
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process‡	10	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.	6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6
RESULTS			
Selection of sources of evidence	14	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.	Figure.1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	7-10
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table.1
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Table.2
DISCUSSION			
Summary of evidence	19	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.	10
Limitations	20	Discuss the limitations of the scoping review process.	13
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	13
FUNDING			
Funding	22	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.	14

JB1 = 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 JB1 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).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018;169:467–473. doi: 10.7326/M18-0850.

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Characteristics of realist evaluation studies assessing interventions for improving the care of older adults: A scoping review

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ABSTRACT

Objectives: Interventions are increasing to address older adults' psychosocial healthcare issues. Realist evaluation (RE) helps to understand how these interventions work for their issues. To further develop such research, it is significant to obtain implications. We aimed to identify the characteristics of studies using RE to assess interventions that address older adults' psychosocial healthcare issues by mapping the relevant literature.

Design: A scoping review

Data Sources: MEDLINE, CINAHL, PsycINFO, Web of Science, Cochrane Library, ICHUSHI (Japanese database), and Google Scholar were used for searches between January 5, 2022 and January 4, 2024.

Eligibility criteria: (1) Showing that most of the participants are older adults or their stakeholders; (2) Stating in the research background or aim sections that the target interventions aimed at addressing older adults' psychosocial healthcare issues; and (3) Using RE for assessing these interventions.

Data extraction: Data on the country of origin, type of research, study design, qualitative data collection and analysis methods, desirable items for RE, and intervention aims/purposes were extracted and summarised using descriptive statistics.

Results: Fifty-four studies were extracted. Most studies were from the UK (54.5%). Mixed methods were used in 28 studies (51.9%), while 25 studies (46.2%) were conducted with only qualitative methods. Fourteen intervention aims/purposes were identified such as improving dementia care, avoiding emergency admissions, preventing social isolation, and promoting family involvement in the care of older adults.

Conclusion: RE is useful to promote an understanding of how the interventions work for addressing older adults’ psychosocial healthcare issues. RE also promotes the updating of plausible theories that lead to improving interventions. The following methodological implications were offered: managing time and resources to address the challenge of RE’s time and resource intensiveness; and setting up less burdensome interventions to address the challenge of data collection from older adults.

Keywords: realist evaluation, older adults, interventions

Strengths and limitations of this study

- Evidence to support the use of RE was provided by identifying the characteristics of relevant studies.
- Methodological implications of conducting studies using RE were offered by discussing the challenges of conducting studies using RE as well as measures to address these challenges.
- This study followed Arksey & O’Malley’s five-stage framework and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Review guidelines.
- This review has some limitations. The search was not updated regularly because of time constraints.
- The quality assessment of the relevant studies was not conducted.

INTRODUCTION

Older adults' healthcare needs have become complex [1]. In addition to biological factors (e.g., cancer pain and advancing chronic diseases) [2], psychosocial factors become salient [3-4]. Mental diseases of older adults are anticipated [5]. Widespread social isolation and loneliness of older adults are key risk factors for mental health conditions in later life [6, 7]. Likewise, caregivers' abuse and ageism cause serious consequences, and around 14% of adults aged 60 and over live with mental disorders (e.g., depression) [2, 8, 9]. Furthermore, there has been a growing need for older adults to discuss and plan where and with whom they like to spend their end-of-life (EOL) and which treatments they wish [10]. Satisfaction of older adults and their families significantly increased if their EOL wishes came true [11]. These healthcare issues include psychosocial factors; characteristics or aspects that influence an individual psychologically or socially. Psychosocial factors include protective psychosocial resources and psychosocial risk factors. The former includes social support, social networks, coping ability, and self-esteem. The latter includes vital exhaustion, depressiveness, and hopelessness [12].

Interdisciplinary interventions are increasing to address older adults' psychosocial healthcare issues. As including multiple components, these interventions help to address their complex issues. Some of them have been conducted using robust designs such as Randomised Controlled Trials (RCTs) [13-15]. Although RCTs are regarded as the gold standard for establishing intervention effectiveness, the effect size does not provide policymakers with information on how these interventions might be replicated in a specific context, or whether the outcomes will be reproduced [16]. Given this limitation, Realist Evaluation (RE) [17] helps to describe not only intervention outcomes but also intervention processes [18]. Using this method, programme theories have been developed to research and assess such interventions, and how contexts and mechanisms are related to the outcomes has been conceptualised [17, 19].

In some countries (e.g., the United Kingdom [UK], Australia), RE has been used to assess interventions that address older adults' psychosocial healthcare issues [20-24]. This trend may be explained by that the intervention's sustainability or success for older adults is specifically context-dependent [25]. Context is important because the action of mechanisms depends on the realities of the context [26]. Given this context, it is useful to explore the characteristics of the studies using RE to assess interventions that address older adults' psychosocial healthcare issues. Through this exploration, implications could be obtained to develop research in improving the healthcare issues of older adults. However, no review of the studies that explored such findings has been to date conducted. To fill this gap, the following research questions were asked: "What characteristics could

be identified in studies using RE to assess interventions that address older adults' psychosocial healthcare issues?" and "What implications could be considered in conducting RE research in this domain?" To answer these questions, we aimed to clarify the characteristics of the target studies by mapping the current relevant literature.

METHODS

A scoping review was conducted to map the relevant studies using RE. A scoping review systematically identifies and maps the breadth of evidence available on a particular topic, field, concept, and issue [27]. This facet aligned with our aim. To map a broad range of studies, we did not specify settings or participants, and the study quality was not appraised.

RE is rooted in realism [17]. This philosophy is a mid paradigm between positivism and interpretivism [28] and explains that the real world is understood by both observed objective data and interpretations of human experiences [17]. Using both quantitative and qualitative methods [28-29], RE develops, tests, and refines theories of "what works, for whom, in what circumstance?" [29]. These theories include the following: Context (pre-intervention circumstances influencing the mechanisms), Mechanism (processes and stakeholders' response), and Outcome (main results of the interventions) [17]. The Context-Mechanism-Outcome configurations (CMOs) [17] help to identify specific contexts and mechanisms leading to the outcomes [18]. RE could enable decision-makers to reach a deeper understanding of the intervention and how it works effectively [19, 30]. Although RE shows insufficient reliability [31] and demands methodological knowledge [32], this method has been utilised for its usefulness [33]. To the best of our knowledge, literature reviews of studies using RE have been performed in the healthcare system [32], knowledge translation [34], public health [35], nursing interventions [36], and health promotion [37]. Most studies originate in the UK [32, 34-37] and are qualitative [34, 36].

A protocol for this review has not been registered. This scoping review was guided by the following five-stage framework [38].

Stage 1: Identifying the research question

The Population-Concept-Context framework [39] was used as follows:

- Population: Older adults or stakeholders involved in the care of older adults
- Concept: Using RE to assess psychosocial interventions that address older adults' healthcare issues
- Context: All settings

Although older adults were defined as those aged >65 years, the term 'older adults' was applied based on the pertinent definition in each country where the study was conducted.

Stakeholders included families, healthcare professionals, volunteers, and policymakers. The interventions were operationally defined as interdisciplinary interventions aimed at addressing older adults' psychosocial healthcare issues (e.g. promoting dementia-friendly cultures, supporting preferred EOL, and preventing social isolation).

Stage 2: Identifying the relevant studies

MEDLINE (via PubMed) was used to identify relevant studies with keywords and Medical Subject Headings terms. A combination of search terms was developed with a librarian (see Appendix 1) and adapted for other databases. After selecting all the relevant studies, citation tracking was performed using the reference lists of the included studies. Finally, the grey literature was searched using Google Scholar. The search was limited to articles published in English or Japanese. The former was searched using MEDLINE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) (via EBSCO), PsycINFO (via EBSCO), the Cochrane Library, Web of Science, and Google Scholar. The latter was searched using the Igaku Chuo Zasshi (ICHUSHI) (a Japanese database). No restrictions were applied to the publication year. All searches were performed between January 2022 and January 2024. The final update was on January 4th, 2024.

Stage 3: Study selection

The following eligibility criteria were used: (1) showing that most of the participants are older adults or stakeholders involved in the care of older adults; (2) stating in the research background or aim sections that the target interventions aimed at addressing older adults' psychosocial healthcare issues; and (3) using RE for assessing these interventions.

We excluded the studies using interventions only aimed at addressing older adults' biological healthcare issues. For instance, surgeries or medication treatments are included. The reason lies in the limitations of identifying the mechanism (e.g., stakeholders' reactions) that RE attempts to explore, in these intervention processes. Reviews, synthesis, protocols, commentaries, and book sections were also excluded.

EndNote (<https://www.myendnoteweb.com/>) was used for managing all literature. After removing duplicates, three reviewers (SM, HO, and HF) screened the title and abstract of all selected articles and subsequently appraised the full texts. Disagreements between reviewers were resolved through discussions. If necessary, an independent reviewer joined the discussions until a consensus was reached. Finally, all reviewers agreed upon the selected studies determined to be relevant to this review.

Stage 4: Charting the data

The following data are charted in a tabular form (See Appendix 2): author(s); publication year; title; journal; country; aims/purposes; participants and sample size; setting; study designs; data collection and analysis methods; intervention name and contents; and intervention providers. We also focused on desirable items for RE to obtain implications for developing research in this domain. Referring to the previous literature [17, 34], the presence or absence of the following two items was presented: (1) building initial programme theories (IPTs) or developing theories, and (2) using a mixed methods design. Concerning the use of mixed methods, we counted the studies using mixed methods as part of the same research project (separately from the studies included in this review). After SM charted those data using descriptive statistics, HF and HO verified the form. Furthermore, the intervention aims/purposes were extracted for coding in the next stage since they were regarded as one of these studies' characteristics.

Stage 5: collating, summarising, and reporting the results

To identify the characteristics of relevant studies, the following data were summarised: country of origin, type of research, study designs used in quantitative or qualitative research, qualitative data collection and analysis methods, desirable items for RE, and intervention aims/purposes. To summarise the study designs as well as qualitative data collection and analysis methods, we referred to previous literature [40-41]. To summarise the intervention aims/purposes, the intervention content was iteratively read. Thereafter, the intervention aims/purposes were extracted and coded. Finally, the codes were integrated by their similarities. We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Review (PRISMA-ScR) guidelines.

Patient and public involvement

There was no patient or public involvement in this review. Ethical approval was not required as the data were collected from published studies.

RESULTS

First, we extracted 746 studies from six databases. After removing duplicates, the titles and abstracts of 435 studies were screened. Thereafter, the full text of 116 studies was read, and 52 studies were obtained. Next, gray literature was searched using Google Scholar. After reading the full text of three studies, two studies were obtained. Finally, 54 studies were included (See Figure 1). Key components (Table 1) and intervention aims/purposes (Table 2) of the studies are summarised, respectively.

Table 1 Key components of the studies included

*Multiple items are chosen

	<i>N</i>	(%)		<i>n</i>	(%)
Country of origin (n=54)			Study designs used in qualitative research (n=53)		
The UK	31	(57.4)	Descriptive qualitative study	32	(60.4)
Australia	8	(14.8)	Case study	19	(35.2)
Canada	4	(7.4)	Grounded theory	1	(1.9)
Netherlands	4	(7.4)	Ethnography	1	(1.9)
Denmark	2	(3.7)			
Others ¹	5	(9.3)	Qualitative data collection methods (n=53)*		
			Interviews	48	(90.6)
Type of research (n=54)			Document reviews	27	(50.9)
Only quantitative methods	1	(1.9)	Observations	18	(34.0)
Only qualitative methods	25	(46.2)	Focus groups	17	(32.1)
Mixed methods	28	(51.9)	Others ²	10	(18.9)
Study designs used in quantitative research (n=29)*			Qualitative data analysis methods (n=53)*		
Experimental design			Thematic analysis	20	(37.7)
RCTs	8	(27.6)	Content analysis	4	(7.5)
Non-RCTs	1	(3.4)	Constant comparative analysis	1	(1.9)
Pretest-Posttest design	7	(24.1)	Others ³	11	(20.8)
Posttest-only design	8	(27.6)	Not specified	18	(34.0)
Non-experimental design					
Prospective cohort study	4	(13.8)	Desirable items for RE (n=54)		
Retrospective cohort study	1	(3.4)	Building IPTs or developing theories	37	(68.5)
Descriptive study	4	(13.8)	Using mixed methods	28	(51.9)

1. Brazil, Belgium, Finland, Norway, and Sweden

2. Expert meetings and reviews of participatory appraisals, post-intervention participant feedback forms, previous studies, diaries, field notes, and video replays

3. Cross-case analysis, realist analysis, framework analysis, and systematic text condensation

Key components of the included studies

Most studies originated in the UK (57.4%). No such studies were identified in any Asian or African countries. Research using mixed methods was most frequently conducted (51.9%), followed by those using only qualitative methods (46.2%). Study designs used in quantitative research were divided into experimental and non-experimental designs. In

the experimental designs, RCTs and Posttest-only designs were used in eight studies (27.6%). In non-experimental design, prospective cohort study and descriptive study were used in four studies (13.8%). Descriptive qualitative design was the most used study design in qualitative research (60.4%). Interviews (90.1%) and thematic analyses (37.7%) were the most frequently used for qualitative data collection and analysis.

Regarding the desirable items for RE, building IPTs or developing theories were included in 37 studies (68.5%). IPTs were built in 27 studies (47.7%), whereas theories were developed in 10 studies (20.5%). Of the former, 14 studies built IPTs with a single all-encompassing statement regardless of CMOs (e.g., telecare provides improved safety 24/7 and thus enables people to continue living safely in their own homes for longer) [42]. Conversely, eight studies built IPTs specifying CMOs (e.g., if relatives are allowed more open visiting [C], they can become care partners and be more involved in the planning, implementing, and delivering aspects of care [M]. This may have a positive impact on reducing harm and improving the quality of care [O]) [43]. Mixed methods are used in 28 studies (51.9%). Some studies conducted research using either quantitative or qualitative methods as a part of the same research project (separate from the studies in this review).

Aims/purposes of interventions

Fourteen intervention aims/purposes were identified. Multiple aims/purposes were seen for some interventions.

To achieve ‘avoiding emergency admissions or reducing the duration of hospital stay’ (20.4%), dementia care education was provided with care home staff [44], and video conferences were introduced to support them while responding to emergencies [45]. To improve dementia care (20.4%), a health literacy kit containing important medical and welfare information understandable to people with dementia and their families was developed [46]. Dementia-sensitive care was offered by general hospitals [47]. To promote the changes in organisations such as elderly care facilities, task shifts between healthcare staff were performed [48], and an intentional round was adopted in response to hospital high mortality and patient complaints [49]. To promote independence and care for Activity of daily living (ADL), computer-based home rehabilitation was implemented for post-stroke older patients [50]. Although not more frequently included than those aims/purposes, some important aims/purposes were identified. For instance, to prevent adverse events caused by social isolation and loneliness, befriender services were offered to older adults living alone [21]. To promote family involvement in patient care, the time taken to visit the hospital wards was deregulated [43].

Table 2 Intervention aims/purposes

	<i>N</i>	(%)
Avoiding emergency admissions or reducing the duration of hospital stay [24, 44,-45, 51-58]	11	(20.4)
Improving dementia care [22, 44, 46-47, 54, 59-64]	11	(20.4)
Promoting changes in organisations such as elderly care facilities ¹ [21, 24, 47-49, 51, 65-68]	10	(18.5)
Promoting independence and care for Activity of Dairy Living (ADL) ² [50, 62-63, 65, 67, 69-71]	8	(14.8)
Supporting ageing in one's preferred place ³ [42, 45, 52, 56, 72-74]	7	(13.0)
Promoting EOLC [22, 52-63, 58, 60, 75-76]	7	(13.0)
Promoting fall prevention [21, 24, 30, 42, 62, 66]	6	(11.1)
Reducing the family care burden [46, 60, 64, 73, 77]	5	(9.3)
Improving medication management ⁴ [23-25, 78-80]	5	(9.3)
Preventing adverse events caused by social isolation and loneliness [20, 56, 62, 81-82]	5	(9.3)
Preventing the exacerbation of chronic diseases ⁵ [79, 83-85]	4	(7.4)
Promoting family involvement in the care of older adults [43, 64, 73]	3	(5.6)
Improving medical access for older adults ⁶ [86-88]	3	(5.6)
Fostering active ageing [30, 82, 88]	3	(5.6)

1. Improving work through task shifts between healthcare professionals, promoting work efficiency using the latest technology, and creating an atmosphere suitable for caring through educational interventions
2. Promoting independence of living motions (seating and transferring) and daily life care such as oral care
3. Promoting home medical care, improving the residential environment, and providing information about older adults' housing
4. Promoting appropriate use of antipsychotics and self-management of benzodiazepines
5. Providing education about diabetes mellitus, using ehealth for self-care, and offering rehabilitation to prevent heart disease
6. Improving the care of immigrant older adults and medical access for older adults living in rural areas

DISCUSSION

We used a scoping review to identify the characteristics of 54 studies using RE to assess interventions that address older adults' psychosocial healthcare issues. Given the results, first, we reconsidered the evidence to support the use of RE. Next, we examine methodological implications by discussing the challenges of RE research and how to address the challenges. Finally, we consider other implications from the following perspectives: intervention aims/purposes; and country of origin.

Evidence to support the use of RE

Our results found interventions were targeting a broad range of older adults' psychosocial healthcare issues, and using RE to assess those interventions helps to understand how they work. Lewis et al [67] assessed how oral care is embedded into routine community aged care using RE. This presented that the withdrawal of project resources triggered organizational disengagement, leading to a loss of active oral healthcare. This agrees with that the intervention sustainability for older adults is context-dependent [25]. In identifying the contextual factors and causation of the interventions, it seems useful to employ RE. A better understanding of the processes contributes to improving the interventions [30]. Furthermore, using RE could promote the updating of more plausible theories. As older adults' healthcare issues become complex [1], conventional theories may not be valid in explaining how interventions work for older adults. To address this issue, RE is conducted iteratively[17] and helps to update the theories. Handley [47] assessed dementia-friendly care using mixed methods with RE to test and refine the programme theories that they had built using a realist review. The iterative evaluation could provide a more plausible theory of how interventions work to address the ever-changing older adults' psychosocial healthcare issues.

