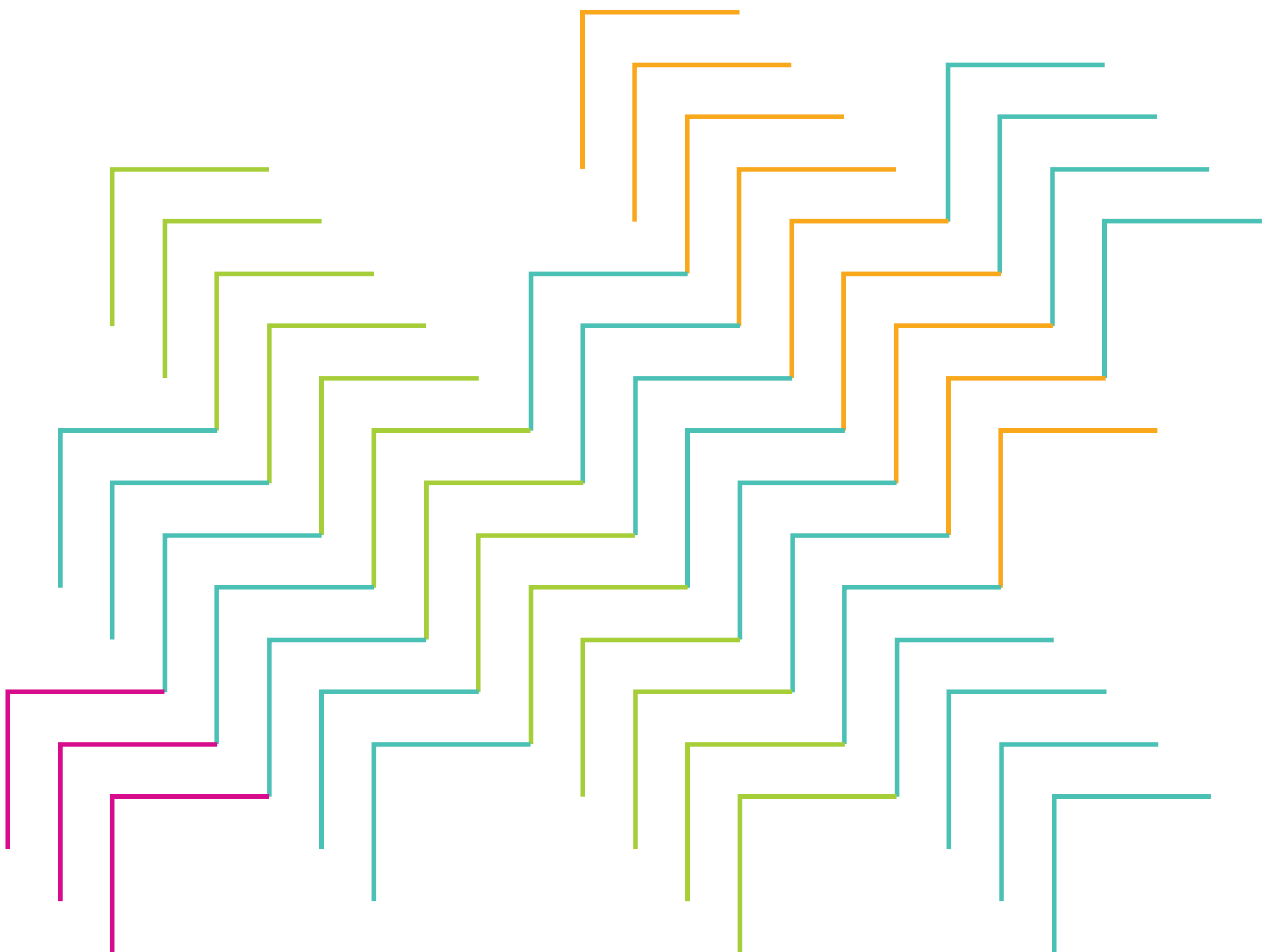


Initiatives to improve the coverage, quality, financial protection and financial sustainability of long-term care: a rapid scoping review

Marilyn Macdonald, Erin Langman and Julie Caruso



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Contents

Acknowledgements	vi
Abbreviations	vii
Glossary	viii
Executive summary	x
1. Introduction	1
2. Methods	5
2.1 Review question and inclusion criteria	6
2.2 Literature search	7
2.3 Study selection	7
2.4 Data extraction	8
2.5 Quality appraisal	9
2.6 Analysis	9
3. Included studies	11
3.1 Characteristics	12
3.2 Equity	23
3.3 Quality assessment	24
4. Results	27
4.1 Coverage	28
4.1.1 LTCI pilots, China	28
4.1.2 CareShield Life, Singapore	31
4.1.3 LTC 2.0, Taiwan, China	32
4.1.4 Social protection systems for LTC, multi-country	33
4.1.5 Community First Choice, USA	33
4.2 Quality	33
4.2.1 LTC pilots, China	33
4.2.2 CareShield Life, Singapore	34
4.3 Financial protection	34
4.3.1 LTC pilots, China	35
4.3.2 CareShield Life, Singapore	36

4.3.3	Social protection systems for LTC, multi-country	36
4.3.4	Integrated Patient-Centred Medical Home model, Singapore	38
4.4	Financial sustainability	38
4.4.1	LTC pilots, China	38
4.4.2	CareShield Life, Singapore	39
4.4.3	Policy comparison, multi-country	40
4.4.4	LTCI reform, Netherlands (Kingdom of the)	40
4.4.5	Community First Choice, USA	41
5. Discussion and conclusion		43
5.1	Commonalities and differences across initiatives	44
5.2	Key findings and interpretation	45
5.2.1	Coverage	45
5.2.2	Quality	45
5.2.3	Financial protection	45
5.2.4	Financial sustainability	46
5.3	Limitations	47
5.4	Future research	47
5.5	Conclusion	48
References		49
Annexes		57
	Annex 1. Literature search strategy	58
A1.1	MEDLINE (Ovid)	58
A1.2	Embase (Elsevier)	64
A1.3	Cumulative Index to Nursing and Allied Health Literature (CINAHL, EBSCO)	70
A1.4	EconLit (EBSCO)	77
A1.5	World Health Organization International Clinical Trials Registry Platform	78
A1.6	ClinicalTrials.gov	78
A1.7	ProQuest Dissertations and Thesis	78
A1.8	Canadian Agency for Drugs and Technologies in Health, Grey Matters	79
	Reference	79

Annex 2. Continuous Active Learning (CAL) tool	80
References	80
Annex 3. Screening tools	
A3.1 Title and abstract screening tool for CAL	81
A3.2 Title/abstract and full-text screening tool for Covidence	81
A3.2.1 Population	81
A3.2.2 Setting	81
A3.2.3 Intervention	81
A3.2.4 Evaluation	82
A3.2.5 LTC financing	82
A3.2.6 Date	82
A3.2.7 Outcomes	82
Annex 4. PRISMA diagram	83
Reference	83
Annex 5. Data extraction form	84

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Abbreviations

ADL	activities of daily living
CAL	Continuous Active Learning (tool)
CHARLS	China Health and Retirement Longitudinal Study
CI	concentration index
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CLHLS	Chinese Longitudinal Healthy Longevity Survey
ELSA	English Longitudinal Study of Ageing
HRS	Health and Retirement Study (USA)
IADL	instrumental activities of daily living
LTC	long-term care
LTCI	long-term care insurance
NRCMS	New Rural Cooperative Medical Scheme (China)
OECD	Organisation of Economic Cooperation and Development
OOP	out-of-pocket (expenditure)
PMCI	policy modelling consistency index
PRISMA	Preferred Reporting Items for Systematic reviews and Meta-Analyses
PRISMA-S	PRISMA extension for reporting literature searches
PRISMA-ScR	PRISMA extension for reporting scoping reviews
SAGER	Sex and Gender Equity in Research
SHARE	Survey of Health, Ageing and Retirement in Europe
TI	Theil index
UEBMI	Urban Employee Basic Medical Insurance (China)
UHC	universal health coverage
URBMI	Urban Resident Basic Medical Insurance (China)
USA	United States of America
WHO	World Health Organization

Glossary

Activities of daily living include grooming, mobility, feeding, dressing, personal hygiene and toileting.

Coverage goes beyond facility care, and includes services such as cash benefits, community services in kind, day care or residential care, and their intensity (1). Coverage in this report refers to the population that can access LTC.

Coverage breadth is used to describe the number of people who can access LTC services.

Coverage depth refers to the range and volume of different services provided.

Coverage duration refers to the length of time for which services are provided; for example, assistance with ADLs and IADLs may be provided on an ongoing basis.

Financial protection is achieved when direct payments made to obtain health services do not expose people to financial hardship and do not threaten living standards (2).

Financial sustainability refers to sustainable revenue sources for needed care (services and human resources).

Instrumental activities of daily living include transportation and shopping, managing finances, shopping and meal preparation, house cleaning and home maintenance, managing communication with others and managing medications.

Long-term care can include care in the community (such as home care and support), rehabilitative care, palliative care, residential care facilities, assisted living facilities, nursing homes and/or any other institutional setting (1).

Older people in this report refers to those members of the population aged 60 years and older, unless otherwise specified.

Out-of-pocket expenditure such as co-payments (e.g. for primary care visits, specialist consultations, hospitalization and prescription drugs) and deductibles is what LTCI does not cover.

Quality of care is monitored via its effectiveness, efficiency, accessibility, timeliness, patient-centred nature, acceptableness, safety and equity (1).

Glossary references

1. Framework for countries to achieve an integrated continuum of long-term care. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/349911>; accessed 7 April 2022).
2. Financial protection. Geneva: World Health Organization; 2023 (<https://www.who.int/health-topics/financial-protection>, accessed 7 April 2023).

Executive summary

In an environment of rapidly ageing populations, increasing incidence of chronic illness, increasing life expectancy, changing family dynamics, and projected shortages of paid and unpaid caregivers, governments around the world are facing challenges to ensure older adults can access high-quality long-term care (LTC) services. A rapid scoping review was therefore conducted to identify and analyse evidence of recent public initiatives (programmes, policies or reforms) to improve LTC coverage, quality, financial protection and financial sustainability for those aged 60 years and older.

Studies were reviewed if they included an evaluation of LTC initiatives for those aged 60 years and older, and directly addressed LTC financing. MEDLINE, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Embase, EconLit, ClinicalTrials.gov, WHO International Clinical Trial Registry Platform, ProQuest Dissertations and Theses, and resources within Canada's Drug and Health Technology Agency Grey Matters database were all searched for sources in any language published between 2017 and 2022. Bibliographic records were identified for screening using the Continuous Active Learning tool, which uses supervised machine learning to rank titles and abstracts from most to least likely to be of interest. Two reviewers then independently screened sources against inclusion criteria. Data were extracted using a form designed to answer the review question and analysed using descriptive qualitative content analysis, where data were categorized according to a pre-specified framework designed to capture the outcomes of interest.

A total of 24 research reports were identified that met the inclusion criteria. Fifteen of these studies addressed coverage (eight directly), which varied according to level of disability, income, rural/urban residence, employment and citizenship. Two studies reported on the quality of LTC. Ten studies addressed financial protection (nine directly), including out-of-pocket (OOP) expenditure, co-payments and risk of poverty related to costs of care. Ten of the reviewed publications reported on the challenges of financial sustainability (seven directly), such as lack of service coordination and system integration, insufficient economic development and inadequate funding models.

Adequate LTC service coverage decreased unmet care needs, OOP expenditure and demands on families. However, LTC funding focused on breadth of coverage rather than depth. Care in hospitals or institutions was better supported by public funding than home- and community-based care. People with severe care needs and low to moderate income are at risk of poverty related to the costs of LTC.

Better financial protection is achievable through universal access and minimizing OOP expenditure. The financial sustainability of publicly funded LTC depends on balancing LTC funding policy with economic development, and requires integration of the various LTC system components (hospital, institutions and home care). Future research should focus on economic evaluation and measuring quality outcomes of LTC initiatives.

1

Introduction

According to data from the United Nations, the proportion of the global population aged 65 years and older is projected to grow from 10% in 2022 to 16% in 2050 (1). Because of these rapidly ageing populations, a greater prevalence of long-term conditions such as dementia, gains in life expectancy, changing family dynamics and living arrangements, and projected shortages of paid and unpaid caregivers (2), the demand for long-term care (LTC) services is also increasing. Governments around the world are being challenged to create and adapt public programmes to ensure that older populations can access high-quality LTC services; in recent years, many governments have undertaken reforms to their LTC systems, adopted new policies or introduced pilot programmes.

Among Organisation of Economic Cooperation and Development (OECD) countries, the two main modes of LTC provision are inpatient care in a residential facility or care provided in the patient's home (3). For the purposes of this review, LTC includes service provision (including vouchers or cash-for-care schemes; see Annex 1 for the full LTC search strategy) in the community, such as home care and support, rehabilitative care, palliative care, residential care homes, assisted living facilities, nursing homes and/or any other institutional setting. In most countries, these services comprise a fraction of all health care expenditure (4).