Methodological implications

Time- and resource-intensiveness [34] seems a challenge in conducting RE research. Conducting interventions, analyses, and evaluations while facing time and resource restraints is challenging [68, 76]. This may be explained by that RE takes a step-by-step approach, along with its evaluation cycle [17]. Our results presented that the mixed methods were used in 28 studies (51.9%), and this result agrees with previous literature reviews [34, 36]. Certainly, mixed methods are more than simply collecting both quantitative and qualitative data, and insights that are difficult to explore using a single method could be obtained [89]. However, it may increase the time and resource-intensiveness. Furthermore, if using robust designs such as RCTs, the demand for time and resources will be raised since RCTs require formidable tasks (e.g., designing studies thoroughly, conducting the trials, analyzing data, and interpreting findings) [90].

Despite this challenge, it may be worth considering how to use the mixed methods with RE, due to the growing complexity of older adults' psychosocial healthcare needs [1]. Although it may be commonplace, managing time and resources (e.g., manpower and research grants) is recommended [68, 76], especially in conducting RE research. However, a full RE is not always feasible [91]. According to the RAMESES [29], the mandatory use of mixed methods is not clearly described, although RE is usually a multi-or mixed

method. Considering this context, building IPTs or developing theories using only qualitative methods may be acceptable under time and resource constraints.

Data collection from older adults may be also challenged. This may be related to their vulnerability, and their condition seems susceptible, especially to a long-term evaluation. This challenge was identified in the studies using interventions aimed at improving dementia care. Some studies did not directly collect data from older adults with dementia. Ofosu et al [62] conducted a feasibility study using RE to target older adults with dementia. However, some participants passed away or withdrew during the interventions.

One possible measure to address this challenge may be considering less burdensome interventions for older adults. Although it may be commonplace, consideration should be given to under what circumstances the data collection is performed. This is because older adults, especially those with dementia are confused with the relocation [92]. Given this context, Parker et al [50] conducted RE research at their participants' homes to collect data in their natural and familiar environments. Grace & Horstmanshof [46] collected data from older adults with dementia with their families. Their family provides a sense of security to older adults with dementia. Furthermore, using understandable and plain words may be recommended. Rehman et al [63] gave simple and understandable directions for dementia participants during their interventions. These considerations to reduce the intervention burden may support data collection from vulnerable older adults.

Other implications

Using RE should be considered in less frequently included intervention aims/purposes. For instance, its use should be promoted for "preventing adverse events caused by social isolation and loneliness". Social isolation and loneliness have been widespread among older adults [6]. The recent COVID-19 pandemic has exacerbated this issue [93], and its reoccurrence is expected [94]. As the structure of loneliness is complex and multi-dimensional [95], using RE should be promoted to assess interventions to ease social isolation. Its use should also be considered for "promoting family involvement in the care of older adults". In East Asia, Advance Care Planning (ACP) involves families rather than individuals [96], and the care of older adults is traditionally taken on by families without using outsourced services [97]. Given the advancing ageing in East Asia, the use of RE is desired to assess interventions that support family involvement in caring for older adults. Meanwhile, "avoiding emergency admission and reducing the length of hospital stays" were included the most. This may be related to the long-term plan of the National Health Service [98], emphasising support for people to age well. Since this content is

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6 closely related to ‘avoiding emergency admissions’, some interventions might have been
7 conducted along with the plan.

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9 Promoting the use of RE should be considered in countries other than the UK where
10 population ageing is advancing. We clarified an international gap in studies using RE in
11 this domain. Most of the studies were conducted in the UK, and this result is consistent
12 with previous studies of literature reviews [32, 34-37], and this may be due to the context
13 that RE was developed in the UK. One possible reason for fewer such studies in Asia may
14 be the low degree of familiarity with RE. Meanwhile, the lack of such studies in Africa
15 may be related to less advanced ageing [99]. However, population ageing is arguably
16 expected in Asia and Africa [100]. If RE is not familiar in Asia, disseminating the studies
17 using RE may contribute to raising its recognition and closing the international gap.
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24 **Limitations**

25 This review has some limitations. The search was not updated regularly because of time
26 constraints. Regular updates might have identified new relevant studies. The quality of
27 each study was not assessed, as our focus was to map a broad range of relevant studies.
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31 **CONCLUSION**

32 We identified the characteristics of studies using RE to assess interventions that address
33 older adults’ psychosocial healthcare issues, and some implications are provided.
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35 Regarding the methodological implications, managing time and resources should be
36 considered to address the RE’s time and resource intensiveness. Furthermore, setting less
37 burdensome interventions is desired to address the challenge of data collection from older
38 adults. Regarding other implications, using RE should be examined in preventing adverse
39 events caused by social isolation and promoting family involvement in the care of older
40 adults. Disseminating studies using RE may close the international gap in this domain.
41 As research prospects, a systematic review of the relevant studies may be recommended
42 for further accumulation of the research evidence.
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Figure 1 PRISMA flow diagram of the selection process

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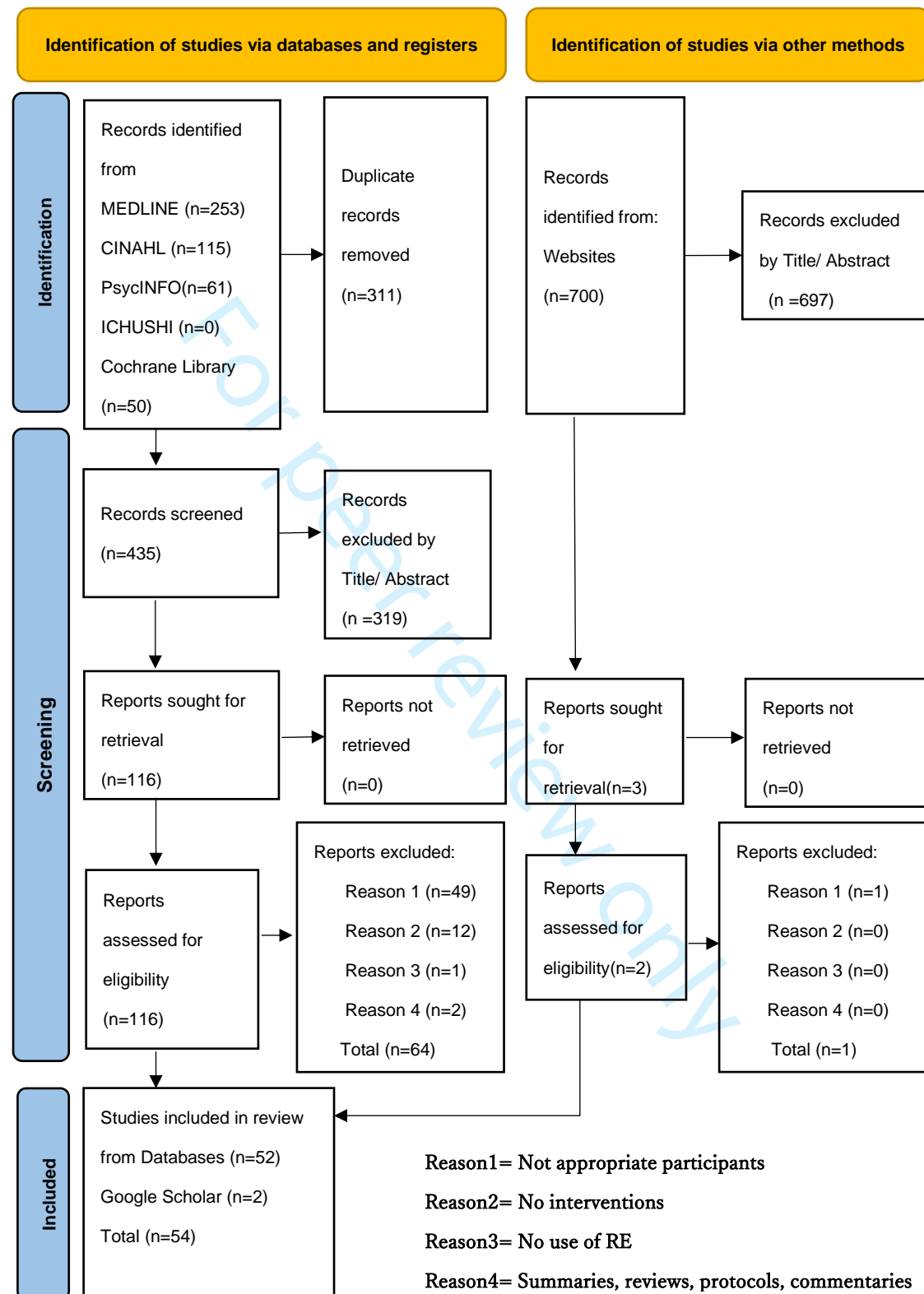


Figure 1 PRISMA flow diagram of the study selection

APPENDIX 1 Combination of search terms
MEDLINE (via PubMed)

#	Query	Search details	Results
1	((aged) OR ("the aged")) OR (aging) OR (ageing) OR ("aging population") OR ("ageing population") OR ("older adult") OR ("older adults") OR ("older people") OR (elder*) OR (senior) OR (seniors)	"aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging population"[All Fields] OR ("aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) AND "populaiton"[All Fields]) OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]) OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields])	6,487,370
2	("realist evaluation") OR ("realist evaluations") OR ("realistic evaluation") OR ("realistic evaluations") OR ("realist case study") OR ("realist case studies") OR ("realist approach") OR ("realist approaches")	"realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields] OR "realist case study"[All Fields] OR ("realist"[All Fields] OR "realists"[All Fields]) AND ("case reports"[Publication Type] OR "case studies"[All Fields]) OR "realist approach"[All Fields] OR "realist approaches"[All Fields]	1,356
3	(#1) AND (#2)	("aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging population"[All Fields] OR ("aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) AND "populaiton"[All Fields]) OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]) OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields])) AND ("realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields] OR "realist case study"[All Fields] OR ("realist"[All Fields] OR "realists"[All Fields]) AND ("case reports"[Publication Type] OR "case studies"[All Fields]) OR "realist approach"[All Fields] OR "realist approaches"[All Fields])	253

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CINAHL (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR aging population OR ageing population OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	1,238,463
S2	"realist evaluation" OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "realist approach" OR "realist approaches" OR "realist case study" OR "realist case studies"	755
S3	S1 AND S2	115

PsycINFO (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR "aging population" OR "ageing population" OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	812,212
S2	"realist evaluation" OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "critical realist evaluation" OR "realist approach" OR "realist approaches" OR "critical realist approach" OR "critical realism" OR "realist case study" NOT "realist review" NOT "realist synthesis"	592
S3	S1 AND S2	61

Web of Science

#	Query	results
#1	ALL=("the age") OR ALL=(aged) OR ALL=(aging) OR ALL=(ageing) OR ALL=("aging population") OR ALL=("ageing population") OR ALL=("older adult") OR ALL=("older adults") OR ALL=("older people") OR ALL=(elder*) OR ALL=(senior) OR ALL=(seniors) OR ALL=("frail elderly")	4,857,054
#2	ALL=("realist evaluation") OR ALL=("realist evaluations") OR ALL=("realistic evaluation") OR ALL=("realistic evaluations") OR ALL=("critical realist evaluation") OR ALL=("realist approach") OR ALL=("realist approaches") OR ALL=("critical realist approach") OR ALL=("realist case study") OR ALL=("critical realism") NOT ALL=("realist review") NOT ALL=("realist synthesis")	2,912
#3	#1 AND #2	267

Cochrane Library

#	Query	results
#1	("the aged") OR (aged) OR (aging) OR (ageing) OR ("aging population") (Word variations have been searched)	888,320
#2	("ageing population") OR ("older adult") OR ("older adults") OR ("older people") OR (elder*) (Word variations have been searched)	84,217
#3	(senior) OR (seniors)	7,012
#4	#1 OR #2 OR 3	903,704
#5	("realist evaluation") OR ("realist evaluations") OR ("realistic evaluation") OR ("realistic evaluations") (Word variations have been searched)	74
#6	("realist approach") OR ("realist approaches") OR ("realist case study") OR ("realist case studies") (Word variations have been searched)	42
#8	#5 NOT #6	113
#9	#4 AND #8	50

APPENDIX 2 Data of the included studies

Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
Aagaard K, Meléndez-Torres GJ, Overgaard C. Improving oral health in nursing home residents: A process evaluation of a shared oral care intervention. J Clin Nurs 2020.	Denmark	To evaluate the process of implementing an oral care intervention in nursing homes in a Danish municipality	(n=41) Nursing home residents, care professionals, assistant nursing home managers, dental practitioners, and the project dentist	Three nursing homes	Multiple case studies, along with randomised controlled trials (RCTs)	Interviews, observations, and group interviews	Thematic analysis and cross-case analysis	Shared oral care includes educating care staff on oral hygiene, assessing residents' oral health, and designing an individual oral care plan	The Danish National Board of Health	✓	✓	✓
Barker R, Wilson P, Butler C. How does the English national end-of-life care policy imp on the experience of older people at the end of life? Findings from a realist evaluation. Prim Health Care Res Dev 2021.	UK	To explore the extent to which national policy in end-of-life care (EOLC) in England influences and guides local practice, helping to ensure care for older people at the EOL is of a consistently good quality	(n=98) Patients, carers, clinicians (physicians, health care assistants, palliative care nurses, etc.), and non-clinical staff (care home and hospice managers, local authority leads, chaplains etc.)	Three sites in London	Multiple case study	Interviews, meeting observations, and documentary analysis	Not specified	National policy in end-of-life care influences and guides local practice, helping to ensure that older adults want to be cared for and die in familiar surroundings	The national government	✓		
Bailey, D, Mutale, G. J. Social work's contribution to integrated primary health care teams in the UK for older adults with complex needs Journal of Integrated Care. 2022	UK	To examine the contribution of adult social work in integrated teams in the UK.	(n=42) Members of staff (23 in the integrated teams and 19 in the social-work-only teams)	Three different districts within one local government's catchment area	Mixed methods	Interviews and focus groups. Types of social work activities extracted from older adults' case records to calculate costs of care.	Inferential and descriptive statistics	Embedding social work in integrated primary care teams	Integrated team and social workers		✓	
Berge MS. Telecare - where, when, why, and for whom does it work? A realist evaluation of a Norwegian project. J Rehabil Assist Technol Eng. 2017.	Norway	To highlight where, when, why, and for whom telecare works, drawing on data from the evaluation project	(n=19) Users and relatives	Medium-sized municipality	Descriptive qualitative design	Interviews	Not specified	Telecare is individually tailored and linked to the call centre. The devices comprise the sensors that react to changes in the activity pattern, fall sensors, and movement sensors	The national Government	✓		✓
Boumans J, van Boekel LC, Verbiest MEA et al. Exploring how residential care facilities can enhance the autonomy of people with dementia and improve informal care. Dementia (London) 2022.	Netherlands	To explore how residential care facility (RCF) staff can enhance autonomy and improve informal care by looking at the influence of interactions (contact and approachability between residents, staff members, and informal caregivers) and the physical environment, including the use of technologies	(n=12) RCFs staff, board members of the RCFs, informal caregivers/relatives of residents with dementia	Two RCFs in the southern part of the Netherlands	Multiple case study	Interviews, observations, and documents analyses	Realist logic of analysis	Person-centred care in RCFs ensures people with dementia who are receiving care can make their own choices and facilitates their autonomy and informal care provision	Not specified			✓
Clark AM, Whelan HK, Barbour R, et al. A realist study of the mechanisms of cardiac rehabilitation. J Adv Nurs 2005.	UK	To explore patient's experiences of cardiac rehabilitation (CR) and perceptions of the mechanisms and contexts influencing its long-term effectiveness	(n=47) Patients	Derivative region of the West of Scotland	Qualitative design	Focus groups	Not specified	Cardiac Rehabilitation programs offer a range of services that can support the secondary prevention of coronary heart disease (CHD)	National health service (NHS) trust with Scottish Intercollegiate Guidelines Network (SIGN)			

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Coorey G, Peiris D, Neubeck L, et al. A realist evaluation approach to explaining the role of context in the impact of a complex eHealth intervention for improving prevention of cardiovascular disease. BMC Health Serv Res 2020.	Australia	To elucidate contextual factors at play in participant responses to the eHealth intervention and describe mechanisms by which the impact on outcomes arose	(n=36) Participants from the intervention group who completed 12 months of study follow-up	Twenty-four primary health care services in Sydney	Qualitative study along with RCTs	Interviews	Thematic analysis	The intervention of eHealth is designed to improve the recipient’s cardiovascular disease (CVD) risk factor profile by facilitating health-related behaviour change, including increased engagement with care providers	The George Institute for Global Health, funded by the Australian National Health and Medical Research Council	✓	✓	✓
Couturier Y, Lanneville D, Lane J, et al. Implementation conditions leading to the scale-up of an innovation involving the optimal use of antipsychotics in long-term care centers: the Optimising Practices, Use, Care and Services-Antipsychotics (OPUS-AP) program. Res Social Adm Pharm 2022.	Canada	To present the conditions leading to the scale-up of an innovative program on the appropriate use of antipsychotics in long-term care (LTC) centres	(n=46) Local project managers, nurses, families, and professionals	An integrated health area of Quebec	Mixed methods along with a prospective short study	Interviews	Qualitative data analysis	OPUS-AP program aims to improve LTC residents’ care by increasing knowledge and competency among staff, resident-centred approach, non-pharmacologic interventions, and by deprescribing antipsychotics when appropriate	Governance board, including policymakers, researchers, and managers, headed by regional health authorities, acting as representatives for all CEOs across Quebec		✓	
Dalkin SM, Lhussier M, Kendall N, et al. Namaste care in the home setting: developing initial realist explanatory theories and uncovering unintended outcomes. BMJ Open 2020.	UK	To develop initial program theories detailing if, how and under which circumstances Namaste Care works when implemented at home	(n=35) Twenty-seven volunteers and eight family carers	A hospice in the North East of England, operating in the community through volunteers.	Qualitative study	Interviews and focus groups	Realist analysis	The End-of-Life Namaste Care Program can improve communication and the relationships families and friends have with the person with dementia	A hospice in the community that is a registered charity receiving some income from the NHS	✓		✓
Day A, Phelps K, Maltby J, et al. A realist evaluation of loneliness interventions for older people. Age Ageing 2021.	UK	To develop a program theory to inform the design of loneliness interventions and guide any future evaluations	(n=54) Twelve service providers, 24 old people, and 18 carers	Leicester and Leicestershire	Mixed methods	Interviews, focus groups, documentary analysis, and cataloguing available services from provider organisations and websites.	Qualitative data analysis	Loneliness interventions include social activity, emotional support, and advice and information	Local councils of Leicester and Leicestershire	✓	✓	✓
Devi R, Chadborn NH, Meyer J, et al. How quality improvement collaboratives work to improve healthcare in care homes: a realist evaluation. Age Ageing 2021.	UK	To understand how quality improvement collaboratives (QICs) work when designing and implementing evidence-based approaches to healthcare in care homes	(n=32) Care home staff, pharmacists, Physicians, dieticians, care home nurse specialists, care coordinators, care home managers, geriatricians, and so on.	Four sites and 29 care homes	Multiple case study	Interviews, focus groups, and observations	Not specified	Quality Improvement Collaboratives bring together multidisciplinary teams in a structured process to improve care quality in care homes	Teams of health and social care professionals that established the QIC and provided advice on on-site team composition and focus of intervention	✓		✓
Efstathiou N, Lock A, Ahmed S et al. A realist evaluation of a ‘single point of contact’ end-of-life care service. J Health Organ Manag 2020.	UK	To explore whether the provision of coordinated end-of-life care (EOLC) would support patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	(n=256) Thirty staff of "Single point of contact” and 226 patients and carers/ friends who completed the satisfaction questionnaire	Sandwell, West Birmingham, West Midlands	Mixed methods	Interviews, observations of management meetings, documents, satisfaction surveys, and activity/ performance indicators	Simple descriptive analysis	"Single point of contact" aims to coordinate EOLC, including EOLC facilitators and an urgent response team, for supporting patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	Clinical Commissioning Group (CCG)	✓	✓	✓

(Continued on the next page)

Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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<p>Fakoya OA, McCorry NK, Donnelly M. How do befriending interventions alleviate loneliness and social isolation among older people? A realist evaluation study. PLOS ONE 2021.</p>	<p>UK</p>	<p>To address the gap in the evidence- base by going beyond the identification of 'what works' to gain an in-depth understanding of how befriending interventions work, for whom, and in what circumstance</p>	<p>(n=46) Two service managers, 4 service coordinators, 17 befrienders, 14 service users, and 9 family members related to the service users</p>	<p>Northern Ireland</p>	<p>Multiple case study</p>	<p>Interviews and review of service documents</p>	<p>Retroductive approach</p>	<p>Befriending provides relationships and social contact to individuals experiencing loneliness and isolation in community and residential settings</p>	<p>Befriending Network</p>	<p>✓</p>		<p>✓</p>
<p>Flynn R, Mrklas K, Campbell A, et al. Contextual factors and mechanisms that influence sustainability: a realist evaluation of two scaled, multi-component interventions. BMC Health Serv Res 2021.</p>	<p>Canada</p>	<p>To identify and explain the contextual factors and causal mechanisms that enabled or hindered the sustainability of two large-scale, system-wide EBIs implemented across the Strategic Clinical Networks™, of the Alberta health system in Canada</p>	<p>(n=30) Seventeen participants from Case A, Intensive Care Unit (ICU) with Delirium intervention, and 13 participants from Case B, Long-term care (LTC) and designated supportive living (DSL) with appropriate use of antipsychotics (AUA)</p>	<p>ICU, long-term care facility, and designated supportive living in Alberta</p>	<p>Case study</p>	<p>Interviews and document reviews</p>	<p>Cross-case comparison analysis</p>	<p>Strategic Clinical Networks that comprise multi-stakeholders work collaboratively to identify care gaps and implement evidence-based interventions that improve health outcomes and health service delivery</p>	<p>Alberta Health Services</p>	<p>✓</p>		<p>✓</p>
<p>Francis-Coad J, Etherton-Beer C, Bulsara C et al. Evaluating the impact of a falls prevention community of practice in a residential aged care setting: a realist approach. BMC Health Serv Res 2018.</p>	<p>Australia</p>	<p>To evaluate the impact of a falls prevention Community of Practice (CoP) on its membership, actions at the facility level, and actions at the organisation level in translating falls prevention evidence into practice</p>	<p>(n=260) CoP partnered university researchers with staff across the 13 facilities. All facilities were represented by 20 members comprising 14 allied health professionals, 5 care/deputy care managers, and 1 researcher.</p>	<p>Residential aged care facilities</p>	<p>Convergent parallel mixed methods</p>	<p>Surveys, audits, observations, and interviews</p>	<p>Content analysis and inferential statistical analysis</p>	<p>Community of Practice for fall prevention enables sharing of expertise and ideas, to innovate for change in pursuit of fall prevention</p>	<p>Not specified</p>		<p>✓</p>	<p>✓</p>
<p>Gordon AL, Goodman C, Davies SL, et al. Optimal healthcare delivery to care homes in the UK: a realist evaluation of what supports effective working to improve healthcare outcomes. Age Ageing 2018.</p>	<p>UK</p>	<p>To explore how healthcare configuration influences resource use</p>	<p>(n=320–355) Recruiting 239 residents for assessing NHS resource use, 35 residents, 18 relatives, 15 home staff (staff and managers), and 48 NHS professionals (community nurses, physicians, and allied health professionals). (Some residents might have been recruited for both resource use assessments and interviews)</p>	<p>Four care homes from 3 sites</p>	<p>Case studies along with a prospective cohort study</p>	<p>Interviews, focus group, and records of resource uses and health costs</p>	<p>Realist analysis and inferential statistical analysis</p>	<p>The interventions led by NHS for providing optimal health care delivery to care homes address unplanned hospital admissions, duration of hospital stay, use of out-of-hours services, medication use, and satisfaction of resident, carer, and staff</p>	<p>NHS</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>
<p>Gorenberg, J.,Tierney, S.,Wong, G. et al. Understanding and Improving Older People's Well-Being through Social Prescribing Involving the Cultural Sector: Interviews from a Realist Evaluation J Appl Gerontol. 2023</p>	<p>UK</p>	<p>To explain in what ways, for whom, and why the cultural sector can support social prescribing with older people</p>	<p>(n=53) Twenty-eight older people (aged 60+) and 25 cultural sector staff</p>	<p>Not specified</p>	<p>Fixed methods</p>	<p>Online meetings with stakeholders, A rapid realist review, A questionnaire completed by Link workers, and interviews with older adults and cultural sector staff</p>	<p>Realist logic analysis</p>	<p>Social prescribing is a non-clinical approach to addressing social, environmental, and economic factors affecting how people feel physically and/or emotionally. It involves connecting people to “community assets” (e.g., local groups and organizations)</p>	<p>NHS stressed the need of social prescribing as part of personalized care, and funded social prescribing link workers (LWs) to be attached to primary care.</p>	<p>✓</p>	<p>✓</p>	
<p>Grace S, Horstmanshof L. A realist evaluation of a regional Dementia Health Literacy Project. Health Expect 2019.</p>	<p>Australia</p>	<p>To evaluate the Dementia Health Literacy Project using a realist evaluation framework</p>	<p>(n=48) Thirteen people (the Project Officer, one service provider, 11 people with dementia and their family/carers) and 13 members of social groups of older adults. Twenty-two clinicians who responded to the survey of feedback on the Dementia Support Kit.</p>	<p>North coast region of New South Wales</p>	<p>Descriptive qualitative design</p>	<p>Interviews, surveys, and documentary analysis</p>	<p>Not specified</p>	<p>Dementia Health Literacy Project adopted an experience-based co-design approach to design a Dementia Support Kit to provide useful information to people with dementia and their families and carers</p>	<p>Primary Health Network in the region</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>

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Handley M, Bunn F, Goodman C. Supporting general hospital staff to provide dementia sensitive care: A realist evaluation. Int J Nurs Stud 2019.	UK	To explain the factors that support hospital staff to provide dementia-sensitive care and with what outcomes for patients with dementia.	(n=66) A total of 36 hospital staff (health care assistants, nurses, medical staff, allied health care professionals, and support staff), 28 patients with dementia, and 2 family carers of patients with dementia	Two NHS Trusts in the East of England	Two-site case study	Interviews, non-participant observation, review of medical notes, organisational document, and Neuropsychiatric Inventory Questionnaire	Thematic analysis and descriptive statistical analysis	The interventions aim to support hospital staff in providing dementia-sensitive care	Department of Health, whose priority policy is to improve dementia care in general hospitals	✓	✓	✓
Harding AJE, Hean S, Parker J et al. It can't really be answered in an information pack. A realist evaluation of a telephone housing options service for older people. Soc Policy Soc 2020.	UK	To report a qualitative realist evaluation on the efficacy of a UK telephone service providing information on specialist housing to older people	(n=20) Sixteen older people and 4 telephone service advisers	Not specified	A simple explanatory case study	Observations of key meetings, review of documents, focus groups, and interviews	Thematic analysis	UK telephone housing options service aims to provide information on specialist housing for older people	The national advice service' and the organisation that manages information directly on UK housing options for older people, funded by the UK government			✓
Haynes A, Gilchrist H, Oliveira JS, et al. Using realist evaluation to understand process outcomes in a COVID-19-impacted yoga intervention trial: A worked example. Int J Environ of Environ Res Public Health. 2021.	Australia	To provide a worked example of a realist process evaluation conducted in parallel with a randomised controlled trial of yoga classes for older adults aimed at preventing falls	(n=24) Twenty-one older adults who participated in the Successful AGEing (SAGE) yoga trial and 3 yoga instructors.	Not specified	Descriptive qualitative design	Interviews, review of post-intervention and participant feedback forms	Qualitative data analysis	SAGE yoga is an exercise program in which participants attend 40 weeks of twice-weekly yoga-based exercise classes designed to prevent falls or a seated yoga relaxation program	Not specified	✓	✓	✓
Hoens S, Smetcoren AS, Switsers L et al. Community health workers and culturally competent home care in Belgium: A realist evaluation. Health Soc Care Community 2021.	Belgium	To investigate through a realist evaluation how the work training programme for 10 Community Health Workers (CHWs) contributed to culturally competent home care services	(n=25) Ten CHWs, 6 care employees, 2 trainers, and 7 project coordinators	Dependent urban area in Brussels	Qualitative study	Interviews and focus groups	Thematic analysis	Work training programs with CHWs were developed to respond to the need of home care organisations to provide culturally competent care in a super-diverse neighbourhood	European Social Fund (ESF)project within which a work training programme for CHWs was developed			✓
Hurst H, Griffiths J, Hunt C, et al. A realist evaluation of the implementation of open visiting in an acute care setting for older people. BMC Health Serv Res 2019.	UK	To evaluate the implementation of open visiting, the barriers to implementation, sustainability, and the impact of open visiting on communication between healthcare professionals, families, and carers	(n=30) Medical, nursing, allied health professionals, patients, and relatives/ carers 47 questionnaires were completed	Two large acute medical wards for older people in the North of England	Descriptive qualitative design	Interviews and questionnaire	Descriptive analysis of pre-implementation questionnaires and qualitative data analysis for interviews	Open visiting refers to the principle that visiting hours are not restricted in the hospital setting, and relatives and carers can visit at any time	NHS Trusts	✓	✓	✓
Janssen MM, Vos W, Luijkx KG. Development of an evaluation tool for geriatric rehabilitation care. BMC Geriatr 2019.	Netherlands	To find out the elements with which the quality of daily Geriatric Rehabilitation Care (GRC) practice can be evaluated and improved and to translate this theoretical knowledge into a practical GRC evaluation tool that has added value for and is usable in GRC practice.	(n=10) Participants from 3 GRC organisations, including nurses, occupational therapists, speech therapists, elderly care physicians, coordinating nurses, GRC managers	Three GRC organisations from two different regions in the Netherlands	Qualitative study	Interviews, participation in expert meetings, and focus groups	Not specified	GRC is a multidisciplinary rehabilitation care for older and vulnerable clients who are admitted and need short-term rehabilitation in a nursing home	GRC organisations	✓		✓

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Jonsson F, Carson DB, Goicolea I, et al. Strengthening community health systems through novel ehealth initiatives? Commencing a realist study of the virtual health rooms in rural Northern Sweden. Int J Health Policy Manag 2022.	Sweden	To explore how and under what circumstances the so-called Virtual Health Rooms (VHRs) are expected to improve access to person-centred care and strengthen community health systems, especially for elderly residents of rural areas.	(n=8) Key stakeholders working with eHealth, business development, digitalisation, and process management	Norrland, rural northern Sweden	Descriptive qualitative design	Interviews	Thematic analysis	VHRs aim to improve access to person-centred care and strengthen community health systems in rural areas	The Centre for Rural Medicine	✓		✓
Kupeli N, Sampson EL, Leavey G, et al. Context, mechanisms and outcomes in end-of-life care for people with advanced dementia: family carers perspective. BMC Palliat Care 2019.	UK	To explore the context, mechanisms, and outcomes for providing good palliative care to people with advanced dementia residing in UK care homes	(n=14) Health and social care professionals, including healthcare assistants, care home managers, commissioners for older adults' services, and nursing staff.	Private care homes and services offered by the NHS	Descriptive qualitative design along with a prospective short study	Interviews, literature reviews, workshops with stakeholders, and information from an ongoing cohort study	Thematic analysis	End-of-life care for people with advanced dementia is expected to provide proactive and coordinated palliative care	Not specified	✓	✓	✓
Lawson S, Mullan J, Wong G, et al. Family carers' experiences of managing older relative's medications: insights from the MEMORABLE study. Patient Educ Couns. patient ed. 2022.	UK	To explore the burdens experienced by family carers who support older relatives to manage their medications at home through MEducation Management in Older people: Realist Approaches Based on Literature and Evaluation (MEMORABLE)	(n=16) Family carers of older relatives	Not described in detail	Descriptive qualitative design	Interviews	Not specified	MEMORABLE aims to understand medication management from the viewpoint of older people living with co-morbidities treated with complex medication regimens, family carers, and health and care practitioners	Research institution			✓
Leamy, M., Sims, S., Levenson, R. et al. Intentional rounding: a realist evaluation using case studies in acute and care of older people hospital wards. BMC Health Serv Res.2023	UK	To test, refine or refute eight programme theories to understand what works, for whom, and in what circumstances.	(n=138+a) Board level and senior nursing managers (N = 17), nursing ward staff (N = 33), allied health and medical professionals (N = 26), patients (N = 34) and relatives (N = 28)	Six wards (older people and acute wards) in three NHS trusts in England.	Fixed methods design	Synthesis, survey, interviews, non-participant observations, and analysis of ward outcome and cost data	Framework analysis	Intentional rounding is to provide quality care to patients and families – and to validate that this level of care is occurring with every patient, every time.	The Francis Inquiry pinpointed serious errors in patient care at the Mid Staffordshire NHS Trust.	✓	✓	✓
Leighton, P. A., Darby, J.,Allen, F.A et al realist evaluation of a multifactorial falls prevention programme in care homes Age Ageing. 2022	UK	To identify those contexts where GtACH is easily adopted and recognise those mechanisms that lead to positive outcomes, specifically considering fidelity with training and delivery, acceptability to stakeholders, and impact upon falls rate.	(n=88) Seven managers, 4 deputy managers, 1 care home employed nurse, 3 Falls Champions, 1 unit manager, 22 senior caring staff, 38 caring staff, 6 residents, and 6 Falls Leads.	Six care homes	Fixed methods	Fidelity observations, stakeholder interviews, focus groups, documentary review, and falls-rate data	Thematic analysis and descriptive analysis	The Guide to Action in Care Homes programme (GtACH) is a multi-factorial falls prevention programme for care homes	Clinical experts and academics with the involvement of Rushcliffe Falls Prevention and Research Group	✓	✓	✓
Lewis A, Harvey G, Hogan M, et al. Can oral healthcare for older people be embedded into routine community aged care practice? A realist evaluation using normalisation process theory. Int J Nurs Stud 2019.	Australia	To evaluate the extent to which the intervention has been embedded and sustained into routine community aged care practice 3 years after the initial implementation project	(n=14) Twelve staff members from corporate, management, and direct care positions and 2 consumers representing high and low-care recipients	Metropolitan and country sites in South Australia	Single case study	Interviews and documentary review	Thematic analysis	Better Oral Health in Home Care aims to improve the oral health of older people receiving community aged care services	The South Australian Dental Service	✓		✓
Lhussier M, Dalkin S, Hetherington R. Community care for severely frail older people: developing explanations of how, why and for whom it works. Int J Older People Nurs 2019.	UK	To develop an initial explanatory (programme) theories to enhance understanding of the Community Well Team (CWT), whom it works for and in which circumstances	(n=12) Five severely frail older patients and 7 CWT members	Rural areas with dispersed small villages and market towns in the north of England	Descriptive qualitative design	interviews, focus groups, medical case notes, literature review	Realist analysis	CWT provides integrated and comprehensive care for severely frail patients aged 75 or older to reduce avoidable hospital admissions and enable home living for longer	National policy directives to support older people in the community	✓		✓