Public LTC expenditure is projected to rise significantly in OECD countries in the coming decades (5). According to the European Commission's most recent Ageing Report (6), LTC spending could almost double across all European Union Member States by 2070. Both public and private funding are used to provide LTC services. The availability of public LTC financing varies by country, as does the extent to which it is available to individuals who require it (7).

In general, systems of public LTC coverage can be grouped into two main types: (i) a universal system and (ii) a means-tested safety-net system. Universal LTC is provided through public social insurance in Germany, Japan, Luxemburg, Netherlands (Kingdom of the) and the Republic of Korea, and/or through general taxation in Denmark, Finland, Norway and Sweden (7). Other Member States, such as the United Kingdom of Great Britain and Northern Ireland (United Kingdom) and the United States of America (USA), rely heavily on a means-tested safety-net system (7). Public funding for means-tested programmes comes from tax revenue and general government budgets, both of which are subject to financial constraints and budgetary shortages (7). In some countries, including Australia, Austria, Canada, France, Greece, Ireland, Italy, New Zealand, Poland, Spain and Switzerland, the two main types are combined (7). In a systematic review, Chen et al. (8) noted that different countries have different public long-term care insurance (LTCI) implementation techniques, and that public LTCI in all countries must continuously adapt to local conditions to function sustainably.

In developing nations, public LTC financing tends to be more limited;

funding for services often comes from private sources, both formal (e.g. out-of-pocket [OOP] expenditure and third-party payments from private LTCI) and informal (e.g. family care, unpaid family labour or volunteer care) sources (9). Private insurers are unable to predict future inflation or increased premiums (10), meaning that the high cost of private LTCI only serves as a supplemental measure (11), even in wealthy countries, and there is little demand for private LTC financing globally (12).

Studies on LTC financing have been conducted in high-, upper-middle-, lower-middle- and low-income countries (13). Researchers have noted the substantial variations in LTC funding approaches and availability between low- and high-income regions and the resulting knowledge gap, as well as the difficulty in finding relevant indicators and measures that can be adapted to different settings. A rapid scoping review identifying several indicators (e.g. OOP expenditure, geographic coverage and proportion of older people receiving LTC) that could be used to measure progress towards universal health coverage (UHC) in the context of population ageing noted that many of these indicators would not be feasible in the context of low- and middle-income countries (14). In a systematic review comparing the measurement of LTC costs between China and other countries, Zeng et al. (15) found that Chinese scholars estimated costs based on a simplified measure of the degree of disability among disabled older adults; in contrast, studies based in European countries and the USA tend to use more comprehensive, nuanced and diversified measures. However, since their implementation in 2016, a body of research has emerged on the LTCI pilot programmes in China. Although rigorous evaluations of these programmes remain limited, Lei et al. (16) note that many “middle-income and developing countries have considered designing and developing a financing system for LTC and can benefit from China’s experience with the LTCI pilots”.

Addressing the needs of the world’s rapidly expanding older population will require a focus on improving the four aspects of LTC service: coverage, quality, financial protection and financial sustainability. However, to the best of the authors’ knowledge, there are no planned or ongoing reviews of initiatives to improve such aspects. The aim of this rapid scoping review is therefore to identify, chart and analyse the literature on recent public initiatives that have been undertaken to improve these four aspects of LTC services. Details of the literature search, data extraction and quality appraisal methods are provided in Chapter 2. The properties of the studies that met the inclusion criteria are described in Chapter 3. In Chapter 4, findings in terms of each of the four individual aspects of LTC services listed above are reported. A discussion of findings is provided in Chapter 5. It is anticipated that the findings of this rapid scoping review will provide guidance on factors that should be considered in health system reform (population age, economic development and policy adaptability) to address the integration of service delivery systems for health care, long-term care and social care.

2

Methods

2.1 Review question and inclusion criteria

This rapid scoping review aims to answer the question: what important initiatives (i.e. programmes, policies or reforms) exist to improve service coverage, quality, financial protection and financial sustainability in the LTC sector for people aged 60 years and older?

Studies were considered for inclusion if they report on initiatives that address: access to and coverage and quality of LTC services, including the managing of activities of daily living (ADLs) and instrumental activities of daily living (IADLs); and financial protection and sustainability, including the ability of recipients of care and their caregivers to access or pay for LTC, and the ability of governments to finance LTC services within a fixed budget. Studies of a technological nature, or describing a medical device or product innovation, were excluded.

Peer-reviewed and grey literature describing LTC initiatives for older adults, defined as those aged 60 years and above, in all settings (e.g. community-based or institutional) and in all countries, were considered. According to the World Health Organization (WHO), LTC is defined as a “continuum of care that is inclusive of prevention, promotion, curative, rehabilitative, palliative and assistive care, and social support” (17). Further, WHO highlights “the importance of coordination across health and social sectors, a seamless transition across settings (home-based, community day care centre, residential facility care), and harmonized management across various care roles (for example, health and care workers, caregivers and family), spanning all levels of intensity of care and providing care in a timely manner” (17).

Any study designs that included an evaluation component were considered for inclusion, including randomized control trials, non-randomized controlled studies, before and after studies, interrupted time-series studies, quasi-experimental studies, qualitative studies, mixed methods studies, economic evaluation and policy analysis. To be considered, studies had to include an evaluation of initiatives and directly address LTC financing. Evaluation of LTC initiatives was broadly interpreted to include, but was not limited to, an assessment of some aspect of LTCI such as impact on medical expenses; health care utilization or institutionalization; or the interaction of LTCI across policy, ageing and economic development. Initiatives or programmes are the umbrella term identified by WHO in relation to LTCI; however, there was variation in the use of terms between countries. Based on initial searches and seed articles, terms commonly used in the literature included initiatives, programmes, policies and reforms, and these terms were therefore included in the searches (along with synonyms and controlled vocabulary) and in this report.

All publication languages were included. Reports written in languages other than English were reviewed by team members

fluent in those languages or else translated for reviewing purposes. The search focused on literature published from 1 January 2017 to 25 August 2022 to capture recent initiatives. To be included, the study had to report on initiatives that either began in 2017 or later, or began before 2017 but were enhanced or evaluated between 2017 and 2022.

2.2 Literature search

This rapid scoping review was conducted in accordance with the JBI methodology for rapid scoping reviews (18) and adhered to the reporting standards outlined in Preferred reporting items for systematic reviews and meta-analyses extension for rapid scoping reviews (PRISMA-ScR) (19). All search strategies are reported in Annex 1 and follow PRISMA-S: an extension to the PRISMA statement for reporting literature searches in systematic reviews (20, *appendix III*). In addition, WHO's guide on rapid reviews (21) was followed to help tailor the rapid review methods to the needs of decision-makers. This review was conducted in accordance with an a priori protocol (22).

After a limited search for seed articles in MEDLINE (Ovid), two librarians created an initial search strategy for MEDLINE (Ovid) that was reviewed by a third librarian using the Peer Review for Electronic Search Strategies (PRESS) guideline (23). A librarian translated the search strategy for CINAHL (EBSCO), Embase (Elsevier) and EconLit (EBSCO). Sources of grey literature included ClinicalTrials.gov, WHO International Clinical Trial Registry Platform, and ProQuest Dissertations and Theses. Canada's Drug and Health Technology Agency Grey Matters database was used to identify additional sources of grey literature under the category of "health economics"; IDEAS/RePEc (Research Papers in Economics) was the only database that had results relevant to the review.

2.3 Study selection

Because of the large volume of results, bibliographic records were identified for screening using the Continuous Active Learning (CAL) tool developed by Cormack and Grossman (24) (see Annex 2), which uses supervised machine learning to rank titles and abstracts from most to least likely to be of interest. The CAL tool was chosen because of its prior successful use by team members in a rapid scoping review on coronavirus disease treatment (25). After the results of the database searches were uploaded to Covidence (Veritas Health Innovation, Melbourne, Australia) to remove duplicates, they were imported into the CAL tool. The CAL tool learns from the results of manual screening by reviewers to identify and rank titles and abstracts most likely to meet the inclusion criteria. For manual screening by reviewers, a screening form (see Annex 3) based on basic eligibility criteria was prepared to enable consistent

judgements on article relevance. A calibration exercise took place, in which team members each screened the same five titles and abstracts against inclusion criteria to ensure the validity of the screening form. Subsequently, title and abstract screening was completed by single reviewers using the CAL tool.

The title and abstract screening took place in three phases. In phase 1, three team members used the same seed text (a simplified version of the MEDLINE search strategy) and screened the first 500 results independently using CAL. In phase 2, all included bibliographic records from phase 1 were used to create a new seed using CAL, and each of the three reviewers screened an additional 500 titles and abstracts. This process was continued iteratively until 100 consecutive titles or abstracts suggested by the CAL tool were manually marked as not meeting the inclusion criteria by reviewers, indicating that further screening would not yield additional relevant titles/abstracts. All results included by at least one team member in phases 1 or 2 were moved to phase 3 of title/abstract screening in Covidence. In phase 3, a more extensive version of the screening tool (see Annex 3) was piloted by reviewers using a random sample of 200 records to ensure validity. All records in phase 3 of title/abstract screening were reviewed by two team members for inclusion in or exclusion from this review. Any disagreement between reviewers was resolved by discussion or by a third reviewer.

Potentially relevant full-text articles identified through title and abstract screening were then screened by two team members following a calibration exercise where all team members screened the same five articles using the full-text screening tool (see Annex 3). All discrepancies were resolved by discussion or by a third reviewer. For conference abstracts that met the inclusion criteria other than publication format, attempts to find a full follow-up report of the study were made. If found, follow-up reports were screened at the full-text level. The results of the search and the screening process are reported in full and presented in a PRISMA 2020 (26) flow diagram (see Annex 4).

2.4 Data extraction

A data extraction form was developed, and the team pilot-tested the form using a random sample of five included reports (see Annex 5 for the finalized data extraction form). Data were extracted on the initiative or intervention, study characteristics (e.g. study design, country of conduct and number of participants), outcomes (i.e. coverage, quality, financial protection and financial sustainability) and, in an attempt to verify the consideration of equity, PROGRESS-Plus (27, 28) study characteristics (i.e. place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, education, socioeconomic status and social capital; as well as age, disability and relationships) were extracted where possible. Reports

written in languages other than English were reviewed by team members fluent in those languages who extracted the relevant data.

2.5 Quality appraisal

An assessment of the quality of the reviewed publications was conducted by one team member and independently verified by a second team member. JBI methodological quality assessment tools (29) were selected based on the designs of included reports, for example, checklists for economic evaluations (30), analytical cross-sectional studies (31) and quasi-experimental studies (32). Two of the included publications were review articles and were appraised using the Health Evidence Quality Assessment tool (33). All discrepancies were resolved by discussion.

2.6 Analysis

JBI procedures (18) were followed for analysis and PRISMA-ScR (19) for reporting. The data underwent descriptive qualitative content analysis, where data were categorized according to a pre-specified framework designed to account for the key outcomes of interest, that is, coverage, quality, financial protection and financial sustainability of LTC services. The characteristics of the reviewed publications, including tabulated author(s), country, initiative, study design, study aim, study population, data sources and quality assessment, are described in Chapter 3. Textual summaries are provided in Chapter 4 for each of the four parts of the review question.

3

Included studies

The search retrieved 72 018 records in total, which included studies identified across five databases and two clinical trial registers (71 981), as well as those identified through websites, follow-up publications to conference abstracts and companion reports (37). From this total 20 252 duplicates were removed, leaving 51 766 records that were screened for eligibility at the title/abstract level; 100 reports subsequently proceeded to full-text screening (Annex 4). From this process, 76 reports were excluded based on inclusion criteria (see the full-text screening tool in Annex 3). A total of 24 publications were therefore included in this rapid scoping review.

3.1 Characteristics

Of the 24 reports (16, 34–56; Table 3.1), 22 were published in peer-reviewed journals (16, 34–37, 39–50, 52–56) and two were grey literature sources (38, 51). Just over half (13) of the reports covered initiatives (programmes, policies or reforms) in China alone (16, 35, 37, 39, 40, 42, 45, 47, 48, 50, 53, 54, 56). The remainder originated in Taiwan, China (34, 36), Netherlands (Kingdom of the) (46), Singapore (49, 55) and the USA (41, 43, 52), and three reports covered multiple countries (38, 44, 51). All 24 reports were published between 2019 and 2022. The studies included for review were of a range of designs, namely quasi-experimental (16, 35, 40, 47, 53, 55, 56), policy analysis or comparison (36, 42, 44, 49, 51, 54), qualitative research (34, 43, 50), comparative case studies (38, 41), cross-sectional studies (37, 39), systematic literature reviews (45, 48), an economic evaluation (46) and a survey (52).