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<div>Liu, H. M., Massi, L., Laba, T.L. et al Patients’ and Providers’ Perspectives of a Polypill Strategy to Improve Cardiovascular Prevention in Australian Primary Health Care: A Qualitative Study Set Within a Pragmatic Randomized, Controlled Trial. Circulation-Cardiovascular Quality and Outcomes. 2015</div>	Australia	To explore health provider and patient attitudes toward the use of a cardiovascular polypill as a health service strategy to improve cardiovascular prevention	(n=94) Forty-seven providers (25 general practitioners [GPs], 13 pharmacists, 6 Health Workers, and 3 Chronic Care Nurses) and 47 patients in New South Wales, Queensland, and Victoria. Twenty-two and 25 patients were in the polypill arm and usual arm, respectively.	Urban, rural, and remote settings in Australia	Mixed methods	Interviews Measuring self-reported medication use and changes in biological markers of changes in systolic blood pressure and total cholesterol.	Thematic analysis Inferential statistical analysis	Polypill-based strategy for high-risk primary and secondary cardiovascular disease prevention.	Not specified			
<div>Lovink MH, Laurant MGH, van Vught AJ, et al. Substituting physicians with nurse practitioners, physician assistants or nurses in nursing homes: a realist evaluation case study. BMJ Open 2019.</div>	Netherlands	To gain insight into how the substitution of elderly care physicians (ECPs) by nurse practitioners (NPs), physician assistants (PAs), or registered nurses (RNs) in nursing homes is modelled in different contexts and what model in what context contributes to perceived quality of healthcare	(n=146) Three NPs; 2 PAs; and 2 RNs in 7 different nursing homes 15 ECPs; 2 Medical doctors (MDs); 11 managing directors/managers/ supervisors; 33 nursing team members; and 78 residents/relatives	Severely nursing homes	Multiple case study	Interviews, observations, questionnaires, and collecting internal policy documents	Cross-case analysis	Substitution of physicians with NPs, PAs, or RNs aims to maintain quality nursing home care by achieving as least as a good resident and process of care outcomes as care provided by physicians	Not specified			
<div>Martin P, Tannenbaum C. A realist evaluation of patients’ decisions to deprescribe in the EMPOWER trial. BMJ Open 2017.</div>	Canada	To test the mechanism during Eliminating Medications Through Patient Ownership of End Results (EMPOWER) trial and investigate the contexts that led to positive or negative deprescribing outcomes	(n=261) Older chronic benzodiazepine consumers who received the EMPOWER intervention and had complete 6-month follow-up data	Montreal urban area in Quebec	Mixed methods, conducted alongside the EMPOWER (RCT)	Interviews and questionnaire	Thematic analysis and descriptive statistical analysis	EMPOWER includes a self-assessment and presentation of the evidence-based risks related to benzodiazepine use in an effort to elicit cognitive dissonance, and it provides a self-guided tapering schedule	Université de Montréal, Institut Universitaire de Gériatrie de Montréal, Canadian Institutes of Health Research, and Canadian Deprescribing Network			
<div>Masterson-Algar P, Burton CR, Rycroft-Malone J, et al. Towards a programme theory for fidelity in the evaluation of complex interventions. J Eval Clin Pract 2014.</div>	UK	To address the challenge of investigating fidelity in the implementation of a complex rehabilitation intervention designed to increase the level of independence in personal activities of daily living of stroke patients living in UK care homes	(n=17) Occupational therapists(OTs)	Health care homes	Descriptive qualitative design	Interviews and review of clinical incident reports from the trial	Not specified	Occupational Therapy in Care Homes (OTCH) aims to enhance independence in the activities of daily living (ADLs) of patients living with stroke	Team of trial occupational therapists			
<div>McConnell T, O’halloran P, Donnelly M, et al. Factors affecting the successful implementation and sustainability of the Liverpool Care Pathway for dying patients: a realist evaluation. BMJ Support Palliat Care 2015.</div>	UK	To identify the influences that facilitated or hindered the successful Liverpool Care Pathway (LCP) implementation	(n=24) Two policymakers and 22 participants with experience and/or involvement in the LCP (3 palliative care consultants, 3 previous LCP facilitators, 2 service managers, 4 medical consultants, 4 ward sisters, 4 staff nurses, and 2 junior doctors)	One health and social care trust in Northern Ireland	Case study	Interviews	Thematic analysis	LCP aims to improve best practices in end-of-life care recommended for use in all care settings	Cancer and Specialist Services, and Acute Services, with a focus on two hospital wards from each service group			

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McNeil-Gauthier, A. L., Milot, D. M., Levasseur, M. How environments can promote active aging: results from a case study of two municipalities in Quebec, Canada Can J Public Health. 2023	Canada	To explore: “How can environments foster active aging?”; that is, through which mechanisms and in what contexts can environments and their components facilitate positive health, social participation, and health equity in older adults?	(n=24) (Nine older adults, 4 health professionals, 3 community-based actors, 5 municipal employees, and 3 elected officials)	Two municipalities in Quebec	Mixed methods including multiple qualitative case study	Focus groups, participants’ logbooks, sociodemographic questionnaires, municipalities’ sociodemographic profiles, and policy documents.	Framework and thematic content analysis	Aging-friendly environment which consists of eight components is designed to facilitate positive health, social participation, and health equity in older adults	World Health Organization	✓	✓	✓
Newbould L, Ariss S, Mountain G et al. Exploring factors that affect the uptake and sustainability of videoconferencing for healthcare provision for older adults in care homes: a realist evaluation. BMC Med Inform Decis Mak 2021.	UK	To explore factors affecting the uptake and sustainability of videoconferencing in care homes, to establish what works for whom, in which circumstances and respects	(n=25) Residents, relatives, managers, nurses, senior care assistants, night nurses, care assistants, deputy managers, day care assistants, night care assistants, team leaders, and activity coordinators	Three care homes in Yorkshire and the Humber	Grounded theory approach	Interviews	Thematic analysis	Videoconferencing removes geographical barriers to care, improves the continuity of care and access for those with physical disabilities, and allows the assessment of residents before a possible admission to the hospital	Forty-four Clinical Commissioning Groups (CCGs) with a fund of NHS England	✓		✓
Ofosu, E. F., De Nys, L.,Connelly, J.et al A realist evaluation of the feasibility of a randomised controlled trial of a digital music and movement intervention for older people living in care homes BMC Geriatr. 2023	UK	To uncover influencing factors of a feasibility study implementation to inform how a digital music and movement programme would work and under what circumstances this would be most effective	(n=49) Older adults (aged 65 years +)	Ten care homes in Scotland	Mixed methods with pre- and post-intervention collection of quantitative and qualitative data	Focus groups with staff and interviews, questionnaire	Inferential statistical analysis	Digital music and movement programme	Care home activity coordinators.	✓	✓	✓
Pals RA, Olesen K, Willaing I. What does theory-driven evaluation add to the analysis of self-reported outcomes of diabetes education? A comparative realist evaluation of a participatory patient education approach. Patient Educ Couns. patient ed. 2016.	Denmark	To explore the effects of the Next Education (NEED) patient education approach in diabetes education	(n=251) Participants were at eight intervention sites (n=193) and six control sites (n=58). Of them, 29 participants were interviewed.	Not specified	Quasi-experimental study	Interviews, observations, and questionnaires	Descriptive statistical analysis, inferential statistical analysis, and systematic text condensation	NEED supports educators in tailoring patient education to the needs and challenges of individual participants living with diabetes and to ensure that participants engage in dialogue with peers as well as educators	Steno Diabetic Center	✓	✓	✓
Parker J, Mawson S, Mountain G, et al. Stroke patients’ utilisation of extrinsic feedback from computer-based technology in the home: a multiple case study realistic evaluation. BMC Med Inform Decis Mak 2014.	UK	To describe the application of an innovative evaluative methodology to explore the utilisation of feedback for post-stroke upper-limb rehabilitation in the home and refine the underpinning theories embedded within the self-Management Supported by Assistive, Rehabilitation and Telecare Technologies (SMART)system	(n= approx.20) Five residents with stroke, their carers, 7 physical therapists, and 7 occupational therapists	Not specified	Multiple case study	Interviews, focus groups, observations, and review of documents and materials such as video replay and Nottingham Extended Activities of Daily Living (NEADL)	Thematic framework analysis and descriptive statistical analysis	SMART rehabilitation technology system monitors and tracks the upper arm rehabilitation movements in real time by enabling the user to adopt theories and principles underpinning post-stroke rehabilitation and self-management	Community Stroke teams with The Engineering and Physical Sciences Research Council (EPSRC) that funded SMART Rehabilitation research programme	✓	✓	✓

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Rehman, S., Likupe, G., McFarland, A.,et al Evaluating a brief intervention for mealtime difficulty on older adults with dementia Nurs Open. 2023	UK	To test a spaced retrieval intervention using spaced retrieval to alleviate mealtime difficulties in older people with dementia	(n=8) Older people with Alzheimer’s disease	Nursing Homes in North Central England	A single-case experimental design	Survey data from EdFED (Edinburgh Feeding Evaluation in Dementia), MNA-SF (Mini Nutritional Assessment-Short Form), BMI (Body Mass Index), and economic costings	Inferential statistical analysis	A brief intervention for mealtime difficulty on older adults with dementia to increase the amount of food eaten and to improve body mass index.	Not specified			
Sanerma P, Paavilainen E, Åstedt-Kurki P. Home care services for older persons. The views of older persons and family members: A realistic evaluation. Int J Older People Nurs 2020.	Finland	To evaluate person-centred care in older person's home care services from the perspective of older adults and family members, using realistic evaluation methods	(n=13) Six older persons of home care and 7 family members	The centre of a big city and a rural environment	Descriptive qualitative design	Interviews	Content analysis	Home care services help the older person to cope at home when it is feasible and in the older person's interest and to support the older adults' individual lives at home	Not specified			✓
Sattar Z, Wilkie S, Ling J. The impact of a refurbishment programme on older people living in sheltered housing. Hous Care Support 2021.	UK	To explore residents' perceptions of a refurbishment program to sheltered housing schemes and its impact on their well-being	(n=45) Residents living in each Extra Care Housing (ECH)	Nine ECH schemes	Qualitative study	Interviews and participatory appraisals	Thematic analysis	ECH schemes fall within the specialist housing characterised by shared facilities and activities	Not specified	✓		
Schnabel, S.,van Wijck, F.,Kidd, L. Supporting stroke survivors to meet their personal rehabilitation needs in community-based arm rehabilitation: development of initial programme theories to explore what may work for whom, how and under what circumstances Frontiers in Neurology.2023	UK	To explore what worked for whom, how and under what circumstances in a community-based augmented arm rehabilitation programme that was designed to enable stroke survivors to meet their personal rehabilitation needs	(n=17) Stroke survivors	Scotland (the details were not described)	Mixed methods	Interviews and survey data of Action Research Arm Test, Motricity Index, Grip force, COPM, Numerical Pain Rating Scale, Motor Activity Log, Stroke Impact Scale, and the Hospital Anxiety and Depression Scale	Not specified	Community-based augmented arm rehabilitation programme that was designed to enable stroke survivors to meet their personal rehabilitation needs	Therapists	✓	✓	
Sheaff R, Sherriff I, Hennessy CH. Evaluating a dementia learning community: exploratory study and research implications. BMC Health Serv Res 2018.	UK	To analyse the impact of different governance approaches adopted by the local networks in England to reduce unplanned inpatient bed-days for people aged 75 and over	(n=38) Staff working in NHS, local authority social care, and third sector	Nine sites in the UK	Descriptive qualitative design	Document analysis and structured questionnaire	Analysis of the structured questionnaire and content analysis	Improving the Future for Older People initiative (IFOP) aims to enhance older people’s quality of life by reducing bed usage and admissions without compromising continuity of care or positive experiences of discharge	A group of nine councils with their NHS and third-sector partners	✓	✓	
Sheaff R, Windle K, Wistow G, et al. Reducing emergency bed-days for older people? Network governance lessons from the ‘Improving the Future for Older People’ program. Soc Sci Med 2014.	UK	To make a preliminary exploratory attempt to evaluate the Dementia Learning Community (DLC) empirically, assess how far the model has been implemented and its effects, and elicit, test, and refine the underlying ‘theory-in-use’ logic model of how a DLC works.	(n=1161) Thirteen intervention homes comprising 330 residents and 245 staff, and 10 control homes comprising 288 residents and 298 staff	Care homes in England	Mixed methods including RCTs and ethnography	Interviews, questionnaires, and field notes	Inferential statistical analysis and thematic analysis	DLC Logic model aims to reduce unplanned hospital admissions from care homes of those with dementia by training staff, changing work routines, improving quality of life, and reducing demands on external services	The national government	✓	✓	

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1 2 3 4 5 6 7 8 9 10	Silva BB, Fegadolli C. Implementation of pharmaceutical care for older adults in the Brazilian public health system: a case study and realistic evaluation. BMC Health Serv Res 2020.	Brazil	To evaluate the implementation of Ambulatory Care Pharmacy services for older adults at Paulista Institute of Geriatrics and Gerontology (IPGG), which is recognised in the city of São Paulo for offering pharmaceutical care services for over 10 years continuously	(n=14) Eleven health professionals (pharmacists, members of the multi-professional team, management board of IPGG, members of the medical team, and so on), and 3 pharmaceutical care service users	Geriatrics and Gerontology Institute of São Paulo (known as IPGG)	Case study	Interviews, participant observations, and reviews of institutional documents	Thematic analysis	Ambulatory Care Pharmacy services for older adults offers pharmaceutical care services for over 10 years continuously, and this initiative and process is independent of external academic interventions or educational institutions	IPGG	✓	✓	✓
11 12 13 14 15 16 17 18 19 20	Steven A, Wilson G, Young-Murphy L. The implementation of an innovative hydration monitoring app in care home settings: A qualitative study. JMIR MHealth UHealth 2019.	UK	To examine the implementation of Hydr 8 in a sample of care homes in one area of England	(n=28) Twenty-one care staff members, 5 management, 1 administrative assistant, and 1 registered nurse staff	Care homes within one CCG locality in the North of England	Qualitative study	Interviews and observations	Thematic analysis	Hydr 8 aims to facilitate accurate recording and communication of residents' fluid intake and ultimately increase care quality and patient safety	Care homes collaborated with Elaros, North Tyneside Clinical Commissioning Group, and the Academic Health Science Network North East and North Cumbria			
21 22 23 24 25 26 27 28 29 30 31	Taylor J, Barker A, Hill H, et al. Improving person-centered mobility care in nursing homes: A feasibility study. Geriatr Nurs 2015.	Australia	To evaluate the feasibility of an intervention to improve person-centred mobility care during resident transfers and to estimate sizes for a randomised controlled trial	(n=63) Twelve residents and 51 staff (carer, nurse supervisor, lifestyle staff, MH trainer, nurse, manager, physiotherapists)	Ninety-bed nursing home with 3 high care units, including one dementia-specific, in Melbourne	Mixed methods in a parallel design	Surveys (pre-post design) and focus groups	Thematic analysis and descriptive statistics	The intervention is a multi-faced training intervention focused on person-centred mobility care that contributes to the resident's independence and quality of life, assisted by multidisciplinary facilitators and a dance therapist	Two researchers conducted the intervention.		✓	✓
32 33 34 35 36 37 38 39 40 41	Thijssen, M., Graff, M. J. L., Lexis, M. A. S., et al Collaboration for Developing and Sustaining Community Dementia-Friendly Initiatives: A Realist Evaluation. Int J Environ Res Public Health. 2023	Netherlands	To test and refine an initial theory about collaborating for DFIs with special attention for the involvement of people with dementia and their carers during the collaboration for DFIs.	(n=66) Healthcare and social-work professionals, Volunteers/community members, Entrepreneurs, Policy officers, Carers of people with dementia, and, People with dementia	Four Dutch municipalities that have ambitions to become dementia-friendly communities	Participatory case study design	focus groups, observations, reflections, minutes from meetings, and exit interviews	Not specified	Dementia-friendly initiatives (DFIs) which are an important block to building Dementia-friendly communities (DFCs) seen as key to the inclusion and participation of people with dementia and carers.	(Local) government	✓		✓
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Tolson D, McIntosh J, Loftus L, et al. Developing a managed clinical network in palliative care: a realistic evaluation. Int J Nurs Stud 2007.	UK	To evaluate, refine and inform the ongoing development of the Managed Clinical Network (MCN) (coordinated approach to inter-disciplinary care), and to reflect on the merits and limitations of using realistic evaluation as a formative design and describe how we identified the most effective configuration of CMO to develop the best practice model for the MCN.	Not specified Three older men, their families, doctors, and nurses providing direct care participated, along with 13 members of the network management group.	Rural primary care setting in Scotland	Case studies	Interviews and review of documents, including flip chart notes, diagrams, individual notes, and facilitator field notes	Constant comparative analysis	MCN is a linked group of health professionals and organisations from primary, secondary, and tertiary care working in a coordinated manner, unconstrained by existing professional and service boundaries, and aims to implement a guideline concerned with the care of individuals with cancer-related pain	The Scottish Executive Health Department			✓

(Continued on the next page)

Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Wiechula R, Kitson A, Marcoionni D et al. Improving the fundamentals of care for older people in the acute hospital setting: facilitating practice improvement using a Knowledge Translation Toolkit. Int J Evid Based Healthc. 2009.	Australia	To develop and implement a structured intervention known as the Knowledge Translation (KT)Toolkit to improve the fundamentals of care for the older person in the acute care sector	(n=42-70) Health professionals in the acute care facility (7 teams ranging from 6 to 10 members)	Large tertiary acute care hospital in a central metropolitan location	Secondary analysis	Routine data from local audits and safety and quality reports as pre- and post-measures of any improvements in practice	Not specified	KT Toolkit improves the fundamentals of care for the older person in the acute care sector	State policy initiatives on improving the care of older people	✓		
Wye L, Lasseter G, Percival J et al. What works in ‘real life’ to facilitate home deaths and fewer hospital admissions for those at end of life?: results from a realist evaluation of new palliative care services in two English counties. BMC Palliat Care 2014.	UK	To add to the evidence base of applied examples by presenting findings from a realist evaluation of a major service re-configuration of end-of-life care services known as 'Delivering Choice'	(n=148) Forty-three family carers and service users, 11 staff delivering or managing Delivering Choice services, and 94 staff eligible to use the services, including those who did and did not refer	North Somerset and Somerset	Descriptive qualitative studies, along with the retrospective cohort study	Interviews, observations, and review of documents and database.	Content analysis and framework analysis	Delivering Choice has 19 projects running across England and Scotland and works with local providers and commissioners to develop 24-hour end-of-life care services to meet local needs	Local professionals from the NHS and local authorities, clinicians, and managers from the acute, primary, and community sectors, hospice staff, and a small local Marie Curie Cancer Care-funded team		✓	✓

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

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	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.	1-2
INTRODUCTION			
Rationale	3	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.	3-4
Objectives	4	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.	4
METHODS			
Protocol and registration	5	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.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5
Information sources*	7	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.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix.1
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process‡	10	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.	6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6
RESULTS			
Selection of sources of evidence	14	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.	Figure.1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	7-10
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table.1
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Table.2
DISCUSSION			
Summary of evidence	19	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.	9
Limitations	20	Discuss the limitations of the scoping review process.	12
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	12
FUNDING			
Funding	22	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.	13

JB1 = 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 JB1 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).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018;169:467–473. doi: 10.7326/M18-0850.

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Characteristics of the studies using realist evaluation to assess interventions that address psychosocial healthcare issues in older adults: A scoping review

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Characteristics of the studies using realist evaluation to assess interventions that address psychosocial healthcare issues in older adults: A scoping review

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ABSTRACT

Objectives: Interventions to address psychosocial healthcare issues in older adults are increasing. Realist evaluation (RE) helps us understand how these interventions work for their issues. It is significant to obtain implications for further developing such research. We aimed to identify the characteristics of studies using RE to assess interventions that address psychosocial healthcare issues in older adults by mapping relevant literature.

Design: Scoping review

Data Sources: MEDLINE, CINAHL, PsycINFO, Web of Science, Cochrane Library, ICHUSHI (a Japanese database), and Google Scholar were used for searches between 5th January 2022 and 4th January 2024.

Eligibility criteria: (1) showing that most of the participants were older adults or their stakeholders; (2) stating in the research background or aim sections that the target interventions aimed at addressing older adults' psychosocial healthcare issues; and (3) using RE to assess these interventions.

Data extraction: Data on country of origin, type of research, study design, qualitative data collection and analysis methods, desirable items for RE, and intervention aims and purposes were extracted and summarised using descriptive statistics.

Results: Fifty-four studies were analysed. Most studies were conducted in the UK (54.5%). Mixed methods were used in 28 studies (51.9%), while only qualitative methods were used in 25 studies (46.2 %). Fourteen intervention aims and purposes were identified: improving dementia care, avoiding emergency admissions, preventing social isolation, and promoting family involvement in the care of older adults.

Conclusion: RE is useful for promoting an understanding of how interventions work for addressing psychosocial healthcare issues in older adults. RE also promotes the updating of plausible theories that lead to improving interventions. Our findings show the implications of managing time and resources to address the challenge of RE's time and resource intensiveness and carefully considering the data collection methods to reduce burdens on older adults.

Keywords: realist evaluation, older adults, interventions

Strengths and limitations of this study

- Evidence supporting the use of RE was provided by identifying the characteristics of relevant studies.
- The methodological implications of conducting studies using RE were offered by discussing the challenges of conducting studies using RE as well as measures to address these challenges.
- This study followed Arksey & O'Malley's five-stage framework and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for the Scoping Review guidelines.
- This study had several limitations. The search was not updated regularly owing to time constraints.
- The quality assessment of the relevant studies was not conducted.

INTRODUCTION

Healthcare needs of older adults are becoming increasingly complex [1]. In addition to biological factors (e.g. cancer pain and advancing chronic diseases) [2], psychosocial factors have become salient [3, 4]. Mental diseases of older adults are anticipated [5]. Widespread social isolation and loneliness among older adults are the key risk factors for mental health problems later in life [6, 7]. Caregivers' abuse and ageism cause serious consequences, and around 14% of adults aged 60 and over live with mental disorders (e.g. depression) [2, 8, 9]. Furthermore, there has been a growing need for older adults to discuss and plan where and with whom they would like to spend their end-of-life (EOL) and which treatments they wish [10]. Studies have shown that the satisfaction of older adults and their families increases significantly when their EOL wishes are met [11]. Older adults' healthcare issues include psychosocial factors and characteristics that influence an individual psychologically or socially. Psychosocial factors include protective psychosocial resources and other risk factors. The former includes social support, social networks, coping ability, and self-esteem. The latter includes vital exhaustion, depression, and hopelessness. [12]

Interdisciplinary interventions to address psychosocial healthcare issues among older adults are increasing. These interventions address complex issues because they include multiple components. Some of them have used robust designs such as Randomised Controlled Trials (RCTs) [13-15]. Although RCTs are regarded as the gold standard for establishing intervention effectiveness, the effect size does not provide policymakers with information on how these interventions might be replicated in a specific context, or whether the outcomes will be reproduced [16].

To fill this gap, Realist Evaluation (RE) [17] helps describe not only intervention outcomes but also how they work [18]. RE is rooted in realism, which is the mid paradigm between positivism and interpretivism [19]. Realism explains that the real world can be understood using observed objective data and interpretations of human experiences [17]. Using both quantitative and qualitative methods [19, 20], RE develops, tests, and refines the theory of "what works, for whom, in what circumstance?" [20]. The theory includes the following: Context (pre-intervention circumstances influencing the mechanisms), Mechanism (processes and stakeholder responses), and Outcome (the main results of the interventions) [17]. The Context-Mechanism-Outcome configurations (CMOs) [17] help identify specific contexts and mechanisms leading to outcomes [18]. RE could enable decision-makers to reach a deeper understanding of the intervention and how it works effectively [21, 22]. Despite its demands for methodological knowledge [23], RE has been increasingly used [24]. To the best of our knowledge, literature reviews of studies

using RE have focused on the healthcare system [23], knowledge translation [25], public health [26], nursing interventions [27], and health promotion [28]. Most studies have originated in the UK [23, 25-28] and have been qualitative [25, 27].

In some countries (e.g. the UK, Australia, and Canada), RE has been used to assess interventions that address older adults' psychosocial healthcare issues [29-33]. This trend may be explained by the fact that an intervention's sustainability or success for older adults is context-dependent [34]. Context is important because the action of mechanisms depends on the realities of the context [35]. From this context, it is useful to explore the characteristics of studies using RE to assess interventions that address older adults' psychosocial healthcare issues. This exploration could offer implications for promoting RE research to improve the healthcare issues of older adults. However, no literature review has been conducted to date that explores such findings. Given this gap, we aimed to clarify the characteristics of studies using RE to assess interventions that address psychosocial healthcare issues in older adults by mapping relevant studies.

METHODS

We conducted a scoping review that systematically identified and mapped the broad evidence available for a particular topic, field, concept, or issue [36]. To map a wide range of studies, neither specification of settings and participants nor quality appraisal of relevant studies was conducted. The protocol for this review has not yet been registered. This review was guided by the following five-stage framework [37].

Stage 1: Identifying the research question

The Population-Concept-Context framework [38] was used as follows: population as older adults or stakeholders involved in caring for older adults, concept as using RE to assess interventions that address older adults' psychosocial healthcare issues, and context as all settings. Although 'older adults' were defined as those aged >65 years, the term was applied based on the pertinent definition in each country where the study was conducted. The stakeholders included families, healthcare professionals, policymakers, and volunteers. We operationally defined the interventions as interdisciplinary and aimed to address older adults' psychosocial healthcare issues (e.g. offering dementia-friendly care, supporting one's preferred EOL, and preventing social isolation).

Stage 2: Identifying the relevant studies

MEDLINE (via PubMed) was used to identify relevant studies by using keywords and Medical Subject Headings. A combination of search terms was developed by a librarian

(Appendix 1) and adapted to other databases. After selecting all the relevant studies, citation tracking was performed using the reference lists of the included studies. Finally, gray literature was searched using Google Scholar. The search was limited to the articles published in English or Japanese. The English articles were searched using MEDLINE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) (via EBSCO), PsycINFO (via EBSCO), the Cochrane Library, Web of Science, and Google Scholar. The Japanese articles were searched using Igaku Chuo Zasshi (ICHUSHI) (a Japanese database). No restrictions were applied to the publication year. All searches were performed between January 2022 and January 2024. The final update was on 4th January 2024.

Stage 3: Study selection

The eligibility criteria were as follows: (1) showing that most of the participants were older adults or stakeholders involved in the care of older adults, (2) stating in the research background or aim sections that the target interventions aimed to address older adults' psychosocial healthcare issues, and (3) using RE to assess these interventions.

Studies using surgeries or medical treatments were excluded, as these interventions seemed to be aimed only at addressing biological healthcare issues in older adults. This exclusion lies in the limitations of identifying the mechanism (e.g. stakeholders' reactions) that RE attempts to explore during the processes of target interventions. Reviews, syntheses, protocols, commentaries, and books were excluded.

EndNote (<https://www.myendnoteweb.com/>) was used to manage all literature. After removing duplicates, three reviewers (SM, HO, and HF) screened all titles and abstracts. Next, a full-text reading of the selected articles was conducted. Disagreements between the reviewers were resolved through discussion. If necessary, an independent reviewer participated in the discussion until a consensus was reached. Finally, all reviewers agreed that the selected studies were relevant to this review.

Stage 4: Charting the data

The following data were charted in tabular form (Appendix 2): author(s), publication year, title, journal, country, aims and purposes, participants and sample size, setting, study designs, data collection and analysis methods, intervention names and contents, and intervention providers. We also focused on the desirable items for RE to obtain implications for developing research in this domain. Referring to previous literature [17, 25], the presence or absence of the following two items was presented: (1) building initial program theories (IPTs) or developing theories, and (2) using a mixed methods design.

Concerning the use of mixed methods, we counted the studies that used mixed methods as part of the same research project (separately from the studies included in this review). After SM charted the data using descriptive statistics, HF and HO verified the form. Furthermore, the intervention aims and purposes were extracted for coding in the next stage, as they were regarded as one of the characteristics of these studies.

Stage 5: collating, summarising, and reporting the results

To clarify the characteristics of the relevant studies, the following data were summarised: country of origin, type of research, study designs used in quantitative or qualitative research, qualitative data collection and analysis methods, desirable items for RE, and intervention aims and purposes. To summarise the study designs as well as qualitative data collection and analysis methods, we referred to previous literature [39, 40]. To summarise the intervention aims and purposes, the intervention content was iteratively read. Thereafter, these aims and purposes were extracted and coded. Finally, the codes were integrated based on their similarities. We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Review (PRISMA-ScR) guidelines.

Patient and public involvement

No patient or public involvement was observed in this review. Ethical approval was not required because the data were collected from previously published studies.

RESULTS

First, we extracted 746 studies from six databases. After removing duplicates, the titles and abstracts were screened, followed by full-text reading. This process resulted in 52 studies. Three studies were extracted using Google Scholar. The reading of each full text resulted in two studies. Ultimately, 54 studies were included (Figure 1). The key components (Table 1) and intervention aims and purposes (Table 2) of the studies are summarised.

Key components of the included studies

Most studies were conducted in the UK (57.4%). No such studies were conducted in Asian or African countries. Research using mixed methods was the most frequently performed (51.9%). The study designs used in the quantitative research were divided into experimental and nonexperimental. In the former, RCTs and posttest-only designs were used in eight studies (27.6%). In the latter, prospective cohort and descriptive study

designs were used in four studies (13.8%). Descriptive qualitative design was the most commonly used study design in qualitative research (60.4%). Interviews (90.1%) and thematic analyses (37.7%) were most frequently used for qualitative data collection and analysis, respectively.

Table 1 Key components of the studies included

*Multiple items are chosen

	<i>N</i>	(%)		<i>n</i>	(%)
Country of origin (n=54)			Study designs used in qualitative research (n=53)		
The UK	31	(57.4)	Descriptive qualitative study	32	(60.4)
Australia	8	(14.8)	Case study	19	(35.2)
Canada	4	(7.4)	Grounded theory	1	(1.9)
Netherlands	4	(7.4)	Ethnography	1	(1.9)
Denmark	2	(3.7)			
Others ¹	5	(9.3)	Qualitative data collection methods (n=53)*		
			Interviews	48	(90.6)
Type of research (n=54)			Document reviews	27	(50.9)
Mixed methods	28	(51.9)	Observations	18	(34.0)
Only qualitative methods	25	(46.2)	Focus groups	17	(32.1)
Only quantitative methods	1	(1.9)	Others ²	10	(18.9)
Study designs used in quantitative research (n=29)*			Qualitative data analysis methods (n=53)*		
Experimental design			Thematic analysis	20	(37.7)
RCTs	8	(27.6)	Content analysis	4	(7.5)
Posttest-only design	8	(27.6)	Constant comparative analysis	1	(1.9)
Pretest-Posttest design	7	(24.1)	Others ³	11	(20.8)
Non-RCTs	1	(3.4)	Not specified	18	(34.0)
Non-experimental design					
Prospective cohort study	4	(13.8)	Desirable items for RE (n=54)		
Descriptive study	4	(13.8)	Building IPTs or developing theories	37	(68.5)
Retrospective cohort study	1	(3.4)	Using mixed methods	28	(51.9)

1. Brazil, Belgium, Finland, Norway, and Sweden

2. Expert meetings and reviews of participatory appraisals, post-intervention participant feedback forms, previous studies, diaries, field notes, and video replays

3. Cross-case analysis, realist analysis, framework analysis, and systematic text condensation

Regarding the desirable items for RE, building IPTs or developing theories were included in 37 studies (68.5%). IPTs were developed in 27 studies (47.7%), whereas theories were developed in 10 studies (20.5%). Of the former, 14 studies built IPTs with a single all-encompassing statement regardless of the CMOs (e.g. telecare provides improved safety 24/7 and thus enables people to continue living safely in their own homes for longer) [41]. Conversely, eight studies built IPTs specifying CMOs (e.g. if relatives are allowed more open visits [C], they can become care partners and become more involved in planning, implementing, and delivering aspects of care [M]. This may have a positive impact on reducing harm and improving the quality of care [O]) [42]. Mixed methods were used in 28 studies (51.9%). Some studies used either quantitative or qualitative methods as part of the same research project (separate from the studies in this review).

Aims and purposes of interventions

Fourteen intervention aims and purposes were identified. Multiple aims and purposes were included in some interventions. ‘Avoiding emergency admissions or reducing the duration of hospital stay’ and ‘improving dementia care’ were the most frequently included.

To avoid emergency admissions or reduce the duration of hospital stay (20.4%), dementia care education was provided to care home staff [43], and video conferences were introduced to support the staff while responding to emergencies [44]. To improve dementia care (20.4%), a health literacy kit containing important medical and welfare information understandable to people with dementia and their families was developed [45]. Furthermore, dementia-sensitive care was offered by general hospitals [46]. To promote changes in organisations, such as elderly care facilities, task shifts between healthcare staff were performed [47], and an intentional round was adopted in response to high hospital mortality and patient complaints [48]. To promote independence and care for activities of daily living (ADL), computer-based home rehabilitation was implemented for post-stroke older patients [49]. Although not more frequently included than the abovementioned aims and purposes, those regarded as important were also identified. For instance, to prevent adverse events caused by social isolation and loneliness, befriending services were offered to older adults living alone [29]. To promote family involvement in patient care for older adults, the time taken to visit the hospital wards was deregulated [42].

Table 2 Intervention aims and purposes

	<i>N</i>	(%)
Avoiding emergency admissions or reducing the duration of hospital stay [33, 43-44, 50-57]	11	(20.4)
Improving dementia care [31, 43, 45-46, 53, 58-63]	11	(20.4)
Promoting changes in organisations such as elderly care facilities ¹ [30, 33, 46-48, 50, 64-67]	10	(18.5)
Promoting independence and care for Activity of Daily Living (ADL) ² [49, 61-62, 64, 66, 68-70]	8	(14.8)
Supporting ageing in one's preferred place ³ [41, 44, 51, 55, 71-73]	7	(13.0)
Promoting EOLC [31, 51-52, 57, 59, 74-75]	7	(13.0)
Promoting fall prevention [22, 30, 33, 41, 61, 65]	6	(11.1)
Reducing the family care burden [45, 59, 63, 72, 76]	5	(9.3)
Improving medication management ⁴ [32, 34, 77-79]	5	(9.3)
Preventing adverse events caused by social isolation and loneliness [29, 55, 61, 80-81]	5	(9.3)
Preventing the exacerbation of chronic diseases ⁵ [78, 82-84]	4	(7.4)
Promoting family involvement in the care of older adults [42, 63, 72]	3	(5.6)
Improving medical access for older adults ⁶ [85-87]	3	(5.6)
Fostering active ageing [32, 81, 87]	3	(5.6)

1. Improving work through task shifts between healthcare professionals, promoting work efficiency using the latest technology, and creating an atmosphere suitable for caring through educational interventions
2. Promoting independence of living motions (seating and transferring) and daily life care such as oral care
3. Promoting home medical care, improving the residential environment, and providing information about older adults' housing
4. Promoting appropriate use of antipsychotics and self-management of benzodiazepines
5. Providing education about diabetes mellitus, using eHealth for self-care, and offering rehabilitation to prevent heart disease
6. Improving the care of immigrant older adults and medical access for older adults living in rural areas

DISCUSSION

Our review identified the characteristics of 54 studies that used RE to assess interventions addressing psychosocial healthcare issues in older adults. After considering the evidence to support the use of RE, we examined the methodological implications by discussing the challenges of RE research and measures to address these challenges, as well as other implications, from the perspectives of intervention aims and purposes and country of origin.

Evidence to support the use of RE

Our results found interventions were targeting a broad range of psychosocial healthcare issues in older adults, and using RE to assess those interventions helps to understand how they work. Lewis et al. [66] assessed how oral care is embedded in routine community-aged care using RE. This indicated that the withdrawal of project resources triggered organizational disengagement, leading to the loss of active oral healthcare. This showed that intervention sustainability for older adults is context-dependent [34]. In identifying contextual factors and the causation of interventions, the use of RE was regarded as useful. A better understanding of these processes contributed to the improvement of interventions [22]. Furthermore, using RE promoted the updating of more plausible theories. As older adults' healthcare issues are becoming complex [1], conventional theories may not be valid to explain how interventions work for older adults. To address this gap, the theories were updated by the iterative process of RE [17]. Handley et al. [46] assessed dementia-friendly care using mixed methods with RE to test and refine program theories built using a realist review. This iterativeness provides a more plausible theory on how interventions work to address the ever-changing psychosocial healthcare issues in older adults.