Table 3.1. Characteristics of reviewed publications

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Chiu et al. 2019, Taiwan, China (34)	Qualitative research; LTC 2.0 reform	Indirectly: coverage	To examine the experiences and challenges of integration for LTC 2.0 agencies in Taiwan, China	LTC population: older adults in 20 counties where LTC Plan 2.0 was being piloted in early 2017; study population: six staff of three LTC Plan 2.0 Tier A agencies in north, west and central regions, including chief executive officer, executive director and a case manager Data source: interviews	7/10; medium
Zhang and Yu 2019, China (35)	Quasi-experimental design; LTCl pilot	Indirectly: coverage	To explore outcomes and evaluate performance of an LTCl policy in Chinese pilot cities and assess the willingness of Chinese citizens to expand the formal implementation of LTCl policy	Older adults involved in implementation process of LTCl pilots in 15 cities ($n = 1167$) plus politicians ($n = 5$) Data sources: survey questionnaire; interviews	6/8; medium
Chen and Fu 2020, Taiwan, China (36)	Policy analysis; LTC 2.0 reform	Coverage	To review the development of LTC policies, present strategies for expanding LTC, and outline policy suggestions and implications	Adults aged ≥ 65 years Data sources: policy documents; government data	6/6; high

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Chen et al. 2020, China (37)	Cross-sectional study; LTCl pilot	Financial protection	To evaluate the influence of health insurance and other factors on the availability of LTC services	Those aged ≥ 60 years in China Health and Retirement Longitudinal Study (CHARLS) database in 2015 (CHARLS lists > 17 500 individuals aged ≥ 45 years from 150 districts of 28 provinces; 3945 urban, 3842 rural) Data source: CHARLS database, 2015	6/8; medium
Hashiguchi and Llana-Nozal 2020, 25 of 41 OECD countries and EU Member Statesc (38)	Comparative case study; public social protection systems for LTC	Coverage, financial protection	To provide a novel set of comprehensive and internationally comparable estimates of the adequacy, equity and efficiency of public social protection systems for LTC in old age	Those aged ≥ 65 years Data source: Survey of Health, Ageing and Retirement in Europe, Wave 7	NA
Wu et al. 2020, China (39)	Retrospective cross-sectional study; LTCl pilot	Indirectly: coverage	To evaluate an LTCl pilot by exploring the characteristics and care needs of claimants, and performance of the assessment tool	Claimants ($n = 4810$), individuals who received benefits ($n = 4582$), those aged ≥ 60 years ($n = 4357$), beneficiaries without dementia ($n = 3791$), beneficiaries with dementia ($n = 791$), unsuccessful claimants without dementia ($n = 206$) and unsuccessful claimants with dementia ($n = 22$) Data source: claims data	6/8; medium

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Zhang et al. 2020, China (40)	Quasi-experimental design; LTCI pilot	Financial stability	To examine how the use of formal care impacts the use of informal care in Shanghai, one of China's first long-term insurance pilots in 2016	Families in Shanghai including an older adult (aged ≥ 60 years; $n = 407$) who had used formal care provided by LTCI for 1–3 months and a child who is primarily responsible for daily informal care ($n = 407$) Data source: interview-based surveys	7/9; medium
Beauregard and Miller 2021, USA (41)	Comparative case study (qualitative); Community First Choice	Financial stability	To understand state processes related to the adoption of the Medicaid Community First Choice programme and to identify factors that influenced the decisions of states	LTC population: Medicaid-eligible older adults in Texas, Oklahoma, Maryland and nationally; study population: 46 individuals (federal and state bureaucrats, consumer and provider advocacy groups, consultants and policy experts; 14, 14, 9 and 9 from Maryland, Texas, Oklahoma and nationally, respectively) Data source: interviews	6/10; medium

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Feng et al. 2021, China (42)	Policy analysis; LTCI pilot	Indirectly: coverage, financial protection, financial stability	To provide a timely review and assessment of China's ongoing LTCI programmes across the initial 15 pilot cities (focus on synthesizing key LTCI programme features across all pilot sites, not on profiling and analysing individual pilots in depth)	People aged > 60 years living in one of the 15 pilot cities and meeting eligibility requirement for LTCI pilot Data sources: policy documents; published research articles; grey literature; LTCI policy database, School of Public Health, Peking University	6/6; high
Koumoutzis et al. 2021, USA (43)	Qualitative research; local initiatives to fund social care services	Indirectly: coverage	To examine how communities across the nation are utilizing local funding streams to support ageing services	LTC population: those aged ≥ 60 years; study population: not reported Data sources: 2019 Advancing States national survey of State Units on Aging; telephone interview (State Units on Aging, Area Agencies on Aging, secretary of state's offices, county clerk's offices and other officials involved in local funding efforts); web searches	5/10; medium

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Noda et al. 2021, China, Indonesia, Japan, Philippines, Thailand, Republic of Korea (44)	Policy comparison; health care service delivery reform policies for the ageing	Indirectly: financial stability	To compare health care service delivery reform policies for older adults	LTC population: older adults in all six countries; study population: health officials of provincial health and welfare departments, and service providers such as doctors and LTC providers (no sample size reported) Data sources: document reviews; interviews with key informants	6/10; medium
Zhou and Dai 2021, China (45)	Systematic literature review of LTC policies; LTCI pilot	Coverage, financial stability	To review and assess the performance and effectiveness of the LTCI policy regime in China	Older adults in the 15 pilot cities Data source: policy documents from the 15 pilot cities	7/10; medium
Alders and Schut 2022, Netherlands (Kingdom of the) (46)	Economic evaluation; LTCI reform	Financial stability	To determine whether municipalities with a low solvency rate (< 20%) were more likely to engage in strategic cost shifting, and if this resulted in an overall upwards trend in admission rates to LTC services covered by public LTC services	People aged ≥ 65 years in Netherlands (Kingdom of the); data from 327 of 355 municipalities from 2014–2019 Data sources: Monitor Long-term Care (Monitor Langdurige Zorg, online dashboard by the Ministry of the Interior); Statistics Netherlands	6/11; medium
Chen and Ning 2022, China (47)	Quasi-experimental design; LTCI pilot	Financial protection	To examine the policy treatment effect of LTCI on health care utilization and OOP health expenditure in China	Participants in CHARLS (<i>n</i> = 313 in treatment group; <i>n</i> = 67 640 in control non-treated group) Data source: CHARLS database, 2018	9/9; high

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Dai et al. 2022, China (48)	Systematic literature review of LTC policies and implementation; LTCI pilot	Coverage Indirectly: financial stability	To examine an LTCI pilot in China and compare it with other LTCI programmes in Germany, Japan and Republic of Korea through a systematic literature review	Adults in 15 pilot cities in China Data sources: national and local government websites; China National Knowledge Infrastructure; Baidu Scholar; international databases; policy documents in the 15 initial pilot cities	8/10; high
Fong and Borowski 2022, Singapore (49)	Policy analysis; CareShield Life LTCI	Coverage, financial protection, financial stability	To analyse the 2019 long-term care social insurance programme, including successes and challenges, goals, design, features, financing arrangements and initial assessment	Those aged ≥ 30 years Data source: not reported (reference list includes government documents and websites)	6/6; high
Han and Shen 2022, China (50)	Qualitative research; LTCI pilot	Coverage, quality, financial protection, financial stability	To explore the common problems in policy practices and provide recommendations for further expansion of the LTCI pilot	LTC population: those aged ≥ 60 years; study population: 10 pilot participants (including four managers, two caregivers, a medical staff member and three older adults with disabilities) Data source: in-depth interviews	8/10; high
Kotschy and Bloom 2022, Germany, Israel, Japan, Netherlands (Kingdom of the), Republic of Korea (51)	Policy analysis; LTC systems comparison	Quality, financial protection	To investigate the LTC challenges of population ageing	Those aged ≥ 65 years Data sources: Survey of Health, Ageing and Retirement in Europe, Waves 7 and 8; Health and Retirement Study (HRS), Wave 13; English Longitudinal Study of Ageing (ELSA), Wave 8	NA

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Koumoutzis et al. 2022, USA (52)	Survey; community LTC initiatives to support ageing	Indirectly: coverage	To study community initiatives to provide services to older adults through locally generated tax revenues and provide insight into their caregiver support efforts	LTC population: those aged ≥ 65 years in USA; study population: representatives from 228 organizations delivering LTC services across 15 states Data sources: Phase 1: 2019 Advancing States national survey of State Units on Aging; telephone interviews (State Units on Aging, Area Agencies on Aging, ageing services providers, county auditor offices and Secretary of State offices); online reviews and web searches. Phase 2: Qualtrics survey of local funding organizations	7/8; high
Lei et al. 2022, China (16)	Quasi-experimental design; LTCI pilot	Coverage, financial protection	To evaluate the impact of LTCI on the covered populations in the pilots in different cities in 2015–2017, and to study various outcomes (including older adults' ADL-related need for care, family burden, medical expenditure and health outcomes) among covered older adults and their families	Those aged ≥ 65 years from 152 cities ($n = 3423$: 187 treated and 3236 controls) Data source: Chinese Longitudinal Healthy Longevity Survey	9/9; high

Author/year, country, reference	Study design and specific initiative	Part(s) of review question addressed	Aim	Study population and data source(s)	Quality assessment score ^a and classification ^b
Liu and Hu 2022, China (53)	Quasi-experimental design; LTCI pilot	Indirectly: coverage	To investigate the impact of the policy pilot on the income fairness of the group system, and to comprehensively analyse the institutional effect of the LTCI policy pilot	Those aged ≥ 60 years and living in one of the 15 LTCI pilot areas ($n = 25\,063$) included in CHARLS Data source: CHARLS database, 2013, 2015, 2018 (valid samples with a 3-year period)	9/9; high
Peng et al. 2022, China (54)	Policy analysis; LTCI pilot	Coverage, financial stability	To assess the sustainability of the LTCI system in China using the policy modelling consistency index	Population of 14 pilot cities in China Data sources: policy documents; China Statistical Yearbook 2020; the China City Statistical Yearbook; the Chinese National Economy and Social Development Statistics Bulletin	NA
Sum et al. 2022, Singapore (55)	Quasi-experimental design; Integrated Patient-Centred Medical Home model	Financial protection	To address gaps in the literature on the evaluation of costs associated with the implementation of an integrated model for community-dwelling older adults with complex needs	Patients with high biopsychosocial health risk aged ≥ 40 years who resided in Whampoa ($n = 165$) Data source: Client Service Receipt Inventory survey	8/9; high
Tang et al. 2022, China (56)	Quasi-experimental design; LTCI pilot	Financial protection	To evaluate the implementation effect of an LTCI policy, and its impact on the medical expenses and health status of the middle-aged and older population	Families with middle-aged (≥ 45 years) members and older in any of the 12 cities included in the CHARLS database ($n = 42\,591$) Data source: CHARLS database	7/9; medium

ADL: activities of daily living; CHARLS: China Health and Retirement Longitudinal Study; EU: European Union; LTC: long-term care; LTCI: long-term care insurance; NA: not assessed; OECD: Organisation for Economic Cooperation and Development; USA: United States of America.

- ^a Quality assessment score determined using JBI (29, 31, 32) and Health Evidence Quality Assessment (33) tools and other methods (30, 57, 58).
 - ^b Classification determined according to quality assessment score: 80–100%: high; 50–79%: medium; and < 50%: low.
 - ^c Austria, Belgium, Canada, Croatia, Czechia, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Netherlands (Kingdom of the), United Kingdom, USA.
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The LTC initiatives described in the literature include 13 publications on LTCI pilots in China (16, 35, 37, 39, 40, 42, 45, 47, 48, 50, 53, 54, 56); two publications on LTC 2.0 reform in Taiwan, China (34, 36); and a single publication on each of CareShield Life LTCI in Singapore (49), Integrated Patient-Centred Medical Home model in Singapore (55), the Community First Choice programme in the USA (41) and LTC reform in Netherlands (Kingdom of the) (46). Five reports covered multiple initiatives in various countries (38, 44, 51) or states (43, 52).

Data sources are varied, and most of the reports use existing data. Existing sources of data include the China Health and Retirement Longitudinal Study (CHARLS) database (37, 47, 53, 56); the Survey of Health, Ageing and Retirement in Europe (SHARE) Wave 7 (38, 46) and Wave 8 (46); United States Health and Retirement Study (HRS) Wave 13 (51); English Longitudinal Study of Ageing (ELSA) Wave 8 (51); and the Chinese Longitudinal Healthy Longevity Survey (CLHLS) (16). Other sources of data include policy documents (36, 42, 44, 45, 48, 54), interviews (34, 35, 40, 41, 44, 50), government websites and data (36, 46, 48, 52, 54), and surveys (35, 43, 52, 55).

Population is a complex concept for the included literature, which represents a variety of approaches. Because of the study design of a number of the publications, the population of interest (older adults requiring LTC services) was separate from the population under study. For example, in their aim to understand state processes related to the adoption of the Medicaid Community First Choice programme, Beauregard and Miller (41) conducted interviews with 46 individuals including bureaucrats, consumer and provider advocacy groups, consultants and policy experts. In these cases, both an LTC population (in the previous example, Medicaid-eligible older adults in the USA) and a separate study population (see Table 3.1) were identified. Of the 24 included reports, six (34, 41, 43, 44, 50, 52) were identified as having both an LTC population and a study population. Of the remaining 18 reports, nine (16, 35, 37, 39, 40, 47, 53, 55, 56) identified a specific LTC population under study. For example, Zhang et al. (40) identified their study population as families in Shanghai that included an older adult aged 60 years or older who had used formal care provided by LTCI for 1–3 months, as well as a child who is primarily responsible for daily unpaid care (no. care recipients, 407; no. caregivers, 407). The remaining nine (36, 38, 42, 45, 46, 48, 49, 51, 54) reports did not identify a specific population, instead focusing on the general LTC population in a certain country or group of countries. For example, Kotschy and Bloom (51) conducted a policy analysis affecting adults aged 65 years and older in Germany, Israel, Japan, Netherlands (Kingdom of the) and the Republic of Korea. Of the publications that did not identify a specific population, five are policy analyses (36, 42, 49, 51, 54) and two are systematic reviews (45, 48); the remaining studies are of a comparative case study (38) and economic evaluation (46) design.

3.2 Equity

The original proposal for this rapid scoping review included the intention to conduct data extraction concerning equity measures taken by authors of included reports. The proposed mechanisms to guide extraction of these data are PROGRESS-Plus (27, 28) variables (see Section 2.4 for definition) and Sex and Gender Equity in Research (SAGER) guidelines (59). The SAGER guidelines require that data reporting on males and females adequately represents both groups. Additionally, researchers/authors need to discuss study implications related to sex and gender and how they affect study results.

Although the term gender was used regularly in the reviewed literature, only the sex of study participants (i.e. whether men or women) was reported. Place of residence was occasionally unclear. Education level and socioeconomic status were reported based on the study design and variables included. One third of the reviewed publications (16, 35, 37, 40, 47, 53, 55, 56) reported social capital in terms of marital status and number of children. Disability was discussed across the data because eligibility for LTC was decided based on disability (usually severe). Levels of disability were reported in six publications (39, 46, 47, 53, 55, 56). Discussion relating the characteristics to study results or findings was limited. Absent from the publications are any data describing race, occupation or religion, as well as the identification of any gender minority groups.

Two (38, 53) out of the 24 publications considered equity as central to their analysis. In an OECD working paper, Hashiguchi and Llena-Nozal (38) focused on the effectiveness of social protection for LTC for those aged 65 years and older, drawing attention to the importance of equity in adequately protecting the most vulnerable. Means tests are noted as an approach to levelling access to LTC benefits, and are common across OECD and subnational areas. These tests can be income-based, asset-based or both, and it is recommended they be designed "with thresholds that target the most vulnerable" (33). The authors conclude that most countries provide limited support to the economically vulnerable. Many older people must sell their homes to afford the care they need but are not eligible for, and women are more vulnerable to experiencing poverty because of inequity in income between men and women.

Liu and Hu (53) conducted a quasi-experimental retrospective difference-in-differences study using CHARLS data from 12 pilot cities to measure health security equity of the treated and untreated. The study population included people aged 60 years and older ($n = 25\ 063$). Equity considerations included the equal distribution of male and female populations, education level, family income and individual residence. Outcome measures were equity of medical expenses and the health status of the older people. The treated

group included those in the pilot cities, and the untreated group were located outside these areas. Inequality was measured using the concentration index (CI) and the Theil index (TI). CI reports the proportion of people with specific income levels, while TI measures income inequality between individuals or regions. Liu and Hu (53) found that the self-rated health gap is widening between rural and urban (self-reported health 3.143 versus 2.946). By restricting the pilot studies to certain cities, only urban residents were included. Urban older people report poorer health, have a higher number of serious diseases, receive diagnoses of severe disease later than urban dwellers and have a lower number of annual physical examinations than younger urban dwellers. In terms of medical expenses, LTCI significantly reduces outpatient and inpatient expenses of older people, and reimbursement expenses have increased for both; however, in the treated group, there was a significant difference (-0.0083) in reimbursement rates for urban inpatients compared with rural patients. Other equity-related results included the positive LTCI effect on the inequality of economic distribution (mean self-rated health 0.0826; P -value = 0.4275). The CI of the treated group was negative, indicating a positive distribution effect: people of lower income are receiving better outpatient management than those in higher-income groups. The TI of outpatient reimbursement in the treated group is much lower than in the untreated group, indicating fairness in the outpatient treatment of older people. The authors concluded that the pilot interventions are contributing to an improvement in the provision of LTC, and suggest modifications to: link the basic medical insurance system with other social security systems; extend benefits beyond the severely physically impaired; include rural populations in LTCI schemes; and enhance the availability of LTC services in rural areas.

3.3 Quality assessment

Twenty-one out of 24 reports underwent quality assessment (see Table 3.1). JBI critical appraisal tools (29) were used to assess the quality of 19 reviewed publications, and the health evidence quality assessment tool (33) was used to appraise two systematic reviews (45, 48). Five JBI appraisal tools were used: quasi-experimental (32) (nine items or questions), analytical cross-sectional (31) (eight items), qualitative (58) (10 items), economic evaluation (30) (11 items), and text and opinion (59) (six items).

Two systematic reviews (45, 48) were included in the quality assessment because data were generated within the past 5 years, the focus of the reviews was LTCI in China and the data sources included government policy documents. These reviews were assessed using the health evidence quality assessment tool (33) (10 items) with scores of 7/10 and 8/10, respectively.

The quality of three included reports was not assessed. Hashiguchi and Llana-Nozal (38) published an OECD document where they

report on the effectiveness of social protection in old age. It was not possible to conduct a quality assessment appraisal because no methods (only results) are reported. Kotschy and Bloom (51) published a working paper they describe as a comparative perspective in which they estimate prospectively the demand for LTC in 30 countries, outline challenges facing care systems and offer solutions comparing five systems. This study was not critically appraised because the comparative–perspective approach the authors use is not adequately addressed by critical appraisal tools. Peng et al. (54) analysed 76 LTCL policy documents issued in China between 2016 and 2021 across 14 pilot cities. These authors used the policy modelling consistency index (PMCI) to conduct the work, applying the index to the nine main variables representing the dimensions of the LTCL policy; because the PMCI is itself regarded as an analytical tool, a quality assessment could not be conducted.

4

Results

The review question (what important initiatives address LTC coverage, quality, financial protection and financial sustainability?) is addressed by outcome, and results are divided between the four sections of this chapter.

4.1 Coverage

According to WHO, service coverage “should go beyond facility care towards considering the type of services (whether cash benefits, community services in kind, day care or residential facility care) and their intensity (the amount of care provided per user in a set period of time)”. Further, the latter “should be based on evidence on the efficacy of each type of care and the individual’s level of need or functional ability” (17). Coverage of services can be through the means of insurance, and expanding insurance coverage to LTC is one means of achieving service coverage.

One third of the reviewed publications (16, 36, 38, 45, 48–50, 54) directly addressed LTCI coverage, and an additional seven (34, 35, 39, 42, 43, 52, 53) provided some information related to coverage while focusing on another aspect. Thirteen of the 15 reports that addressed coverage directly or indirectly underwent quality assessment: eight were categorized as being of high quality (16, 36, 42, 48–50, 52, 53) and five as medium quality (34, 35, 39, 43, 45) (see Table 3.1). It was not possible to assess two of the publications (38, 54) for quality; see Section 3.3 for details.

4.1.1 LTCI pilots, China

Nine of the publications that addressed LTC coverage directly (16, 45, 48, 50, 54) and indirectly (35, 39, 42, 53) were based in China and focused on LTCI pilots. China has had near-universal health insurance coverage since 2011 through three social health schemes: the Urban Employee Basic Medical Insurance (UEBMI), the Urban Resident Basic Medical Insurance (URBMI) and the New Rural Cooperative Medical Scheme (NRCMS) for rural residents. None of these medical insurance schemes incorporate LTC coverage, however. China recognized the demand for such services in 2016 to care for the ageing population, and LTCI pilots in 16 cities across the country were introduced to learn and plan how best to deliver LTC. Published studies on the LTCI pilots are briefly described and coverage results reported.

Lei et al. (16) evaluated the impact of the LTCI pilots on the covered population using 2018 CLHLS data. Although all cities provided LTCI coverage for UEBMI employees and retirees, two cities also provided coverage for URBMI residents and five cities provided coverage for both urban and rural residents of URBMI. Eligibility assessment by the Barthel index (with acknowledgment of the index limitations) is

required and, in most cities, only the severely disabled qualified. Three cities (Nantong, Qingdao and Suzhou) extended LTCI coverage to individuals with mild or moderate disabilities. Types of care settings covered included home, institution and hospital. The study population consisted of individuals who were eligible for LTCI coverage (treatment group, $n = 187$) and those who were not (control group, $n = 3236$). LTCI was significantly associated with reductions in the likelihood of having unmet care needs (assistance required with ADLs, i.e. toileting, dressing, bathing, feeding, mobility, stairs, transfers) by 8.7%; the required number of hours of informal care (number of hours a week that family helped) by 46.9%; and ADL-related care expenditure (number of hours of paid care per week for assistance with ADLs) by 45.2%. One additional year of coverage (providing services for assistance with ADLs and IADLs on an ongoing basis) decreased the likelihood of unmet care needs by 2.8%, decreased informal care hours by 16.5%, decreased care expenditure by 13.2%, decreased OOP costs by 23.5%, increased self-reported good health by 10.0% and reduced symptoms of depression by 6.0%. LTCI coverage was marginally significant for mortality (decreased risk by 15.0%). Researchers also examined coverage in relation to income, and found that it had a greater impact for lower-income older adults and those who qualified with moderate disability or dementia.

Zhou and Dai (45) conducted a systematic review of policy documents developed across 15 pilot cities to describe the components of LTC delivery. Coverage was one component addressed, and varied from 8/15 cities providing limited or low coverage (institutional or hospital care only) for urban employees, to 1/15 providing medium coverage for urban employees and residents, to 6/15 cities providing high coverage (institutional, hospital, community and in-home care) for urban employees and urban and rural residents. Only small groups with numerous disabilities qualified. The authors concluded that LTCI coverage is dependent upon type of residence (LTCI is usually limited to urban residents) and income (urban residents usually of higher income than rural residents).

Dai et al. (48) systematically reviewed the design and key elements of the first 15 LTCI pilot initiatives in the Chinese cities of Anqing, Changchun, Chengde, Chengdu, Chongqing, Guangzhou, Jingmen, Nantong, Ningbo, Qingdao, Qiqihar, Shanghai, Shangrao, Shihezi and Suzhou, and compared these with LTC programmes in Germany, Japan and the Republic of Korea. Data were extracted from government documents and journal articles related to the pilots. One key element examined was coverage, and differences were revealed across the pilot cities. In seven cities coverage is provided to UEBMI participants only. Of the remaining cities, Changchun and Nantong cover both urban and non-employees of UEBMI and URBMI; Shanghai covers urban employees registered with UEBMI, as well as rural and urban residents aged 60 years and older registered with

URBMI and NRCMS; and Jingmen, Qingdao, Shangrao, Shihezi and Suzhou cover all rural and urban participants in all three insurance schemes. In comparison, the authors report that Germany provides coverage for participants of public health insurance (mandatory for all), Japan provides coverage for all residents aged 65 years and older (as well as those aged 40–64 years with age-related diseases), and the Republic of Korea covers participants of National Health Insurance.

Han and Shen (50) conducted a qualitative descriptive study to report on LTCI pilots in four cities in north-east China. Interviews were conducted with severely disabled LTC recipients, administrators, caregivers and medical staff in four nursing homes, as well as health insurance bureau staff. The researchers reported that coverage is limited and determined by geography, occupation and disability status. Policy in most pilot cities requires that to be eligible a person must be registered with UEBMI and be an urban employee or retiree. There are limited exceptions in some cities where both urban and rural residents covered by UEBMI may be eligible for LTC. Overall, the expansion of the pilot to these cities did not expand coverage. Eligibility is also subject to an assessment of disability, and only the most disabled qualify. In six of the pilot cities, care is provided to people with dementia.

Peng et al. (54) examined the LTCI pilots in China using the PMCI. The index was applied to the nine main variables representing the dimensions of the LTC policy (function, scheme, coverage, funding source, care setting, care service, LTC institution, payment method and benefit eligibility) and 36 sub-variables. Examples of sub-variables under population coverage are urban employees, urban and rural residents, and urban residents; examples under care setting are health care facility, community, residential care facility and home. The PMCI ranking in relation to coverage varied widely across 14 pilot cities, ranging from 0.527 to 0.850. Three cities had indices > 0.8: Qingdao (0.850), Nantong (0.838) and Shanghai (0.800). The lowest four (< 0.6) were Anqing (0.593), Qiqihar (0.568), Chongqing (0.567) and Changchun (0.527). To assess the sustainability of the LTC pilot system, a coupling coordination equation was applied to measure the coordination degree between LTCI policy, population ageing and economic development, with a higher degree indicating better overall coordination among the three key considerations. The degree of coordination was categorized as follows: 0.9 or above (excellent), 0.8–0.9 (good), 0.6–0.8 (basic), 0.4–0.6 (low) and 0.4 or lower (no coordination). Values for coupling coordination ranged from 0.418 to 0.903, with a mean of 0.636. Shanghai, with a coupling coordination of 0.903, achieved an excellent categorization; Nantong achieved good coordination (0.812) and the remaining cities achieved coordination degrees of 0.6–0.8. Results indicate a weakness with insurance coverage. Cities with the best coverage were among the earliest pilots, and have developed their policy documents with a gradual expansion of

coverage. Tension exists around LTC coverage among those who believe the entire population should be covered; however, the increased demand for service means that complete coverage would not be sustainable.