Methodological implications

Time and resource-intensiveness [25] were issues when conducting RE research. Conducting interventions, analyses, and evaluations, while facing time and resource constraints, was challenging [67, 75]. This may be explained by the fact that RE takes a step-by-step approach, along with its evaluation cycle [17]. Our results presented that the mixed methods were used in 28 studies (51.9%). This result is consistent with previous reviews of studies using RE concerning knowledge translation and nursing interventions [25, 27]. Although mixed methods are more than simply collecting both quantitative and qualitative data and insights that are difficult to explore using a single method can be obtained [88], these methods may increase time and resource-intensiveness.

To address this challenge, managing time and resources (e.g. manpower and research grants) can be recommended [67, 75], especially in RE research. Given the growing complexity of psychosocial healthcare needs in older adults [1], it may be worth considering how to use mixed methods with RE. However, a full RE is not always feasible [89]. According to the RAMESES (quality and reporting standards for realist evaluations) [20], the mandatory use of mixed methods is not clearly described, although RE is usually a multi- or mixed method. In this context, building IPTs or developing theories using only qualitative methods may be acceptable under time and resource constraints.

Collecting data from older adults can be challenging. This may be related to their vulnerability, as their condition seems susceptible, especially to long-term evaluations. Although Ofosu et al. [61] conducted a feasibility study using RE in older adults with dementia, some participants passed away or withdrew from the intervention.

One possible way to address this challenge may be to carefully consider less burdensome data collection methods for older adults. Specifically, the circumstances under which data collection is performed should be considered. Most studies have reported negative health effects of relocation on older adults with dementia [90]. Given this context, Parker et al. [49] conducted RE research in their participants' homes to collect data in their natural and familiar environments. Grace & Horstmanshof [45] collected data from older adults with dementia and their families. Family provides a sense of security for those with dementia. Furthermore, Rehman et al. [62] provided simple and understandable directions to participants with dementia during their intervention. These considerations can reduce the intervention-related burden on older adults and individuals with dementia.

Other implications

The use of RE should be considered in less frequently included intervention aims and purposes. For instance, its use should be promoted to 'prevent adverse events caused by social isolation and loneliness'. Social isolation and loneliness are common among older adults [6]. The recent COVID-19 pandemic has exacerbated this issue [91] and its recurrence is expected [92]. As the structure of loneliness is multidimensional and complex [93], using RE should be promoted to assess interventions to ease social isolation. Its use should also be considered for 'promoting family involvement in the care of older adults'. In East Asia, Advance Care Planning (ACP) involves families rather than individuals [94], and caring for older adults is traditionally undertaken by families without using outsourced services [95]. Given the ongoing aging in East Asia, the use of RE is desirable to assess interventions that support family involvement in caring for older adults. Meanwhile, 'avoiding emergency admission and reducing the length of hospital stays' were included the most. This may be related to the long-term plan of the National Health Service [96], which is the UK's publicly funded healthcare system. The plan emphasises support for people to age well and is closely related to 'avoiding emergency admissions'; some interventions might have been conducted along with the plan.

Promoting the use of RE should be considered in countries other than the UK, where the aging population is increasing. We clarified the international gap in studies using RE in this domain. Most of these studies were conducted in the UK. This result was consistent with previous reviews of RE research [23, 25-28] and may be due to the development of RE in the UK. One possible reason for the low number of such studies in Asia may be the low degree of familiarity with RE. The lack of such studies in Africa may be related to less advanced aging [97]. Given the expected population aging in Asia and Africa [98], promoting the use of RE should be considered in these areas. If RE is not familiar in Asia, disseminating studies on RE may raise its recognition and close international gaps.

Limitations

This review had several limitations. The search was not updated regularly owing to time constraints. Regular updates may have identified new relevant studies. The quality of each study was not assessed, because we focused on mapping a broad range of relevant studies.

CONCLUSION

We identified the characteristics of studies using RE to assess interventions that address psychosocial healthcare issues in older adults and provided some implications.

Regarding the methodological implications, management time and resources should be considered, especially when using mixed methods. Furthermore, when RE research involves older adults or people with dementia, careful consideration of the data collection methods is required to minimise the burden on the participants. Other implications include the use of RE to prevent adverse events caused by social isolation and promote family involvement in caring for older adults. Disseminating RE research may close the international gap in this domain.

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accepts full responsibility for the work and/ or the conduct of the study, had access to the data, and controlled the decision to publish.

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Figure 1. PRISMA flow diagram of the selection process

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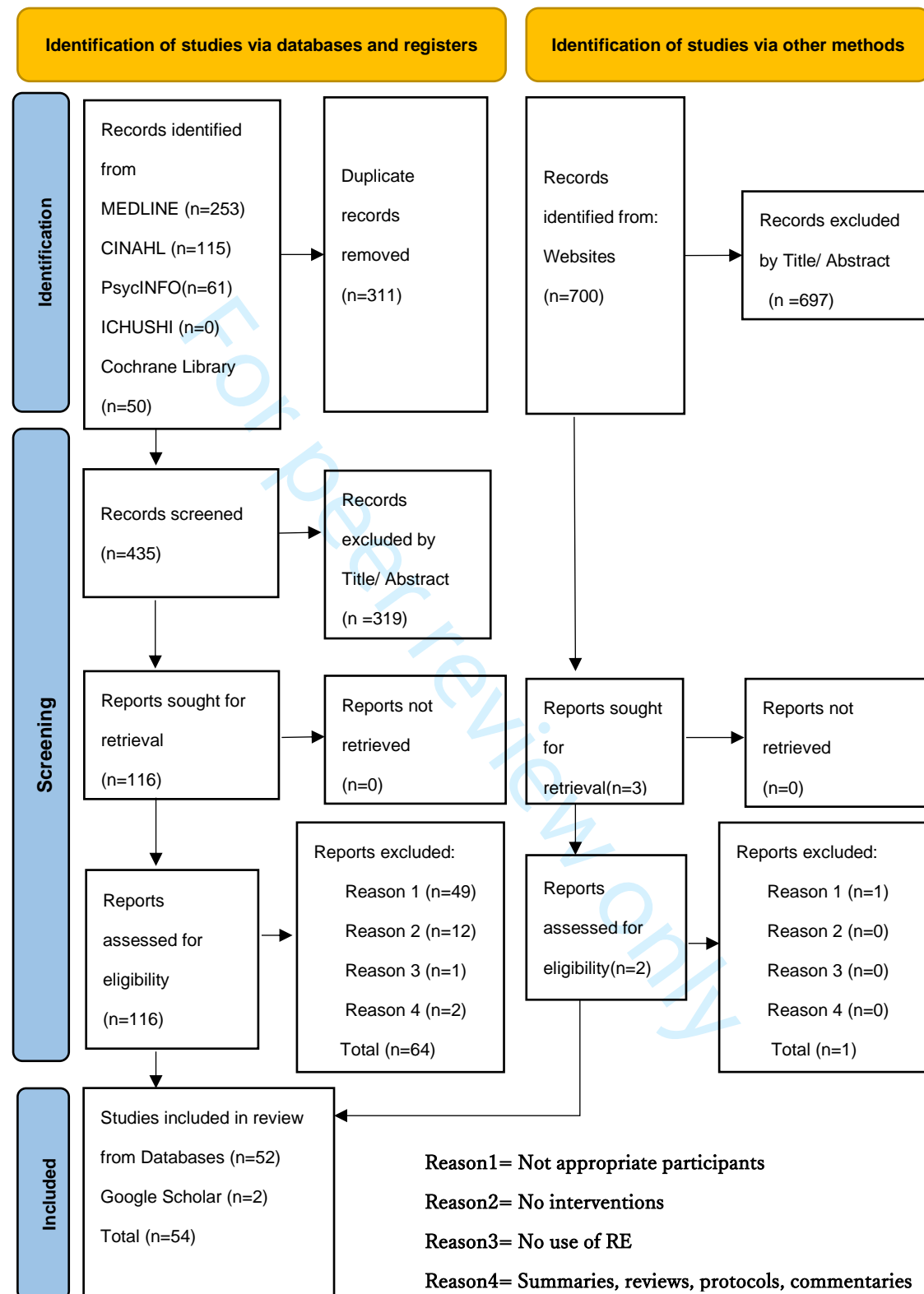


Figure 1 PRISMA flow diagram of the study selection

APPENDIX 1 Combination of search terms
MEDLINE (via PubMed)

#	Query	Search details	Results
1	((aged) OR ("the aged")) OR (aging) OR (ageing) OR ("aging population") OR ("ageing population") OR ("older adult") OR ("older adults") OR ("older people") OR (elder*) OR (senior) OR (seniors)	"aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging population"[All Fields] OR ("aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) AND "populaiton"[All Fields]) OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]) OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields])	6,487,370
2	("realist evaluation") OR ("realist evaluations") OR ("realistic evaluation") OR ("realistic evaluations") OR ("realist case study") OR ("realist case studies") OR ("realist approach") OR ("realist approaches")	"realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields] OR "realist case study"[All Fields] OR ("realist"[All Fields] OR "realists"[All Fields]) AND ("case reports"[Publication Type] OR "case studies"[All Fields]) OR "realist approach"[All Fields] OR "realist approaches"[All Fields]	1,356
3	(#1) AND (#2)	("aged"[MeSH Terms] OR "aged"[All Fields] OR "the aged"[All Fields] OR "aging"[All Fields] OR "ageing"[All Fields] OR "aging population"[All Fields] OR ("aging"[MeSH Terms] OR "aging"[All Fields] OR "ageing"[All Fields]) AND "populaiton"[All Fields]) OR "older adult"[All Fields] OR "older adults"[All Fields] OR "older people"[All Fields] OR "elder*"[All Fields] OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields]) OR ("senior"[All Fields] OR "seniorities"[All Fields] OR "seniority"[All Fields] OR "seniors"[All Fields])) AND ("realist evaluation"[All Fields] OR "realist evaluations"[All Fields] OR "realistic evaluation"[All Fields] OR "realistic evaluations"[All Fields] OR "realist case study"[All Fields] OR ("realist"[All Fields] OR "realists"[All Fields]) AND ("case reports"[Publication Type] OR "case studies"[All Fields]) OR "realist approach"[All Fields] OR "realist approaches"[All Fields])	253

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CINAHL (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR aging population OR ageing population OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	1,238,463
S2	"realist evaluation" OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "realist approach" OR "realist approaches" OR "realist case study" OR "realist case studies"	755
S3	S1 AND S2	115

PsycINFO (via EBSCO)

#	Query	results
S1	"the aged" OR aged OR aging OR ageing OR "aging population" OR "ageing population" OR "older adult" OR "older adults" OR "older people" OR elder* OR senior OR seniors	812,212
S2	"realist evaluation" OR "realist evaluations" OR "realistic evaluation" OR "realistic evaluations" OR "critical realist evaluation" OR "realist approach" OR "realist approaches" OR "critical realist approach" OR "critical realism" OR "realist case study" NOT "realist review" NOT "realist synthesis"	592
S3	S1 AND S2	61

Web of Science

#	Query	results
#1	ALL=("the age") OR ALL=(aged) OR ALL=(aging) OR ALL=(ageing) OR ALL=("aging population") OR ALL=("ageing population") OR ALL=("older adult") OR ALL=("older adults") OR ALL=("older people") OR ALL=(elder*) OR ALL=(senior) OR ALL=(seniors) OR ALL=("frail elderly")	4,857,054
#2	ALL=("realist evaluation") OR ALL=("realist evaluations") OR ALL=("realistic evaluation") OR ALL=("realistic evaluations") OR ALL=("critical realist evaluation") OR ALL=("realist approach") OR ALL=("realist approaches") OR ALL=("critical realist approach") OR ALL=("realist case study") OR ALL=("critical realism") NOT ALL=("realist review") NOT ALL=("realist synthesis")	2,912
#3	#1 AND #2	267

Cochrane Library

#	Query	results
#1	("the aged") OR (aged) OR (aging) OR (ageing) OR ("aging population") (Word variations have been searched)	888,320
#2	("ageing population") OR ("older adult") OR ("older adults") OR ("older people") OR (elder*) (Word variations have been searched)	84,217
#3	(senior) OR (seniors)	7,012
#4	#1 OR #2 OR 3	903,704
#5	("realist evaluation") OR ("realist evaluations") OR ("realistic evaluation") OR ("realistic evaluations") (Word variations have been searched)	74
#6	("realist approach") OR ("realist approaches") OR ("realist case study") OR ("realist case studies") (Word variations have been searched)	42
#8	#5 NOT #6	113
#9	#4 AND #8	50

APPENDIX 2 Data of the included studies

Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
Aagaard K, Meléndez-Torres GJ, Overgaard C. Improving oral health in nursing home residents: A process evaluation of a shared oral care intervention. J Clin Nurs 2020.	Denmark	To evaluate the process of implementing an oral care intervention in nursing homes in a Danish municipality	(n=41) Nursing home residents, care professionals, assistant nursing home managers, dental practitioners, and the project dentist	Three nursing homes	Multiple case studies, along with randomised controlled trials (RCTs)	Interviews, observations, and group interviews	Thematic analysis and cross-case analysis	Shared oral care includes educating care staff on oral hygiene, assessing residents' oral health, and designing an individual oral care plan	The Danish National Board of Health	✓	✓	✓
Barker R, Wilson P, Butler C. How does the English national end-of-life care policy imp on the experience of older people at the end of life? Findings from a realist evaluation. Prim Health Care Res Dev 2021.	UK	To explore the extent to which national policy in end-of-life care (EOLC) in England influences and guides local practice, helping to ensure care for older people at the EOL is of a consistently good quality	(n=98) Patients, carers, clinicians (physicians, health care assistants, palliative care nurses, etc.), and non-clinical staff (care home and hospice managers, local authority leads, chaplains etc.)	Three sites in London	Multiple case study	Interviews, meeting observations, and documentary analysis	Not specified	National policy in end-of-life care influences and guides local practice, helping to ensure that older adults want to be cared for and die in familiar surroundings	The national government	✓		
Bailey, D, Mutale, G. J. Social work's contribution to integrated primary health care teams in the UK for older adults with complex needs Journal of Integrated Care. 2022	UK	To examine the contribution of adult social work in integrated teams in the UK.	(n=42) Members of staff (23 in the integrated teams and 19 in the social-work-only teams)	Three different districts within one local government's catchment area	Mixed methods	Interviews and focus groups. Types of social work activities extracted from older adults' case records to calculate costs of care.	Inferential and descriptive statistics	Embedding social work in integrated primary care teams	Integrated team and social workers		✓	
Berge MS. Telecare - where, when, why, and for whom does it work? A realist evaluation of a Norwegian project. J Rehabil Assist Technol Eng. 2017.	Norway	To highlight where, when, why, and for whom telecare works, drawing on data from the evaluation project	(n=19) Users and relatives	Medium-sized municipality	Descriptive qualitative design	Interviews	Not specified	Telecare is individually tailored and linked to the call centre. The devices comprise the sensors that react to changes in the activity pattern, fall sensors, and movement sensors	The national Government	✓		✓
Boumans J, van Boekel LC, Verbiest MEA et al. Exploring how residential care facilities can enhance the autonomy of people with dementia and improve informal care. Dementia (London) 2022.	Netherlands	To explore how residential care facility (RCF) staff can enhance autonomy and improve informal care by looking at the influence of interactions (contact and approachability between residents, staff members, and informal caregivers) and the physical environment, including the use of technologies	(n=12) RCFs staff, board members of the RCFs, informal caregivers/relatives of residents with dementia	Two RCFs in the southern part of the Netherlands	Multiple case study	Interviews, observations, and documents analyses	Realist logic of analysis	Person-centred care in RCFs ensures people with dementia who are receiving care can make their own choices and facilitates their autonomy and informal care provision	Not specified			✓
Clark AM, Whelan HK, Barbour R, et al. A realist study of the mechanisms of cardiac rehabilitation. J Adv Nurs 2005.	UK	To explore patient's experiences of cardiac rehabilitation (CR) and perceptions of the mechanisms and contexts influencing its long-term effectiveness	(n=47) Patients	Derbyshire region of the West of Scotland	Qualitative design	Focus groups	Not specified	Cardiac Rehabilitation programs offer a range of services that can support the secondary prevention of coronary heart disease (CHD)	National health service (NHS) trust with Scottish Intercollegiate Guidelines Network (SIGN)			

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Coorey G, Peiris D, Neubeck L, et al. A realist evaluation approach to explaining the role of context in the impact of a complex eHealth intervention for improving prevention of cardiovascular disease. BMC Health Serv Res 2020.	Australia	To elucidate contextual factors at play in participant responses to the eHealth intervention and describe mechanisms by which the impact on outcomes arose	(n=36) Participants from the intervention group who completed 12 months of study follow-up	Twenty-four primary health care services in Sydney	Qualitative study along with RCTs	Interviews	Thematic analysis	The intervention of eHealth is designed to improve the recipient’s cardiovascular disease (CVD) risk factor profile by facilitating health-related behaviour change, including increased engagement with care providers	The George Institute for Global Health, funded by the Australian National Health and Medical Research Council	✓	✓	✓
Couturier Y, Lanneville D, Lane J, et al. Implementation conditions leading to the scale-up of an innovation involving the optimal use of antipsychotics in long-term care centers: the Optimising Practices, Use, Care and Services-Antipsychotics (OPUS-AP) program. Res Social Adm Pharm 2022.	Canada	To present the conditions leading to the scale-up of an innovative program on the appropriate use of antipsychotics in long-term care (LTC) centres	(n=46) Local project managers, nurses, families, and professionals	An integrated health area of Quebec	Mixed methods along with a prospective short study	Interviews	Qualitative data analysis	OPUS-AP program aims to improve LTC residents’ care by increasing knowledge and competency among staff, resident-centred approach, non-pharmacologic interventions, and by deprescribing antipsychotics when appropriate	Governance board, including policymakers, researchers, and managers, headed by regional health authorities, acting as representatives for all CEOs across Quebec		✓	
Dalkin SM, Lhussier M, Kendall N, et al. Namaste care in the home setting: developing initial realist explanatory theories and uncovering unintended outcomes. BMJ Open 2020.	UK	To develop initial program theories detailing if, how and under which circumstances Namaste Care works when implemented at home	(n=35) Twenty-seven volunteers and eight family carers	A hospice in the North East of England, operating in the community through volunteers.	Qualitative study	Interviews and focus groups	Realist analysis	The End-of-Life Namaste Care Program can improve communication and the relationships families and friends have with the person with dementia	A hospice in the community that is a registered charity receiving some income from the NHS	✓		✓
Day A, Phelps K, Maltby J, et al. A realist evaluation of loneliness interventions for older people. Age Ageing 2021.	UK	To develop a program theory to inform the design of loneliness interventions and guide any future evaluations	(n=54) Twelve service providers, 24 old people, and 18 carers	Leicester and Leicestershire	Mixed methods	Interviews, focus groups, documentary analysis, and cataloguing available services from provider organisations and websites.	Qualitative data analysis	Loneliness interventions include social activity, emotional support, and advice and information	Local councils of Leicester and Leicestershire	✓	✓	✓
Devi R, Chadborn NH, Meyer J, et al. How quality improvement collaboratives work to improve healthcare in care homes: a realist evaluation. Age Ageing 2021.	UK	To understand how quality improvement collaboratives (QICs) work when designing and implementing evidence-based approaches to healthcare in care homes	(n=32) Care home staff, pharmacists, Physicians, dieticians, care home nurse specialists, care coordinators, care home managers, geriatricians, and so on.	Four sites and 29 care homes	Multiple case study	Interviews, focus groups, and observations	Not specified	Quality Improvement Collaboratives bring together multidisciplinary teams in a structured process to improve care quality in care homes	Teams of health and social care professionals that established the QIC and provided advice on on-site team composition and focus of intervention	✓		✓
Efstathiou N, Lock A, Ahmed S et al. A realist evaluation of a ‘single point of contact’ end-of-life care service. J Health Organ Manag 2020.	UK	To explore whether the provision of coordinated end-of-life care (EOLC) would support patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	(n=256) Thirty staff of "Single point of contact” and 226 patients and carers/ friends who completed the satisfaction questionnaire	Sandwell, West Birmingham, West Midlands	Mixed methods	Interviews, observations of management meetings, documents, satisfaction surveys, and activity/ performance indicators	Simple descriptive analysis	"Single point of contact" aims to coordinate EOLC, including EOLC facilitators and an urgent response team, for supporting patients being cared for or dying in their preferred place and avoid unwanted hospital admissions	Clinical Commissioning Group (CCG)	✓	✓	✓

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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1 2 3 4 5 6 7	Fakoya OA, McCorry NK, Donnelly M. How do befriending interventions alleviate loneliness and social isolation among older people? A realist evaluation study. PLOS ONE 2021.	UK	To address the gap in the evidence- base by going beyond the identification of 'what works' to gain an in-depth understanding of how befriending interventions work, for whom, and in what circumstance	(n=46) Two service managers, 4 service coordinators, 17 befrienders, 14 service users, and 9 family members related to the service users	Northern Ireland	Multiple case study	Interviews and review of service documents	Retroductive approach	Befriending provides relationships and social contact to individuals experiencing loneliness and isolation in community and residential settings	Befriending Network	✓		✓
8 9 10 11 12 13 14 15 16	Flynn R, Mrklas K, Campbell A, et al. Contextual factors and mechanisms that influence sustainability: a realist evaluation of two scaled, multi-component interventions. BMC Health Serv Res 2021.	Canada	To identify and explain the contextual factors and causal mechanisms that enabled or hindered the sustainability of two large-scale, system-wide EBIs implemented across the Strategic Clinical Networks™, of the Alberta health system in Canada	(n=30) Seventeen participants from Case A, Intensive Care Unit (ICU) with Delirium intervention, and 13 participants from Case B, Long-term care (LTC) and designated supportive living (DSL) with appropriate use of antipsychotics (AUA)	ICU, long-term care facility, and designated supportive living in Alberta	Case study	Interviews and document reviews	Cross-case comparison analysis	Strategic Clinical Networks that comprise multi-stakeholders work collaboratively to identify care gaps and implement evidence-based interventions that improve health outcomes and health service delivery	Alberta Health Services	✓		✓
17 18 19 20 21 22 23 24 25	Francis-Coad J, Etherton-Beer C, Bulsara C et al. Evaluating the impact of a falls prevention community of practice in a residential aged care setting: a realist approach. BMC Health Serv Res 2018.	Australia	To evaluate the impact of a falls prevention Community of Practice (CoP) on its membership, actions at the facility level, and actions at the organisation level in translating falls prevention evidence into practice	(n=260) CoP partnered university researchers with staff across the 13 facilities. All facilities were represented by 20 members comprising 14 allied health professionals, 5 care/deputy care managers, and 1 researcher.	Residential aged care facilities	Convergent parallel mixed methods	Surveys, audits, observations, and interviews	Content analysis and inferential statistical analysis	Community of Practice for fall prevention enables sharing of expertise and ideas, to innovate for change in pursuit of fall prevention	Not specified		✓	✓
26 27 28 29 30 31 32 33 34 35 36	Gordon AL, Goodman C, Davies SL, et al. Optimal healthcare delivery to care homes in the UK: a realist evaluation of what supports effective working to improve healthcare outcomes. Age Ageing 2018.	UK	To explore how healthcare configuration influences resource use	(n=320–355) Recruiting 239 residents for assessing NHS resource use, 35 residents, 18 relatives, 15 home staff (staff and managers), and 48 NHS professionals (community nurses, physicians, and allied health professionals). (Some residents might have been recruited for both resource use assessments and interviews)	Four care homes from 3 sites	Case studies along with a prospective cohort study	Interviews, focus group, and records of resource uses and health costs	Realist analysis and inferential statistical analysis	The interventions led by NHS for providing optimal health care delivery to care homes address unplanned hospital admissions, duration of hospital stay, use of out-of-hours services, medication use, and satisfaction of resident, carer, and staff	NHS	✓	✓	✓
37 38 39 40 41 42 43 44 45 46 47	Gorenberg, J.,Tierney, S.,Wong, G. et al. Understanding and Improving Older People's Well-Being through Social Prescribing Involving the Cultural Sector: Interviews from a Realist Evaluation J Appl Gerontol. 2023	UK	To explain in what ways, for whom, and why the cultural sector can support social prescribing with older people	(n=53) Twenty-eight older people (aged 60+) and 25 cultural sector staff	Not specified	Fixed methods	Online meetings with stakeholders, A rapid realist review, A questionnaire completed by Link workers, and interviews with older adults and cultural sector staff	Realist logic analysis	Social prescribing is a non-clinical approach to addressing social, environmental, and economic factors affecting how people feel physically and/or emotionally. It involves connecting people to “community assets” (e.g., local groups and organizations)	NHS stressed the need of social prescribing as part of personalized care, and funded social prescribing link workers (LWs) to be attached to primary care.	✓	✓	
48 49 50 51 52 53 54 55 56 57 58	Grace S, Horstmanshof L. A realist evaluation of a regional Dementia Health Literacy Project. Health Expect 2019.	Australia	To evaluate the Dementia Health Literacy Project using a realist evaluation framework	(n=48) Thirteen people (the Project Officer, one service provider, 11 people with dementia and their family/carers) and 13 members of social groups of older adults. Twenty-two clinicians who responded to the survey of feedback on the Dementia Support Kit.	North coast region of New South Wales	Descriptive qualitative design	Interviews, surveys, and documentary analysis	Not specified	Dementia Health Literacy Project adopted an experience-based co-design approach to design a Dementia Support Kit to provide useful information to people with dementia and their families and carers	Primary Health Network in the region	✓	✓	✓

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Handley M, Bunn F, Goodman C. Supporting general hospital staff to provide dementia sensitive care: A realist evaluation. Int J Nurs Stud 2019.	UK	To explain the factors that support hospital staff to provide dementia-sensitive care and with what outcomes for patients with dementia.	(n=66) A total of 36 hospital staff (health care assistants, nurses, medical staff, allied health care professionals, and support staff), 28 patients with dementia, and 2 family carers of patients with dementia	Two NHS Trusts in the East of England	Two-site case study	Interviews, non-participant observation, review of medical notes, organisational document, and Neuropsychiatric Inventory Questionnaire	Thematic analysis and descriptive statistical analysis	The interventions aim to support hospital staff in providing dementia-sensitive care	Department of Health, whose priority policy is to improve dementia care in general hospitals	✓	✓	✓
Harding AJE, Hean S, Parker J et al. It can't really be answered in an information pack. A realist evaluation of a telephone housing options service for older people. Soc Policy Soc 2020.	UK	To report a qualitative realist evaluation on the efficacy of a UK telephone service providing information on specialist housing to older people	(n=20) Sixteen older people and 4 telephone service advisers	Not specified	A simple explanatory case study	Observations of key meetings, review of documents, focus groups, and interviews	Thematic analysis	UK telephone housing options service aims to provide information on specialist housing for older people	The national advice service' and the organisation that manages information directly on UK housing options for older people, funded by the UK government			✓
Haynes A, Gilchrist H, Oliveira JS, et al. Using realist evaluation to understand process outcomes in a COVID-19-impacted yoga intervention trial: A worked example. Int J Environ of Environ Res Public Health. 2021.	Australia	To provide a worked example of a realist process evaluation conducted in parallel with a randomised controlled trial of yoga classes for older adults aimed at preventing falls	(n=24) Twenty-one older adults who participated in the Successful AGEing (SAGE) yoga trial and 3 yoga instructors.	Not specified	Descriptive qualitative design	Interviews, review of post-intervention and participant feedback forms	Qualitative data analysis	SAGE yoga is an exercise program in which participants attend 40 weeks of twice-weekly yoga-based exercise classes designed to prevent falls or a seated yoga relaxation program	Not specified	✓	✓	✓
Hoens S, Smetcoren AS, Switsers L et al. Community health workers and culturally competent home care in Belgium: A realist evaluation. Health Soc Care Community 2021.	Belgium	To investigate through a realist evaluation how the work training programme for 10 Community Health Workers (CHWs) contributed to culturally competent home care services	(n=25) Ten CHWs, 6 care employees, 2 trainers, and 7 project coordinators	Dependent urban area in Brussels	Qualitative study	Interviews and focus groups	Thematic analysis	Work training programs with CHWs were developed to respond to the need of home care organisations to provide culturally competent care in a super-diverse neighbourhood	European Social Fund (ESF)project within which a work training programme for CHWs was developed			✓
Hurst H, Griffiths J, Hunt C, et al. A realist evaluation of the implementation of open visiting in an acute care setting for older people. BMC Health Serv Res 2019.	UK	To evaluate the implementation of open visiting, the barriers to implementation, sustainability, and the impact of open visiting on communication between healthcare professionals, families, and carers	(n=30) Medical, nursing, allied health professionals, patients, and relatives/ carers 47 questionnaires were completed	Two large acute medical wards for older people in the North of England	Descriptive qualitative design	Interviews and questionnaire	Descriptive analysis of pre-implementation questionnaires and qualitative data analysis for interviews	Open visiting refers to the principle that visiting hours are not restricted in the hospital setting, and relatives and carers can visit at any time	NHS Trusts	✓	✓	✓
Janssen MM, Vos W, Luijkx KG. Development of an evaluation tool for geriatric rehabilitation care. BMC Geriatr 2019.	Netherlands	To find out the elements with which the quality of daily Geriatric Rehabilitation Care (GRC) practice can be evaluated and improved and to translate this theoretical knowledge into a practical GRC evaluation tool that has added value for and is usable in GRC practice.	(n=10) Participants from 3 GRC organisations, including nurses, occupational therapists, speech therapists, elderly care physicians, coordinating nurses, GRC managers	Three GRC organisations from two different regions in the Netherlands	Qualitative study	Interviews, participation in expert meetings, and focus groups	Not specified	GRC is a multidisciplinary rehabilitation care for older and vulnerable clients who are admitted and need short-term rehabilitation in a nursing home	GRC organisations	✓		✓

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Jonsson F, Carson DB, Goicolea I, et al. Strengthening community health systems through novel ehealth initiatives? Commencing a realist study of the virtual health rooms in rural Northern Sweden. Int J Health Policy Manag 2022.	Sweden	To explore how and under what circumstances the so-called Virtual Health Rooms (VHRs) are expected to improve access to person-centred care and strengthen community health systems, especially for elderly residents of rural areas.	(n=8) Key stakeholders working with eHealth, business development, digitalisation, and process management	Norrland, rural northern Sweden	Descriptive qualitative design	Interviews	Thematic analysis	VHRs aim to improve access to person-centred care and strengthen community health systems in rural areas	The Centre for Rural Medicine	✓		✓
Kupeli N, Sampson EL, Leavey G, et al. Context, mechanisms and outcomes in end-of-life care for people with advanced dementia: family carers perspective. BMC Palliat Care 2019.	UK	To explore the context, mechanisms, and outcomes for providing good palliative care to people with advanced dementia residing in UK care homes	(n=14) Health and social care professionals, including healthcare assistants, care home managers, commissioners for older adults' services, and nursing staff.	Private care homes and services offered by the NHS	Descriptive qualitative design along with a prospective short study	Interviews, literature reviews, workshops with stakeholders, and information from an ongoing cohort study	Thematic analysis	End-of-life care for people with advanced dementia is expected to provide proactive and coordinated palliative care	Not specified	✓	✓	✓
Lawson S, Mullan J, Wong G, et al. Family carers' experiences of managing older relative's medications: insights from the MEMORABLE study. Patient Educ Couns. patient ed. 2022.	UK	To explore the burdens experienced by family carers who support older relatives to manage their medications at home through MEducation Management in Older people: Realist Approaches Based on Literature and Evaluation (MEMORABLE)	(n=16) Family carers of older relatives	Not described in detail	Descriptive qualitative design	Interviews	Not specified	MEMORABLE aims to understand medication management from the viewpoint of older people living with co-morbidities treated with complex medication regimens, family carers, and health and care practitioners	Research institution			✓
Leamy, M., Sims, S., Levenson, R. et al. Intentional rounding: a realist evaluation using case studies in acute and care of older people hospital wards. BMC Health Serv Res.2023	UK	To test, refine or refute eight programme theories to understand what works, for whom, and in what circumstances.	(n=138+a) Board level and senior nursing managers (N = 17), nursing ward staff (N = 33), allied health and medical professionals (N = 26), patients (N = 34) and relatives (N = 28)	Six wards (older people and acute wards) in three NHS trusts in England.	Fixed methods design	Synthesis, survey, interviews, non-participant observations, and analysis of ward outcome and cost data	Framework analysis	Intentional rounding is to provide quality care to patients and families – and to validate that this level of care is occurring with every patient, every time.	The Francis Inquiry pinpointed serious errors in patient care at the Mid Staffordshire NHS Trust.	✓	✓	✓
Leighton, P. A., Darby, J.,Allen, F.A et al realist evaluation of a multifactorial falls prevention programme in care homes Age Ageing. 2022	UK	To identify those contexts where GtACH is easily adopted and recognise those mechanisms that lead to positive outcomes, specifically considering fidelity with training and delivery, acceptability to stakeholders, and impact upon falls rate.	(n=88) Seven managers, 4 deputy managers, 1 care home employed nurse, 3 Falls Champions, 1 unit manager, 22 senior caring staff, 38 caring staff, 6 residents, and 6 Falls Leads.	Six care homes	Fixed methods	Fidelity observations, stakeholder interviews, focus groups, documentary review, and falls-rate data	Thematic analysis and descriptive analysis	The Guide to Action in Care Homes programme (GtACH) is a multi-factorial falls prevention programme for care homes	Clinical experts and academics with the involvement of Rushcliffe Falls Prevention and Research Group	✓	✓	✓
Lewis A, Harvey G, Hogan M, et al. Can oral healthcare for older people be embedded into routine community aged care practice? A realist evaluation using normalisation process theory. Int J Nurs Stud 2019.	Australia	To evaluate the extent to which the intervention has been embedded and sustained into routine community aged care practice 3 years after the initial implementation project	(n=14) Twelve staff members from corporate, management, and direct care positions and 2 consumers representing high and low-care recipients	Metropolitan and country sites in South Australia	Single case study	Interviews and documentary review	Thematic analysis	Better Oral Health in Home Care aims to improve the oral health of older people receiving community aged care services	The South Australian Dental Service	✓		✓
Lhussier M, Dalkin S, Hetherington R. Community care for severely frail older people: developing explanations of how, why and for whom it works. Int J Older People Nurs 2019.	UK	To develop an initial explanatory (programme) theories to enhance understanding of the Community Well Team (CWT), whom it works for and in which circumstances	(n=12) Five severely frail older patients and 7 CWT members	Rural areas with dispersed small villages and market towns in the north of England	Descriptive qualitative design	interviews, focus groups, medical case notes, literature review	Realist analysis	CWT provides integrated and comprehensive care for severely frail patients aged 75 or older to reduce avoidable hospital admissions and enable home living for longer	National policy directives to support older people in the community	✓		✓