Finally, several of the reviewed publications addressed LTC coverage indirectly. Zhang and Yu (35) evaluated the outcomes of the LTCI policy via survey, finding a high level of citizen satisfaction (72.2%). Included in the evaluation was a statement on the extent of coverage as of June 2018: 57 million people were covered, 184 500 of these receiving benefits. Wu et al. (39) conducted a retrospective cross-sectional study of claims data in one pilot city (Guangzhou) to determine the characteristics and care needs of claimants. Authors concluded that eligibility needed to be expanded, noting coverage at the time of the study was limited to UEBMI employees with a plan to gradually cover rural residents. This pilot city was only one of three that expanded coverage to people with dementia. Feng et al. (42) reported that the pilot cities largely restricted coverage to UEBMI employees, and specifically those with the most severe disabilities. Over time, some pilot cities expanded coverage to those registered with URBMI and NRCMS schemes. Coverage was deemed inequitable across pilot cities. Despite expanding coverage via the LTCI pilots, coverage depth (i.e. range and volume of services) has not grown. Liu and Hu (53) conducted a quasi-experimental retrospective difference-in-differences study of CHARLS data from 12 pilot cities to measure health security equity of the treated and untreated. Outcome measures were equity of medical expenses and the health status of older people. Coverage was indirectly addressed by reporting that none of the pilot areas have achieved full coverage of urban and rural residents.

4.1.2 CareShield Life, Singapore

In 2019 Singapore passed a law mandating LTC social insurance. Fong and Borowski (49) provide an overview of this law that was mandated for residents aged 30 years and older, a mandatory social insurance scheme covering citizens and permanent residents born on or after 1 January 1980. The entry age is set at 30 years. Coverage is provided for those with severe ADL disabilities and the economically disadvantaged. Eligibility is determined by disability assessment. The overall assessment of this social insurance is that benefits are modest and that CareShield contains elements of universalism, redistribution and collective responsibility ("the assumption of responsibility by the government for the well-being of the citizenry").

CareShield Life provides lifetime coverage, a claim can be made at any age, premiums stop at the age of 67 years and benefits increase annually at a rate of 2% for the first 5 years, with subsequent rates to be determined. The later a claim is made, the higher the monthly pay-out. For example, if a claim is made before the age of 31 years

the monthly pay-out is 600 Singapore dollars (S\$) (1 United States dollar [US\$] = 1.344 S\$ as at 15 December 2022); at age 55 years it is S\$ 1000 and at age 67 years and older it is S\$ 1200. The scheme is financed via government subsidies, cash benefits and premium contributions. Joining the scheme at the age of 30 years costs S\$ 200/month for men and S\$ 250/month for women (who have longer life expectancies); this cost increases with age to contributions representing approximately 20% of monthly wages by an employee and 17% by the employer. A single criterion determines eligibility (disability in performing at least three ADLs), and an assessment by an employee of the Ministry of Health is required. Historic data on premiums and expenditure indicate sustainability; however, rising demand and the uncertain economic future pose potential threats.

4.1.3 LTC 2.0, Taiwan, China

The 2016 expansion of the publicly funded LTC initiative LTC 2.0 in Taiwan, China was reviewed by Chiu et al. (34) and Chen and Fu (36).

Chiu et al. (34) qualitatively examined the challenges associated with the implementation of the LTC 2.0 plan, providing information on LTC coverage indirectly. Interviews were conducted with three chief executive officers and three case managers, and findings revealed that integration across agencies and government is essential to the smooth delivery of LTC services.

Chen and Fu (36) found that coverage is directed towards funding ageing in place, and that institutional care is not included in the initiative. Eligible populations include people aged 65 years and older with ADL limitations as well as frailty, and people with dementia aged 50 years and older. Eligibility criteria are determined by assessing ADL, IADL, cognition, behavioural changes, rehabilitation, home situation and caregiver stress. LTC also includes health prevention and supportive community services. The authors suggested that LTC 2.0 may be instructive for countries wishing to expand their services, and outlined the programme's successful features: expanded coverage through the reduction of co-payments from 30% to 16% (waived for low-income users); a simplified contract system for service providers, allowing all organizations to provide services and therefore increasing care availability; modified care worker service fees from a salary with a maximum number of hours per job to allowing workers to work the hours they wish, thereby increasing their income; the expansion of care to rural areas by government subsidies to service providers; the establishment of family caregiver support centres, as well as dementia support centres for rapid diagnosis and access to services; and the addition of prevention services in the form of community care stations offering healthy living programmes focused on exercise and health self-management.

4.1.4 Social protection systems for LTC, multi-country

An OECD working paper by Hashiguchi and Llena-Nozal (38) reports on the effectiveness of social protection for LTC in those aged 65 years and older in 25 out of 41 OECD countries and subnational areas. In examining social protection in LTC, the authors also addressed coverage, specifically the extent to which LTC systems provide public social protection insurance coverage. For individuals assessed to have moderate needs, less than 50% of the population is covered in six countries/subnational areas, 60–90% is covered in 12 countries/subnational areas and there is above 90% coverage in six countries/subnational areas. For individuals with more complex needs, coverage exceeds 90% in eight countries/subnational areas and is below 50% in four countries and subnational areas.

4.1.5 Community First Choice, USA

Koumoutzis et al. (43) conducted an exploratory study across 50 states to find information on locally funded ageing services programmes; they identified 15 states with such programmes. In establishing the rationale for the study, the authors reported the gap in service coverage as considerable.

Koumoutzis et al. (52) also conducted surveys to examine local LTC initiatives to support ageing in the USA. The purpose of gathering this information was to obtain a sense of the availability of local initiatives to support ageing, as the USA Medicaid-driven Long-Term Services and Supports excludes many older people with a disability, and only 11% of older adults are eligible for Medicaid. Communities therefore continuously fundraise to provide ageing services for older people who do not qualify for Medicaid and who cannot afford to purchase services.

4.2 Quality

Quality in LTC services is defined as the quality of care monitored through the following indicators: effectiveness, efficiency, accessibility, timeliness, patient-centredness, acceptableness, safety and equity (17). Out of the 24 reviewed publications, only two (8.3%) (50, 51) addressed quality. It was not possible to assess the publication by Kotschy and Bloom (51) for quality (see Section 3.3), but the publication by Han and Shen (50) was assessed as being of high quality (see Table 3.1).

4.2.1 LTC pilots, China

As described in Section 4.1.1 above, Han and Shen (50) conducted a qualitative descriptive study to report on LTCI pilots in four cities in north-east China. They reported that caregiving teams were unable to meet the demands of LTC for the disabled, both in terms of quantity and quality. Care teams were described as older and with a low level of education. One study participant recounted: "We have

over 20 caregivers, each working 12 hours per shift. There are really too few caregivers and too much turnover. The work is tiring and the money is low, so no one wants to be a caregiver anymore. We have been having various training, but after the state abolished the nursing caregiver qualification last year, it is not clear how to go next.”

4.2.2 CareShield Life, Singapore

Kotschy and Bloom (51) analysed United Nations data for percentages of people aged 65 and 80 years and older with two or more limitations in ADLs and IADLs. From 2020 to 2040, the proportion of the population aged 65 and 80 years and older is projected to rise from 19.6% to 27.7% and from 5.2% to 8.8%, respectively, with a projected increase in care demand of 47%. The authors found considerable heterogeneity in ageing across countries, with more rapid ageing occurring in Greece, Italy and Spain and less rapid ageing in Denmark, Finland and Sweden.

Part two of the Kotschy and Bloom study examined the literature on challenges facing LTC systems, specifically in relation to human resources, access to care, and the balance between cost and quality. To estimate the prospective demand for LTC, as well as system challenges and potential solutions, the authors compared five LTC systems in Germany, Israel, Japan, Netherlands (Kingdom of the) and the Republic of Korea. These authors determined disability and future needs for LTC by constructing measures from limitations in ADLs and IADLs, available from SHARE, HRS and ELSA databases. Human resources growth in LTC has stalled in most OECD countries, training opportunities for care workers are limited and competency in geriatric care in nurses is limited. Access to care is determined through eligibility criteria that are built into LTC programmes. Quality is determined by the balance achieved across human resource competency, equitable access and care cost.

4.3 Financial protection

Financial protection via UHC is a WHO sustainable development goal (60). According to WHO, “financial protection is achieved when direct payments made to obtain health services do not expose people to financial hardship and do not threaten living standards” (61). Nine of the reviewed publications (16, 37, 38, 47, 49, 50, 51, 55, 56) directly address financial protection, two of which are focused on OOP expenses. The report by Feng et al. (42) that focuses on LTC services coverage (see Section 4.1.1) also discusses financial protection. Eight of these 10 reviewed publications underwent a quality assessment (see Table 3.1): six (16, 42, 47, 49, 50, 55) were considered to be of high quality and two (37, 56) of medium quality. It was not possible to assess two of the publications (38, 51) for quality; see Section 3.3 for details.

4.3.1 LTC pilots, China

As described in Section 4.1.1 above, Lei et al. (16) evaluated the impact of the LTCI pilots on the OOP medical expenditure of the covered population. The authors concluded that, for each additional year of LTCI coverage (providing services for assistance with ADLs and IADLs on an ongoing basis), OOP medical expenses for the institutionalized were reduced by 23.5%. The authors suggest that these reductions in medical expenditure coupled with LTCI “can enable older adults to substitute less expensive home care for institutional care”. Alternatively, Feng et al. (42) reported that, since existing medical schemes are being used to finance the pilots, the shifting of institutional medical funds to home-based LTCI could drive up inpatient OOP costs for URBMI and NRCMS residents to make up for lost revenue.

Chen et al. (37) conducted a quasi-experimental study to explore the relationship between LTCI and LTC services among older people with a disability, by performing a logistic regression of data from the CHARLS database. Results demonstrated that approximately 80% of this age group rely on family members as caregivers, and LTCI coverage significantly influenced the availability of LTC services in both rural and urban areas (P -value < 0.001). The authors recommend the continued development of LTCI services as well as the integration of services across government departments.

Using a quasi-experimental study design and 2018 data from the CHARLS database, Chen and Ning (47) examined the effect of the LTCI pilot initiative on OOP health expenditure. The study population included a treatment ($n = 313$, Jingmen and Qingdao) and a control ($n = 67\,640$) group. LTCI significantly reduced inpatient OOP expenditure by 533 Chinese yuan (US\$ 1 = 6.94 Chinese yuan as at 15 December 2022) but not outpatient OOP. Individuals reporting fair health were more likely to access services and had higher OOP expenditure compared with those with poor health. The reason for the latter is unclear, but may be related to the delay in seeking health services among those with lower socioeconomic status. Independent older people were less likely to use either inpatient or outpatient services, resulting in lower OOP expenditure. The authors suggest the need for further expansion of home care and LTCI to support these services.

As described in Section 4.1.1 above, Han and Shen (50) conducted a qualitative descriptive study to report on LTCI pilots in four cities in north-east China. Their findings revealed that the LTCI pilots do not financially protect all members of society, such as rural residents, migrant workers and employees in new areas of employment. Across pilots, funding eligibility criteria vary with geography, occupation and age. LTC institutions continue to offer greater financial protection than home care, limiting the expansion of home care services. The authors suggest that to approximate a universal care insurance system, moderate protection for the entire population is

necessary and must incorporate those with dementia, the variously abled and the terminally ill.

Using a quasi-experimental study design, Tang et al. (56) evaluated the implementation effect of the LTCI pilots on the medical expenses of the middle-aged (45–59 years) and older (≥ 60 years) populations. The authors found that after implementing the LTCI policy, medical services utilization and consumption decreased in pilot cities. Both outpatient and inpatient expenses and frequency of medical services utilization decreased with the reform: mean outpatient and inpatient expenses fell from 274 to 189 Chinese yuan (significant at the 1% level) and from 1612 to 1278 Chinese yuan (significant at the 1% level), respectively (US\$ 1 = 6.94 Chinese yuan as at 15 December 2022); and mean outpatient and inpatient frequency fell from 0.3218 to 0.2278 (significant at the 5% level) and from 0.1361 to 0.1026 (significant at the 1% level), respectively. In the cities not included in the LTCI pilots, statistical results demonstrated that medical expenses increased for both outpatients and inpatients, and the frequency of medical services utilization (especially for inpatients) also increased. Compared with those in non-trial cities, the implementation of LTCI has reduced outpatient expenses by 22.82% and frequency by 0.1689 per year. The inpatient expenses and frequency in the trial cities have been reduced by 19.8% and 0.1093, respectively. These reductions in medical expenses and medical system utilization in the presence of LTCI hold promise for more optimal use of the medical system, support for LTCI and thus a strategic shifting of the costs from medical to social care.

4.3.2 CareShield Life, Singapore

As reported in Section 4.1.2, Fong and Borowski (49) provide an overview of Singapore's mandated government-administered CareShield Life as an example of a universally publicly funded LTC scheme that recognizes the importance of protection accorded to an entire population. Although the scheme is described as providing good basic LTC care needs protection, there is an expectation that over time the depth of the protection will develop based on need.

4.3.3 Social protection systems for LTC, multi-country

As described in Section 4.1.4 above, an OECD working paper by Hashiguchi and Llana-Nozal (38) reports on the effectiveness of social protection for LTC in those aged 65 years and older in 25 out of 41 OECD countries and subnational areas. Specifically, they examined the effectiveness of social protection for LTC of older people with a focus on affordability, equity and efficiency. The report contains the results of the study effectiveness, but not the details of the method. Although these authors use the term "social protection" throughout the report, it is believed that the evidence and information provided about LTC represents financial protection. According to WHO, the definition of financial protection is "when

direct payments made to obtain health services do not expose people to financial hardship and do not threaten living standards” (61). According to the International Monetary Fund: “Social protection or social security includes cash and in-kind benefits provided for children, mothers, and families; support for those sick and without jobs; and pensions for older and disabled persons. These benefit schemes are not only for the poor, as anyone may fall sick, lose a job, or have a child—and everyone inevitably gets old” (62).

Surveys evaluating the affordability of protection revealed that LTC systems provided greater support for lower-income older people with severe disabilities and with a likelihood of incurring OOP costs. In the absence of a public LTCI system, most older people could not incur OOP expenses without facing poverty. Across 14 OECD countries and subnational areas, approximately 50% of older people would experience income poverty in the absence of public financial protection systems. In seven countries/subnational areas – Finland, France, Germany, Luxembourg, Netherlands (Kingdom of the) and Slovakia, and Reykjavik in Iceland – public LTC protection systems guarantee that no older person experiences income poverty, despite OOP costs for low care needs. In eight countries and subnational areas (Croatia, Czechia, Hungary, Lithuania and Latvia; Tallinn in Estonia; Illinois and California in the USA), public systems do not cover any costs of care for older people earning a medium income with low care needs, leaving many at risk of income poverty. In the absence of public financial protection, approximately 90% of older people with severe needs would face income poverty. Interestingly, in all but four countries/subnations, public financial protection systems guarantee older people will be able to afford the OOP costs of institutional care, thus removing the choice of ageing at home. Detailed information by country/subnation is provided to further illustrate the status and protection of public financial protection systems.

In relation to equity, most countries are providing some support for the economically disadvantaged. Older women experience inequity because they are more likely to have LTC needs and are less likely to have the financial ability to pay. In terms of the efficiency of LTC systems, countries that invest in LTC reduce the risk of poverty among those with LTC needs.

In their working paper to estimate prospective demand for LTC, Kotschy and Bloom (51) criticized systems using co-payments, stating that “high co-payments can financially ruin the least affluent or deter them from using care services at all”. They highlight two models that can help mitigate these scenarios: in both Netherlands (Kingdom of the) and the Republic of Korea, co-payments are means-tested to reduce the economic burden for the poor; and in Germany, social assistance covers additional care costs if recipients cannot afford them. However, there exists the caveat with such systems that

if the income threshold is set too low it will drive individuals into poverty while trying to get the care they need.

4.3.4 Integrated Patient-Centred Medical Home model, Singapore

Sum et al. (55) evaluated the Integrated Patient-Centred Medical Home initiative for community-dwelling older adults in Singapore over six months, using a quasi-experimental pre-post design and a sample of 165 participants of average age 77 years. This holistic patient-centred model of health and social care is designed to deliver multidisciplinary primary care to adults with complex (three or more chronic illnesses) needs in either a clinic or home setting. One outcome measure was OOP expenses; traditionally absorbed by patients and primary care providers, these costs have been shifted to community-based primary care. This initiative complements Singapore's national policy to move beyond traditional hospital care to care delivery in community-based home care settings.

4.4 Financial sustainability

Seven reviewed publications directly address financial sustainability (40, 41, 45, 46, 49, 50, 54) and three report on this topic indirectly (42, 44, 48). Nine of these ten publications were subject to quality assessment (Table 3.1): four publications (42, 48–50) were assessed to be of high quality and five (40, 41, 44–46) of medium quality. It was not possible to assess the publication by Peng et al. (54) for quality; see Section 3.3 for details.

4.4.1 LTC pilots, China

Zhang et al. (40) conducted a survey-based quasi-experimental study of the impact of LTCI formal care usage on informal care hours provided by family members. Participants included 407 families with a recipient of LTC, and the authors reported on level of education and income group for both LTC recipients and caregivers. The authors found that each hour of formal care reduced informal care hours by 0.473 hours. Across the 407 families, a weekly average decrease of 12.36 hours of informal care was reported, and this decrease was associated with the care recipient's sex and health status. The authors suggested that these results will be of assistance to decision-makers in relation to funding formal care. Although the return of informal carers to the labour market is not directly addressed, the authors noted that there will be a significant increase in demand for employment in caring for older people, inferring that carers may fill some of these positions, become taxpayers and contribute to LTCI financial sustainability.

Zhou and Dai (45) conducted a systematic review of policy documents from China's LTCI 15 pilot cities, examining policy consistency and the features of this health care initiative. Data were

analysed to examine coverage, beneficiaries, funding sources, eligibility criteria, types of care, supply systems, public–private partnerships and administrative capacity. Multiple funding sources were identified, as well as the occurrence of inequities in benefit provision. The authors believed that the general lack of system integration was jeopardizing its financial sustainability.

As described in Section 4.1.1 above, Han and Shen (50) conducted a qualitative descriptive study to report on LTCI pilots in four cities in north-east China. The authors reported that the nature of the sources of funding affect sustainability, and that most cities have more than one source. Primary reliance is on transfers from the medical insurance fund; other sources include individual contributions, organizational contributions, financial subsidies and social donations.

Peng et al. (54) used the PMCI to assess the sustainability of the LTC system in China, as reported on in Section 4.1.1. In summary, the coordination degree between LTCI policy, population ageing and economic development is reported as low or basic across 14 pilot cities, suggesting that economic development is not sufficient to sustain LTC financing. The authors concluded that the future of LTCI initiatives is dependent upon sustained economic growth and the rate of population ageing, and that LTCI initiatives be modifiable for sustainability.

Two articles addressed financial sustainability indirectly. Feng et al. (42) advocate the gradual increase in individual contributions, in tandem with increased financial support from central and local governments to attain sustainability. Dai et al. (48) stated that “the financial sustainability of LTCI programs remains a question because of the amount of funds that can be extracted from the medical insurance schemes”. The LTCI pilots in China are funded from the medical care budget, compromising financial sustainability if funding for LTC is not included. Authors also note that limiting insurance based on occupation and region introduces inequities and is a disincentive to participation, negatively affecting financial sustainability. Diversification of funding sources is offered as a path towards sustainability.

4.4.2 CareShield Life, Singapore

As reported in Section 4.1.2, Fong and Borowski (49) provide a comprehensive overview, including successes and challenges, of the LTCI CareShield Life scheme in Singapore that was mandated in 2019 for the population aged 30 years and older. The scheme provides lifetime coverage, despite monthly premium payments (20% of monthly wage) stopping at age 67 years, and a 2% annual increase in benefits for the first five years. Financial sustainability is guarded by rigorous claims criteria and assessments for eligibility to claim. The authors quote from the parliamentary speech by the Minister of Health, who states “to ensure long-term sustainability, each cohort

will fund its own future needs through pre-funding". Enrolling citizens at the age of 30 years and landed immigrants aged 30 years and older spreads risk across the age cohorts, and this pre-funding means enrollees pay towards their future LTC needs, contributing to financial sustainability. It is estimated that less than 0.1% of the population aged 30–40 years have severe disabilities; this insurance scheme is therefore projected to meet the needs of younger people who may encounter challenges necessitating access to CareShield Life services. The authors recognize the collectivist approach to this LTCL scheme; however, depth is sacrificed for breadth and financial forecasting is necessary for financial sustainability.

4.4.3 Policy comparison, multi-country

Noda et al. (44) compared health care reform policies between six countries – China, Indonesia, Japan, Philippines, Thailand, and Republic of Korea – via document review. The authors identified the financial sources of such policies by reporting the building blocks of the various systems. All countries have three to four types of financial sources listed, which may contribute to greater financial sustainability.

4.4.4 LTCL reform, Netherlands (Kingdom of the)

Alders and Schut (46) conducted an economic evaluation of the shifting of LTC social costs to municipalities, while institutional care remained the responsibility of the public LTCL (nursing homes) system. LTC reform was initiated (2015–2019) in response to high institutional care costs, and focused on intensive home care as a substitute for nursing home/institutional care. The examination of municipality solvency was part of the evaluation. The unanticipated outcome of the reform was a cost-shifting by municipalities to the central government, as municipalities with insufficient budgets to support home care encouraged citizens to choose nursing home care (paid for by public LTCL). As solvency drops below 30% of total assets, meeting budget responsibilities becomes difficult (63). The authors reported that municipalities with low solvency (20%) had 3.79 more admissions to public LTCL per 10 000 population aged 65 years and older, equivalent to 2.5% more admissions than average. These percentages grew significantly, with 2018 and 2019 rates at 14.5% and 13.7%, respectively. Urban municipalities with low financial solvency and with a larger population aged 80 years and older living alone, with limitations and with a lower income, had a significantly higher number of admissions to the public LTCL system. The authors advocated the risk-adjusting of social support funding based on the proportion of older people by municipality and service needs. Such approaches optimize the use of funding sources and location of care, and contribute to financial sustainability.

4.4.5 Community First Choice, USA

The Community First Choice programme, which offers a 6% federal increase in matching payments to shift spending from institutional to home-based care, providing individuals considered to be at an institutional level of care with ADL and IADL assistance, was evaluated by Beauregard and Miller (41). This initiative is either agency-delivered or self-directed, in which clients take responsibility for hiring and supervising workers. Only eight states had embraced the programme as at 2020, and the authors carried out a case study by interview in three states to identify factors that influence the adoption of the programme (Table 3.1): in Maryland and Texas (in which the Community First Choice programme is available), and in Oklahoma (in which it is not). Participants raised concerns about sustainability, noting that adopting the initiative means “everyone that is eligible has to be able to receive services... [a]nd not all states are ready to put those services out there” (41). Budgetary concerns in relation to the belief that people seeking services would be “coming out of the woodwork” had state officials questioning the sustainability of the programme and the ability to meet the 6% federal matching. Other factors influencing the adoption of the Community First Choice were state ideology, fiscal status, advocacy for LTC, Medicaid leadership, and the strength of existing home- and community-based services. As described in Section 4.1.5, Koumoutzis et al. (52) reported that because the Medicaid programme excludes many older people with a disability, the federal government allows states to expand Medicaid home and community-based services through the Affordable Care Act.

5

Discussion and conclusion

5.1 Commonalities and differences across initiatives

In answering the review question (what important initiatives exist to improve LTC service coverage, quality, financial protection and financial sustainability?), many LTC initiatives undertaken in the past five years across the globe have been identified and analysed. These initiatives share many features, but also highlight many differences.

Features in common include the provision of coverage to the entire population of the country, or else working incrementally towards this (with the exception of Community First Choice, USA). Another common denominator was the quest to discern how best to fund these initiatives.

The differences between these initiatives were evident in terms of ideology, political will and economic status. For example, in what is described as a collectivist approach, Singapore's mandatory CareShield Life scheme enrolls all residents at the age of 30 years to pay towards their eventual LTC needs. China's LTCI pilots are funded via two existing socialist-informed medical insurance schemes that are focused on hospitals and institutions, with an underdeveloped home care sector; OOP expenditure and co-payments feature as the economy may not be able to support projected demand. The government of Taiwan, China expanded their publicly funded LTC plan by extending eligibility criteria, reducing co-payments (or waiving them for low-income users), simplifying processes for service providers, modifying income regulations for care workers, expanding care to rural areas, and including health promotion activities for clients and their families. This initiative is socially minded, with the aim of enabling ageing in place as a more affordable option. Community First Choice in the USA also aims to promote ageing in place, in which the federal government enhances their Medicaid agreement with participating states through a 6% matching scheme. However, participating states must be economically able to meet the 6% matching, have strong Medicaid leadership, have LTC activists and be willing to engage government. Netherlands (Kingdom of the) has a long history of comprehensive public social insurance coverage for LTC. Faced with economic challenges, a reform of the system was undertaken in which the cost of home care services was shifted to municipalities, with the federal government continuing to pay for institutional care. This resulted in municipalities that were economically challenged, encouraging older people to opt for institutional care and necessitating adjustments to cost-shifting based on economic status.

5.2 Key findings and interpretation

5.2.1 Coverage

Key findings in the review of initiatives to improve LTC service coverage include: breadth in population coverage is growing at the expense of depth, rationing the number of services to older people to restrain funding (49); increasing coverage significantly decreased unmet care needs, hours of informal care and care expenditure; and coverage duration decreased unmet care needs, hours of informal care and OOP expenses (16).