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Author(s), Title, Journal, and Year of Publication.	Country	Aims/Purposes	Participants and Sample size	Settings	Study Design	Data Collection Methods	Data Analysis Methods	Interventions Name and the Contents	Intervention Providers	IPTs	Mixed-Methods	CMOs
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Liu, H. M., Massi, L., Laba, T.L. et al Patients’ and Providers’ Perspectives of a Polypill Strategy to Improve Cardiovascular Prevention in Australian Primary Health Care: A Qualitative Study Set Within a Pragmatic Randomized, Controlled Trial. Circulation-Cardiovascular Quality and Outcomes. 2015	Australia	To explore health provider and patient attitudes toward the use of a cardiovascular polypill as a health service strategy to improve cardiovascular prevention	(n=94) Forty-seven providers (25 general practitioners [GPs], 13 pharmacists, 6 Health Workers, and 3 Chronic Care Nurses) and 47 patients in New South Wales, Queensland, and Victoria. Twenty-two and 25 patients were in the polypill arm and usual arm, respectively.	Urban, rural, and remote settings in Australia	Mixed methods	Interviews Measuring self-reported medication use and changes in biological markers of changes in systolic blood pressure and total cholesterol.	Thematic analysis Inferential statistical analysis	Polypill-based strategy for high-risk primary and secondary cardiovascular disease prevention.	Not specified			
Lovink MH, Laurant MGH, van Vught AJ, et al. Substituting physicians with nurse practitioners, physician assistants or nurses in nursing homes: a realist evaluation case study. BMJ Open 2019.	Netherlands	To gain insight into how the substitution of elderly care physicians (ECPs) by nurse practitioners (NPs), physician assistants (PAs), or registered nurses (RNs) in nursing homes is modelled in different contexts and what model in what context contributes to perceived quality of healthcare	(n=146) Three NPs; 2 PAs; and 2 RNs in 7 different nursing homes 15 ECPs; 2 Medical doctors (MDs); 11 managing directors/managers/ supervisors; 33 nursing team members; and 78 residents/relatives	Severely nursing homes	Multiple case study	Interviews, observations, questionnaires, and collecting internal policy documents	Cross-case analysis	Substitution of physicians with NPs, PAs, or RNs aims to maintain quality nursing home care by achieving as least as a good resident and process of care outcomes as care provided by physicians	Not specified			
Martin P, Tannenbaum C. A realist evaluation of patients’ decisions to deprescribe in the EMPOWER trial. BMJ Open 2017.	Canada	To test the mechanism during Eliminating Medications Through Patient Ownership of End Results (EMPOWER) trial and investigate the contexts that led to positive or negative deprescribing outcomes	(n=261) Older chronic benzodiazepine consumers who received the EMPOWER intervention and had complete 6-month follow-up data	Montreal urban area in Quebec	Mixed methods, conducted alongside the EMPOWER (RCT)	Interviews and questionnaire	Thematic analysis and descriptive statistical analysis	EMPOWER includes a self-assessment and presentation of the evidence-based risks related to benzodiazepine use in an effort to elicit cognitive dissonance, and it provides a self-guided tapering schedule	Université de Montréal, Institut Universitaire de Gériatrie de Montréal, Canadian Institutes of Health Research, and Canadian Deprescribing Network			
Masterson-Algar P, Burton CR, Rycroft-Malone J, et al. Towards a programme theory for fidelity in the evaluation of complex interventions. J Eval Clin Pract 2014.	UK	To address the challenge of investigating fidelity in the implementation of a complex rehabilitation intervention designed to increase the level of independence in personal activities of daily living of stroke patients living in UK care homes	(n=17) Occupational therapists(OTs)	Health care homes	Descriptive qualitative design	Interviews and review of clinical incident reports from the trial	Not specified	Occupational Therapy in Care Homes (OTCH) aims to enhance independence in the activities of daily living (ADLs) of patients living with stroke	Team of trial occupational therapists			
McConnell T, O’halloran P, Donnelly M, et al. Factors affecting the successful implementation and sustainability of the Liverpool Care Pathway for dying patients: a realist evaluation. BMJ Support Palliat Care 2015.	UK	To identify the influences that facilitated or hindered the successful Liverpool Care Pathway (LCP) implementation	(n=24) Two policymakers and 22 participants with experience and/or involvement in the LCP (3 palliative care consultants, 3 previous LCP facilitators, 2 service managers, 4 medical consultants, 4 ward sisters, 4 staff nurses, and 2 junior doctors)	The health and social care trust in Northern Ireland	Case study	Interviews	Thematic analysis	LCP aims to improve best practices in end-of-life care recommended for use in all care settings	Cancer and Specialist Services, and Acute Services, with a focus on two hospital wards from each service group			

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McNeil-Gauthier, A. L., Milot, D. M., Levasseur, M. How environments can promote active aging: results from a case study of two municipalities in Quebec, Canada Can J Public Health. 2023	Canada	To explore: “How can environments foster active aging?”; that is, through which mechanisms and in what contexts can environments and their components facilitate positive health, social participation, and health equity in older adults?	(n=24) (Nine older adults, 4 health professionals, 3 community-based actors, 5 municipal employees, and 3 elected officials)	Two municipalities in Quebec	Mixed methods including multiple qualitative case study	Focus groups, participants’ logbooks, sociodemographic questionnaires, municipalities’ sociodemographic profiles, and policy documents.	Framework and thematic content analysis	Aging-friendly environment which consists of eight components is designed to facilitate positive health, social participation, and health equity in older adults	World Health Organization	✓	✓	✓
Newbould L, Ariss S, Mountain G et al. Exploring factors that affect the uptake and sustainability of videoconferencing for healthcare provision for older adults in care homes: a realist evaluation. BMC Med Inform Decis Mak 2021.	UK	To explore factors affecting the uptake and sustainability of videoconferencing in care homes, to establish what works for whom, in which circumstances and respects	(n=25) Residents, relatives, managers, nurses, senior care assistants, night nurses, care assistants, deputy managers, day care assistants, night care assistants, team leaders, and activity coordinators	Three care homes in Yorkshire and the Humber	Grounded theory approach	Interviews	Thematic analysis	Videoconferencing removes geographical barriers to care, improves the continuity of care and access for those with physical disabilities, and allows the assessment of residents before a possible admission to the hospital	Forty-four Clinical Commissioning Groups (CCGs) with a fund of NHS England	✓		✓
Ofosu, E. F., De Nys, L.,Connelly, J.et al A realist evaluation of the feasibility of a randomised controlled trial of a digital music and movement intervention for older people living in care homes BMC Geriatr. 2023	UK	To uncover influencing factors of a feasibility study implementation to inform how a digital music and movement programme would work and under what circumstances this would be most effective	(n=49) Older adults (aged 65 years +)	Ten care homes in Scotland	Mixed methods with pre- and post-intervention collection of quantitative and qualitative data	Focus groups with staff and interviews, questionnaire	Inferential statistical analysis	Digital music and movement programme	Care home activity coordinators.	✓	✓	✓
Pals RA, Olesen K, Willaing I. What does theory-driven evaluation add to the analysis of self-reported outcomes of diabetes education? A comparative realist evaluation of a participatory patient education approach. Patient Educ Couns. patient ed. 2016.	Denmark	To explore the effects of the Next Education (NEED) patient education approach in diabetes education	(n=251) Participants were at eight intervention sites (n=193) and six control sites (n=58). Of them, 29 participants were interviewed.	Not specified	Quasi-experimental study	Interviews, observations, and questionnaires	Descriptive statistical analysis, inferential statistical analysis, and systematic text condensation	NEED supports educators in tailoring patient education to the needs and challenges of individual participants living with diabetes and to ensure that participants engage in dialogue with peers as well as educators	Steno Diabetic Center	✓	✓	✓
Parker J, Mawson S, Mountain G, et al. Stroke patients’ utilisation of extrinsic feedback from computer-based technology in the home: a multiple case study realistic evaluation. BMC Med Inform Decis Mak 2014.	UK	To describe the application of an innovative evaluative methodology to explore the utilisation of feedback for post-stroke upper-limb rehabilitation in the home and refine the underpinning theories embedded within the self-Management Supported by Assistive, Rehabilitation and Telecare Technologies (SMART)system	(n= approx.20) Five residents with stroke, their carers, 7 physical therapists, and 7 occupational therapists	Not specified	Multiple case study	Interviews, focus groups, observations, and review of documents and materials such as video replay and Nottingham Extended Activities of Daily Living (NEADL)	Thematic framework analysis and descriptive statistical analysis	SMART rehabilitation technology system monitors and tracks the upper arm rehabilitation movements in real time by enabling the user to adopt theories and principles underpinning post-stroke rehabilitation and self-management	Community Stroke teams with The Engineering and Physical Sciences Research Council (EPSRC) that funded SMART Rehabilitation research programme	✓	✓	✓

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Rehman, S., Likupe, G., McFarland, A.,et al Evaluating a brief intervention for mealtime difficulty on older adults with dementia Nurs Open. 2023	UK	To test a spaced retrieval intervention using spaced retrieval to alleviate mealtime difficulties in older people with dementia	(n=8) Older people with Alzheimer’s disease	Nursing Homes in North Central England	A single-case experimental design	Survey data from EdFED (Edinburgh Feeding Evaluation in Dementia), MNA-SF (Mini Nutritional Assessment-Short Form), BMI (Body Mass Index), and economic costings	Inferential statistical analysis	A brief intervention for mealtime difficulty on older adults with dementia to increase the amount of food eaten and to improve body mass index.	Not specified			
Sanerma P, Paavilainen E, Åstedt-Kurki P. Home care services for older persons. The views of older persons and family members: A realistic evaluation. Int J Older People Nurs 2020.	Finland	To evaluate person-centred care in older person's home care services from the perspective of older adults and family members, using realistic evaluation methods	(n=13) Six older persons of home care and 7 family members	The centre of a big city and a rural environment	Descriptive qualitative design	Interviews	Content analysis	Home care services help the older person to cope at home when it is feasible and in the older person's interest and to support the older adults' individual lives at home	Not specified			✓
Sattar Z, Wilkie S, Ling J. The impact of a refurbishment programme on older people living in sheltered housing. Hous Care Support 2021.	UK	To explore residents' perceptions of a refurbishment program to sheltered housing schemes and its impact on their well-being	(n=45) Residents living in each Extra Care Housing (ECH)	Nine ECH schemes	Qualitative study	Interviews and participatory appraisals	Thematic analysis	ECH schemes fall within the specialist housing characterised by shared facilities and activities	Not specified	✓		
Schnabel, S.,van Wijck, F.,Kidd, L. Supporting stroke survivors to meet their personal rehabilitation needs in community-based arm rehabilitation: development of initial programme theories to explore what may work for whom, how and under what circumstances Frontiers in Neurology.2023	UK	To explore what worked for whom, how and under what circumstances in a community-based augmented arm rehabilitation programme that was designed to enable stroke survivors to meet their personal rehabilitation needs	(n=17) Stroke survivors	Scotland (the details were not described)	Mixed methods	Interviews and survey data of Action Research Arm Test, Motricity Index, Grip force, COPM, Numerical Pain Rating Scale, Motor Activity Log, Stroke Impact Scale, and the Hospital Anxiety and Depression Scale	Not specified	Community-based augmented arm rehabilitation programme that was designed to enable stroke survivors to meet their personal rehabilitation needs	Therapists	✓	✓	
Sheaff R, Sherriff I, Hennessy CH. Evaluating a dementia learning community: exploratory study and research implications. BMC Health Serv Res 2018.	UK	To analyse the impact of different governance approaches adopted by the local networks in England to reduce unplanned inpatient bed-days for people aged 75 and over	(n=38) Staff working in NHS, local authority social care, and third sector	Nine sites in the UK	Descriptive qualitative design	Document analysis and structured questionnaire	Analysis of the structured questionnaire and content analysis	Improving the Future for Older People initiative (IFOP) aims to enhance older people’s quality of life by reducing bed usage and admissions without compromising continuity of care or positive experiences of discharge	A group of nine councils with their NHS and third-sector partners	✓	✓	
Sheaff R, Windle K, Wistow G, et al. Reducing emergency bed-days for older people? Network governance lessons from the ‘Improving the Future for Older People’ program. Soc Sci Med 2014.	UK	To make a preliminary exploratory attempt to evaluate the Dementia Learning Community (DLC) empirically, assess how far the model has been implemented and its effects, and elicit, test, and refine the underlying ‘theory-in-use’ logic model of how a DLC works.	(n=1161) Thirteen intervention homes comprising 330 residents and 245 staff, and 10 control homes comprising 288 residents and 298 staff	Care homes in England	Mixed methods including RCTs and ethnography	Interviews, questionnaires, and field notes	Inferential statistical analysis and thematic analysis	DLC Logic model aims to reduce unplanned hospital admissions from care homes of those with dementia by training staff, changing work routines, improving quality of life, and reducing demands on external services	The national government	✓	✓	

(Continued on the next page)

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1 2 3 4 5 6 7 8 9 10	Silva BB, Fegadolli C. Implementation of pharmaceutical care for older adults in the Brazilian public health system: a case study and realistic evaluation. BMC Health Serv Res 2020.	Brazil	To evaluate the implementation of Ambulatory Care Pharmacy services for older adults at Paulista Institute of Geriatrics and Gerontology (IPGG), which is recognised in the city of São Paulo for offering pharmaceutical care services for over 10 years continuously	(n=14) Eleven health professionals (pharmacists, members of the multi-professional team, management board of IPGG, members of the medical team, and so on), and 3 pharmaceutical care service users	Geriatrics and Gerontology Institute of São Paulo (known as IPGG)	Case study	Interviews, participant observations, and reviews of institutional documents	Thematic analysis	Ambulatory Care Pharmacy services for older adults offers pharmaceutical care services for over 10 years continuously, and this initiative and process is independent of external academic interventions or educational institutions	IPGG	✓	✓	✓
11 12 13 14 15 16 17 18 19 20	Steven A, Wilson G, Young-Murphy L. The implementation of an innovative hydration monitoring app in care home settings: A qualitative study. JMIR MHealth UHealth 2019.	UK	To examine the implementation of Hydr 8 in a sample of care homes in one area of England	(n=28) Twenty-one care staff members, 5 management, 1 administrative assistant, and 1 registered nurse staff	Care homes within one CCG locality in the North of England	Qualitative study	Interviews and observations	Thematic analysis	Hydr 8 aims to facilitate accurate recording and communication of residents' fluid intake and ultimately increase care quality and patient safety	Care homes collaborated with Elaros, North Tyneside Clinical Commissioning Group, and the Academic Health Science Network North East and North Cumbria			
21 22 23 24 25 26 27 28 29 30 31	Taylor J, Barker A, Hill H, et al. Improving person-centered mobility care in nursing homes: A feasibility study. Geriatr Nurs 2015.	Australia	To evaluate the feasibility of an intervention to improve person-centred mobility care during resident transfers and to estimate sizes for a randomised controlled trial	(n=63) Twelve residents and 51 staff (carer, nurse supervisor, lifestyle staff, MH trainer, nurse, manager, physiotherapists)	Ninety-bed nursing home with 3 high care units, including one dementia-specific, in Melbourne	Mixed methods in a parallel design	Surveys (pre-post design) and focus groups	Thematic analysis and descriptive statistics	The intervention is a multi-faced training intervention focused on person-centred mobility care that contributes to the resident's independence and quality of life, assisted by multidisciplinary facilitators and a dance therapist	Two researchers conducted the intervention.		✓	✓
32 33 34 35 36 37 38 39 40 41	Thijssen, M., Graff, M. J. L., Lexis, M. A. S., et al Collaboration for Developing and Sustaining Community Dementia-Friendly Initiatives: A Realist Evaluation. Int J Environ Res Public Health. 2023	Netherlands	To test and refine an initial theory about collaborating for DFIs with special attention for the involvement of people with dementia and their carers during the collaboration for DFIs.	(n=66) Healthcare and social-work professionals, Volunteers/community members, Entrepreneurs, Policy officers, Carers of people with dementia, and, People with dementia	Four Dutch municipalities that have ambitions to become dementia-friendly communities	Participatory case study design	focus groups, observations, reflections, minutes from meetings, and exit interviews	Not specified	Dementia-friendly initiatives (DFIs) which are an important block to building Dementia-friendly communities (DFCs) seen as key to the inclusion and participation of people with dementia and carers.	(Local) government	✓		✓
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Tolson D, McIntosh J, Loftus L, et al. Developing a managed clinical network in palliative care: a realistic evaluation. Int J Nurs Stud 2007.	UK	To evaluate, refine and inform the ongoing development of the Managed Clinical Network (MCN) (coordinated approach to inter-disciplinary care), and to reflect on the merits and limitations of using realistic evaluation as a formative design and describe how we identified the most effective configuration of CMO to develop the best practice model for the MCN.	Not specified Three older men, their families, doctors, and nurses providing direct care participated, along with 13 members of the network management group.	Rural primary care setting in Scotland	Case studies	Interviews and review of documents, including flip chart notes, diagrams, individual notes, and facilitator field notes	Constant comparative analysis	MCN is a linked group of health professionals and organisations from primary, secondary, and tertiary care working in a coordinated manner, unconstrained by existing professional and service boundaries, and aims to implement a guideline concerned with the care of individuals with cancer-related pain	The Scottish Executive Health Department			✓

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Wiechula R, Kitson A, Marcoionni D et al. Improving the fundamentals of care for older people in the acute hospital setting: facilitating practice improvement using a Knowledge Translation Toolkit. Int J Evid Based Healthc. 2009.	Australia	To develop and implement a structured intervention known as the Knowledge Translation (KT)Toolkit to improve the fundamentals of care for the older person in the acute care sector	(n=42-70) Health professionals in the acute care facility (7 teams ranging from 6 to 10 members)	Large tertiary acute care hospital in a central metropolitan location	Secondary analysis	Routine data from local audits and safety and quality reports as pre- and post-measures of any improvements in practice	Not specified	KT Toolkit improves the fundamentals of care for the older person in the acute care sector	State policy initiatives on improving the care of older people	✓		
Wye L, Lasseter G, Percival J et al. What works in ‘real life’ to facilitate home deaths and fewer hospital admissions for those at end of life?: results from a realist evaluation of new palliative care services in two English counties. BMC Palliat Care 2014.	UK	To add to the evidence base of applied examples by presenting findings from a realist evaluation of a major service re-configuration of end-of-life care services known as 'Delivering Choice'	(n=148) Forty-three family carers and service users, 11 staff delivering or managing Delivering Choice services, and 94 staff eligible to use the services, including those who did and did not refer	North Somerset and Somerset	Descriptive qualitative studies, along with the retrospective cohort study	Interviews, observations, and review of documents and database.	Content analysis and framework analysis	Delivering Choice has 19 projects running across England and Scotland and works with local providers and commissioners to develop 24-hour end-of-life care services to meet local needs	Local professionals from the NHS and local authorities, clinicians, and managers from the acute, primary, and community sectors, hospice staff, and a small local Marie Curie Cancer Care-funded team		✓	✓

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

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	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.	1-2
INTRODUCTION			
Rationale	3	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.	3-4
Objectives	4	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.	4
METHODS			
Protocol and registration	5	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.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5
Information sources*	7	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.	4-5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix.1
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process‡	10	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.	5-6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	5-6
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6

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SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	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.	6, Figure.1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	6-8
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table.1
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Table.2
DISCUSSION			
Summary of evidence	19	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.	9
Limitations	20	Discuss the limitations of the scoping review process.	12
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	12
FUNDING			
Funding	22	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.	13

JB1 = 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 JB1 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).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473. doi: 10.7326/M18-0850.