The matching of services to care need has the potential to slow the rate of decline in health and quality of living in the growing population of older people. A German study reported 6% of family caregivers left their jobs to provide care to a relative, and a further 18% reduced their work hours to provide care (64). In reflecting on the findings related to robust LTC coverage there are economic spin-offs that can be realized, for example: family caregivers returning to the workforce (65), and the employment opportunities afforded by the development and expansion of agencies to provide LTC services. Nikolova (66) reminds us of the predicted growth in population ageing and how, in the 1970s, there were 10 working people for every person aged 64 years and older; this is predicted to drop to just four working people in 2050. Solutions offered include remaining in the workforce longer, which means continuing to pay taxes to support the economy and benefiting from an enhanced sense of personal well-being that can accompany employment. The organizing of meaningful volunteering opportunities for older people is also known to delay the decline of physical and mental health (66).

5.2.2 Quality

Quality in LTC services was the least reported aspect in the reviewed publications. Dai et al. shed light on this in their systematic review of the elements of the LTCI pilots in China: they report that policies specific to quality control and the evaluation of service quality were not established across the pilots (48). Hashiguchi and Llana-Nozal recognize the importance of access to LTCI and emphasize that quality of care is of equal importance (38). Kotschy and Bloom call for uniform quality of care standards for the delivery of LTC (51).

5.2.3 Financial protection

Findings related to financial protection in LTC services, all from studies in OECD countries, include how: OOP expenditure reimbursement ceilings are much higher for the hospitalized or the institutionalized compared with receiving care at home, leaving long-term home- and community-based services as a precarious option; financial protection is subject to the vagaries of need level, type of employment and citizenship status; income poverty is a risk for many

(e.g. older people with severe needs despite eligibility for LTCI, older people with low needs and low income, and older people with moderate needs and a moderate income); and financial protection is achievable by providing universal access, adjusting insurance cost-sharing to ability to pay and minimizing OOP expenses.

Although some countries do provide comprehensive LTC services, they are the exception; most countries require OOP expenditure and co-payments. Older people receiving LTC have unmet care needs (14), and OOP expenditure and co-payments are a deterrent to receiving optimal care. In the absence of optimal care, a more rapid decline in health is likely and can increase system costs. A strategy that may help in the short and medium term is to develop an equitable LTC recipient dose sliding scale using ADLs, IADLs, cognition, behavioural changes, rehabilitation, home situation and caregiver stress. Such a sliding-scale approach with individual contextualized person-focused assessments would represent a strategy to push towards universalism, increase the return of family caregivers to the workforce and restrain marketization through optimal care to client matching (65).

5.2.4 Financial sustainability

On the topic of financial sustainability in LTC services, it was found that: it is dependent upon achieving balance across population ageing, LTCI policy and economic development; benefit levels are subject to strict eligibility criteria as breadth in population coverage is sought; its achievement requires the integration of LTC system components (hospital, LTC institutions and long-term home care), although it is not known if this is sufficient; it is dependent upon a combination of diversification of funding sources, incremental increases in individual contributions, and increased central and local government funding; and failure to provide LTC to a population can precipitate social conflict and imperil funding of other health and social programmes.

Interpretation of these findings related to financial sustainability indicates that older people prefer to age in place (67); intuitively, this would be the ideal solution. The longer a person lives, the more likely the need for varying types of assistance. Traditional approaches include home care and institutional care. Although these options remain viable, there are many frontiers to consider. The WHO definition of LTC (1) crosses the continuum, incorporating all forms of care for the older person. A parallel continuum that begins with remaining at home all the way to institutional care with more home-approximating options such as co-housing (68) may support optimal independence over a longer timeframe. This approach is conceptually supported by the notion of providing the right support, in the right amount and at the right time to delay decline and to reduce the projected amount of care required, thereby contributing to financial sustainability. Such a continuum could contribute to

positively addressing age-related inflation, which occurs when a group consumes more goods and services than it produces (69, 70). Control of the need for LTC services combined with increasing workforce numbers reduces inflation and improves the economic growth required to sustain health and social initiatives.

5.3 Limitations

This rapid scoping review was limited to identifying LTC initiatives (programmes, policies or reforms) implemented and evaluated in the last five years for those aged 60 years and older. There are initiatives that do not appear in this report because they did not meet the inclusion criteria. In addition, there is commonly a lag between initiatives, their evaluation and the subsequent publication. There is always the possibility that, despite the number of database searches conducted, the keywords used in the searches may not have been used in a relevant publication. There could also be databases specific to countries that the authors are unaware of. Despite detailed inclusion and exclusion criteria, as well as dual title, abstract and full-text reviews, one or more relevant publications may have been excluded. Many countries have long-established LTC programmes; however, unless a major modification occurred within the specified timeframe and the subsequent publication met the inclusion criteria, it would not have been reviewed.

A final limitation of this review is that it was not possible to adequately investigate equity in the provision of LTC services, because most of the reviewed publications did not collect and analyse such data.

5.4 Future research

It is believed that there are other recent LTC initiatives in place that have not been evaluated and/or reported on, and which contain findings beneficial to all countries and subnations. The number of economic evaluations of LTC initiatives was limited, and such evaluations should be encouraged to assist with progress in LTC. In the evidence assessed here, LTC initiatives were focused on implementing as opposed to evaluation, and it is expected that quality will be addressed in future research. Governments should include mechanisms within their initiatives to capture evaluation data for this purpose. Consistent use of a conceptual framework to enable comparisons between policies, such as that proposed by Noda et al. (44), is suggested to inform comparative evaluation studies or single initiative evaluation.

Research funding agencies increasingly require that equity, diversity, inclusion and (dis)ability be addressed in all aspects of funded studies; it is therefore anticipated that analysis of study data and results related to equity in LTC initiatives will become possible in the future.

5.5 Conclusion

The initiatives identified in this rapid scoping review have been implemented across high-, upper-middle-, lower-middle- and low-income countries (13), providing optimism for the growth of existing initiatives and their expansion within and beyond their respective countries. Initiatives where LTCI is mandatory and accompanied by a commensurate funding scheme are better situated to facilitate older people ageing in place. Efforts to expand population coverage are common across the initiatives, with the potential for economic benefits. Initiatives that enable older people to access the services needed while avoiding OOP-induced poverty contribute to delaying a decline in health status. Preserving health in older people for longer may reduce projected LTC costs, contributing to financial sustainability. Coherence between LTC policy development, the rate of population ageing and economic growth are necessary for the success of LTCI initiatives. Initiatives that contribute to expanding workforce numbers and control service needs contribute to the control of age-related inflation and bolster economic growth.

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Annexes

Annex 1. Literature search strategy

A1.1 MEDLINE (Ovid)

Filter: Economic Evaluations & Models – MEDLINE (1).

Results: 16 055 (25 August 2022).

1	Aged/
2	"Aged, 80 and over"/
3	Frail Elderly/
4	Centenarians/
5	Nonagenarians/
6	Octogenarians/
7	Aging/
8	(supercentenarian? or centarian? or centenarian? or nonagenarian? or octogenarian? or septuagenarian? or sexagenarian? or old* age* or elder* or eldest or frail* or oldest old* or senior* or senium or very old* or ag?ing or geriatr* or senescen* or retiree? or veteran?).ti,ab,kf,jw.
9	((aged or old* or retired) adj2 (people or person? or wom#n or m#n or female? or male? or client? or patient? or inpatient? or in-patient? or outpatient? or out-patient? or adult? or subject? or population? or resident? or individual?)).ti,ab,kf.
10	Or/1-9 [older adults]
11	Long-Term Care/
12	Homes for the Aged/
13	Housing for the Elderly/
14	Senior centers/
15	(long-term care or long term care or longterm care or retirement home* or senior centre* or senior center*).ti,ab,kf.
16	or/11-15 [long-term care for older adults]
17	Assisted Living Facilities/
18	Nursing homes/
19	Intermediate care facilities/
20	Skilled nursing facilities/
21	(skilled nursing facilit* or intermediate care facilit* or assisted living or care home? or extended care or nursing home? or institutionaliz* or institutionalis*).ti,ab,kf.

22	Foster home care/
23	Adult day care centers/
24	Institutionalization/
25	Deinstitutionalization/
26	Independent Living/
27	Community Integration/
28	Community health services/
29	Community mental health services/
30	Community health nursing/
31	Home health nursing/
32	Community pharmacy services/
33	Home care services/
34	Home care services, hospital-based/
35	Home nursing/
36	Respite care/
37	Homemaker services/
38	House Calls/
39	Homebound Persons/
40	((communit* or home or independent*) adj3 (living or dwelling or care)).ti,ab,kf.
41	(in home or at home or own home or in place or homecare or home based or home-based or homebased or home bound or homebound or home-bound or Home-and-Community-Based Service? or HCBS or community-based or community based or independent living or daycare? or day care or foster care or family care home? or family home? or group home? or deinstitutionaliz* or deinstitutionalis* or respite care).ti,ab,kf.
42	"Delivery of Health Care, Integrated"/
43	(integration of care or integrated care or (integrated system* and health)).ti,ab,kf.
44	Patient-centered care/
45	(patient-centred care or person-centred care or patient centred care or person centred care or patient-centered care or person-centered care or patient centered care or person centered care).ti,ab,kf.
46	Or/17-45 [long-term care]
47	46 and 10 [long-term AND older adults]
48	16 or 47 [long-term care for older adults OR (long-term care AND older adults)]

49	Economics/
50	exp "Costs and Cost Analysis"/
51	Economics, Nursing/
52	Economics, Medical/
53	Economics, Pharmaceutical/
54	exp Economics, Hospital/
55	Economics, Dental/
56	exp "Fees and Charges"/
57	Exp Budgets/
58	budget*.ti,ab,kf.
59	(economic* or cost or costs or costly or costing or price or prices or pricing or pharmaco-economic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ti,kf.
60	(economic* or cost or costs or costly or costing or price or prices or pricing or pharmaco-economic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ab. /freq=2
61	(cost* adj2 (effective* or utilit* or benefit* or minimi* or analy* or outcome or outcomes)).ab,kf.
62	(value adj2 (money or monetary)).ti,ab,kf.
63	exp Models, Economic/
64	economic model*.ab,kf.
65	Markov chains/
66	markov.ti,ab,kf.
67	Monte carlo method/
68	monte carlo.ti,ab,kf.
69	exp Decision Theory/
70	(decision* adj2 (tree* or analy* or model*)).ti,ab,kf.
71	Financial support/
72	Healthcare financing/
73	Insurance, health/
74	Managed care programs/
75	Fiscal Policy/

76	(health* security or out-of-pocket or out of pocket or copay* or co-pay* or financial protection or financial hardship or financial burden* or economic burden* or economic hardship* or universal health coverage or UHC or universal coverage or universal pharmacare or dental coverage or caregiver* benefit? or benefit? package* or insurance or catastrophic cost* or cash for care or cash-for-care or payment? or affordab* or spending or fiscal* or market? or subsid* or (health* adj3 financ*)).ti,ab,kf.
77	(primary adj3 health* adj3 coverage).ti,ab,kf.
78	(health* adj3 service* adj3 (access* or coverage* or utili?ation)).ti,ab,kf.
79	(funding or funder or fund?).ti,kf,ab.
80	Or/49-79 [sustainable financing – Economic Evaluations & Models (1), lines 49–70]
81	“Delivery of health care”/
82	“Delivery of health care, integrated”/
83	Primary health care/
84	“Continuity of patient care”/
85	(health care delivery or healthcare delivery or care delivery or service delivery).ti,ab,kf.
86	(health* adj2 system?).ti,ab,kf.
87	Health services accessibility/
88	Health equity/
89	Healthcare disparities/
90	Right to health/
91	Universal health care/
92	(“health* equity” or “health* inequity” or “health* inequalit*” or “health* disparit*” or “health* access*”).ti,ab,kf.
93	(availab* adj2 (care or service*)).ti,ab,kf.
94	(health service* coverage or health coverage or health care coverage or service* coverage or comprehensive coverage).ti,ab,kf.
95	Eligibility determination/
96	(eligibility criteria or eligibility determination).ti,ab,kf.
97	“Quality of health care”/
98	Outcome assessment, health care/
99	Quality indicators, health care/
100	“Standard of care”/
101	Quality assurance, health care/

102	Quality improvement/
103	(quality adj4 (health or healthcare or care or assurance or indicator* or improv*)). ti,ab,kf.
104	(outcome* adj3 (health or healthcare or care or assess*)).ti,ab,kf.
105	or/81-104 [service delivery]
106	Legislation as topic/
107	Legislation, medical/
108	(legislation or legislate or legislative).ti,ab,kf.
109	(national adj2 (strateg* or framework or principle* or objective*)).ti,ab,kf.
110	((government or governing or national or public or stakeholder or shareholder) adj3 (accountability or accountable)).ti,ab,kf.
111	Policy/
112	Social control policies/
113	Organizational policy/
114	Public policy/
115	Health policy/
116	((government* or governing or national or countr* or federal or state* or province* or provincial or organization* or organisation*) adj3 (oversight or strategy or strategies)).ti,ab,kf.
117	(policy or policies).ti,ab,kf.
118	Health care reform/
119	(reform adj3 (health or care or healthcare or health care)).ti,ab,kf.
120	or/106-119 [policy (governance)]
121	80 or 105 or 120 [service delivery or financing or policy]
122	Program development/
123	(program* or initiative* or strateg* or project* or model* or service* or intervention* or policy or policies).ti,kf,ab.
124	122 or 123 [programs or initiatives]
125	Program evaluation/
126	(evaluat* or assess* or improv* or apprais* or judge* or evidence or effective* or compar* or survey? or interview* or examin* or effect* or analys* or experiment*). ti,ab,kf.
127	Clinical trial/
128	Randomized controlled trial/

129	(clinical adj3 (study or studies or trial*)).ti,ab,kf.
130	((quasiexperimental or quasi-experimental) adj3 (study or studies or trial*)).ti,ab,kf.
131	Or/125-130 [evaluation]
132	(48 and 121 and 124 and 131) or (124 and 131 and exp Insurance, Long-Term Care/)
133	Technology/
134	Digital technology/
135	Social media/
136	Cell phone/
137	Smartphone/
138	Text messaging/
139	Videoconferencing/
140	Wireless technology/
141	Internet/
142	Internet access/
143	"Internet use"/
144	Internet-based intervention/
145	Computers/
146	Wearable electronic devices/
147	Fitness trackers/
148	Hearing aids/
149	Smart glasses/
150	Robotics/
151	Artificial intelligence/
152	Computer simulation/
153	Augmented reality/
154	Virtual reality/
155	(technology or technologies or artificial intelligence or AI or virtual reality or augmented reality or computer simulation or wearable? or robotic? or social media or texting or text messa*).ti,ab,kf.
156	(smart adj3 (device? or phone? or home?)).ti,ab,kf.
157	Or/133-156
158	132 not 157
159	limit 158 to yr="2017 -Current"

A1.2 Embase (Elsevier)

Filter: adapted for Embase from Economic Evaluations & Models (1).

Results: 26 324 (25 August 2022).

1	'Aged'/de
2	'Very elderly'/de
3	'Frail elderly'/de
4	'Aging'/de
5	supercentenarian?:ti,ab,kw OR centarian?:ti,ab,kw OR centenarian?:ti,ab,kw OR nonagenarian?:ti,ab,kw OR octogenarian?:ti,ab,kw OR septuagenarian?:ti,ab,kw OR sexagenarian?:ti,ab,kw OR 'old* age*':ti,ab,kw OR elder*:ti,ab,kw OR eldest:ti,ab,kw OR frail*:ti,ab,kw OR 'oldest old*':ti,ab,kw OR senior*:ti,ab,kw OR senium:ti,ab,kw OR 'very old*':ti,ab,kw OR ag\$ing:ti,ab,kw OR geriatr*:ti,ab,kw OR senescen*:ti,ab,kw OR retiree?:ti,ab,kw OR veteran?:ti,ab,kw
6	((aged OR old* OR retired) NEAR/2 (people OR person\$ OR wom?n OR m?n OR female\$ OR male\$ OR client\$ OR patient\$ OR inpatient\$ OR in\$patient\$ OR outpatient\$ OR out\$patient\$ OR adult\$ OR subject\$ OR population\$ OR resident\$ OR individual\$)):ti,ab,kw
7	1 OR 2 OR 3 OR 4 OR 5 OR 6
8	'Long term care'/de
9	'Home for the aged'/de
10	'Senior center'/de
11	'long-term care':ti,ab,kw OR 'long term care':ti,ab,kw OR 'longterm care':ti,ab,kw OR 'retirement home*':ti,ab,kw OR 'senior centre*':ti,ab,kw OR 'senior center*':ti,ab,kw
12	8 OR 9 OR 10 OR 11
13	'Assisted living facility'/de
14	'Nursing home'/de
15	'skilled nursing facilit*':ti,ab,kw OR 'intermediate care facilit*':ti,ab,kw OR 'assisted living':ti,ab,kw OR "care home\$":ti,ab,kw OR 'extended care':ti,ab,kw OR "nursing home\$":ti,ab,kw OR institutionaliz*:ti,ab,kw OR institutionalis*:ti,ab,kw
16	'Foster care'/de
17	'Adult day care'/de
18	'Institutionalization'/de
19	'Deinstitutionalization'/de
20	'Independent living'/de
21	'Community integration'/de
22	'Community care'/de

23	'Community mental health service'/de
24	'Community health nursing'/de
25	'Visiting nursing service'/de
26	'Pharmacy (shop)'/de
27	'Home care'/de
28	'Respite care'/de
29	'Home visit'/de
30	'Homebound patient'/de
31	((communit* OR home OR independent*) NEAR/3 (living OR dwelling OR care)):ti,ab,kw
32	'in home':ti,ab,kw OR 'at home':ti,ab,kw OR 'own home':ti,ab,kw OR 'in place':ti,ab,kw OR homecare:ti,ab,kw OR 'home based':ti,ab,kw OR homebased:ti,ab,kw OR homebound:ti,ab,kw OR 'home bound':ti,ab,kw OR 'home-and-community-based service\$:ti,ab,kw OR hcbs:ti,ab,kw OR 'community based':ti,ab,kw OR 'independent living':ti,ab,kw OR daycare:ti,ab,kw OR 'day care\$:ti,ab,kw OR 'foster care':ti,ab,kw OR 'family care home\$:ti,ab,kw OR 'family home\$:ti,ab,kw OR 'group home\$:ti,ab,kw OR deinstitutionaliz*:ti,ab,kw OR deinstitutionalis*:ti,ab,kw OR 'respite care':ti,ab,kw
33	'Integrated health care system'/de
34	'integration of care':ti,ab,kw OR 'integrated care':ti,ab,kw OR ('integrated system*':ti,ab,kw AND health:ti,ab,kw) 9846
35	'patient-centred care':ti,ab,kw OR 'person-centred care':ti,ab,kw OR 'patient centred care':ti,ab,kw OR 'person centred care':ti,ab,kw OR 'patient-centered care':ti,ab,kw OR 'person-centered care':ti,ab,kw OR 'patient centered care':ti,ab,kw OR 'person centered care':ti,ab,kw
36	13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34 OR 35
37	7 AND 36
38	12 OR 37
39	'Economics'/de
40	'Cost'/de
41	'Health economics'/exp
42	'Budget'/de
43	budget*:ti,ab,kw

44	economic*:ti,ab,kw OR cost:ti,ab,kw OR costs:ti,ab,kw OR costly:ti,ab,kw OR costing:ti,ab,kw OR price:ti,ab,kw OR prices:ti,ab,kw OR pricing:ti,ab,kw OR pharmaco-economic*:ti,ab,kw OR 'pharmaco economic*':ti,ab,kw OR expenditure:ti,ab,kw OR expenditures:ti,ab,kw OR expense:ti,ab,kw OR expenses:ti,ab,kw OR financial:ti,ab,kw OR finance:ti,ab,kw OR finances:ti,ab,kw OR financed:ti,ab,kw
45	(cost* NEAR/2 (effective* OR utilit* OR benefit* OR minimi* OR analy* OR outcome OR outcomes)):ab,kw
46	(value NEAR/2 (money OR monetary)):ti,ab,kw
47	'Statistical model'/de
48	'economic model*':ab,kw
49	'Probability'/de
50	markov:ti,ab,kw
51	'Monte carlo method'/de
52	'Monte carlo':ti,ab,kw
53	'Decision theory'/de
54	'Decision tree'/de
55	(decision* NEAR/2 (tree* OR analy* OR model*)):ti,ab,kw
56	'Financial management'/de
57	'Managed care'/de
58	'Fiscal policy'/de
59	'health* security':ti,ab,kw OR 'out of pocket':ti,ab,kw OR copay*:ti,ab,kw OR 'co pay*':ti,ab,kw OR 'financial protection':ti,ab,kw OR 'financial hardship':ti,ab,kw OR 'financial burden*':ti,ab,kw OR 'economic burden*':ti,ab,kw OR 'economic hardship*':ti,ab,kw OR 'universal health coverage':ti,ab,kw OR uhc:ti,ab,kw OR 'universal pharmacare':ti,ab,kw OR 'dental coverage':ti,ab,kw OR 'caregiver* benefit\$':ti,ab,kw OR 'benefit\$ package*':ti,ab,kw OR insurance:ti,ab,kw OR 'catastrophic cost*':ti,ab,kw OR 'cash for care':ti,ab,kw OR payment\$:ti,ab,kw OR affordab*:ti,ab,kw OR spending:ti,ab,kw OR fiscal*:ti,ab,kw OR market\$:ti,ab,kw OR subsid*:ti,ab,kw OR ((health* NEAR/3 financ*):ti,ab,kw)
60	(primary NEAR/3 health* NEAR/3 coverage):ti,ab,kw
61	(health* NEAR/3 service* NEAR/3 (access* OR coverage* OR utili?ation)):ti,ab,kw
62	funding:ti,ab,kw OR funder:ti,ab,kw OR fund\$:ti,ab,kw
63	39 OR 40 OR 41 OR 42 OR 43 OR 44 OR 45 OR 46 OR 47 OR 48 OR 49 OR 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR 56 OR 57 OR 58 OR 59 OR 60 OR 61 OR 62
64	'Health care delivery'/de
65	'Integrated health care system'/de

66	'Primary health care'/de
67	'Health care delivery':ti,ab,kw OR 'healthcare delivery':ti,ab,kw OR 'care delivery':ti,ab,kw OR 'service delivery':ti,ab,kw
68	(Health* NEAR/2 system\$):ti,ab,kw
69	'Health care access'/de
70	'Health equity'/exp
71	'Health care disparity'/de
72	'Right to health'/de
73	'Universal health care'/de
74	'health* equity':ti,ab,kw OR 'health* inequity':ti,ab,kw OR 'health* inequalit*':ti,ab,kw OR 'health* disparit*':ti,ab,kw OR 'health* access*':ti,ab,kw
75	(availab* NEAR/2 (care OR service*)):ti,ab,kw
76	'health service* coverage':ti,ab,kw OR 'health coverage':ti,ab,kw OR 'health care coverage':ti,ab,kw OR 'service* coverage':ti,ab,kw OR 'comprehensive coverage':ti,ab,kw
77	'Eligibility'/de
78	'Eligibility criteria'/de
79	'eligibility criteria':ti,ab,kw OR 'eligibility determination':ti,ab,kw
80	'Health care quality'/de
81	'Outcome assessment'/de
82	'Quality control'/de
83	'Total quality management'/de
84	(quality NEAR/4 (health OR healthcare OR care OR assurance OR indicator* OR improv*)):ti,ab,kw
85	(outcome* NEAR/3 (health OR healthcare OR care OR assess*)):ti,ab,kw
86	64 OR 65 OR 66 OR 67 OR 68 OR 69 OR 70 OR 71 OR 72 OR 73 OR 74 OR 75 OR 76 OR 77 OR 78 OR 79 OR 80 OR 81 OR 82 OR 83 OR 84 OR 85
87	'Law'/de
88	'Health legislation'/de
89	legislation:ti,ab,kw OR legislate:ti,ab,kw OR legislative:ti,ab,kw 61430
90	(national NEAR/2 (strateg* OR framework OR principle* OR objective*)):ti,ab,kw
91	((government OR governing OR national OR public OR stakeholder OR shareholder) NEAR/3 (accountability OR accountable)):ti,ab,kw
92	'Policy'/de

93	'Social control'/de
94	'Organizational policy'/de
95	'Public policy'/de
96	'Health care policy'/de
97	((government* OR governing OR national OR countr* OR federal OR state* OR province* OR provincial OR organization* OR organisation*) NEAR/3 (oversight OR strategy OR strategies)):ti,ab,kw
98	policy:ti,ab,kw OR policies:ti,ab,kw
99	(reform NEAR/2 (health OR care OR healthcare OR 'health care')):ti,ab,kw
100	87 OR 88 OR 89 OR 90 OR 91 OR 92 OR 93 OR 94 OR 95 OR 96 OR 97 OR 98 OR 99
101	63 OR 86 OR 100
102	'Program development'/de
103	program*:ti,ab,kw OR initiative*:ti,ab,kw OR strateg*:ti,ab,kw OR project*:ti,ab,kw OR model*:ti,ab,kw OR service*:ti,ab,kw OR intervention*:ti,ab,kw OR policy:ti,ab,kw OR policies:ti,ab,kw
104	102 OR 103
105	'Program evaluation'/de
106	evaluat*:ti,ab,kw OR assess*:ti,ab,kw OR improv*:ti,ab,kw OR apprais*:ti,ab,kw OR judge*:ti,ab,kw OR evidence:ti,ab,kw OR effective*:ti,ab,kw OR compar*:ti,ab,kw OR survey\$:ti,ab,kw OR interview*:ti,ab,kw OR examin*:ti,ab,kw OR effect*:ti,ab,kw OR analys*:ti,ab,kw OR experiment*:ti,ab,kw
107	'Clinical trial'/de
108	'Randomized controlled trial'/de
109	(clinical NEAR/3 (study OR studies OR trial*)):ti,ab,kw
110	((quasiexperimental OR 'quasi experimental') NEAR/3 (study OR studies OR trial*)):ti,ab,kw
111	105 OR 106 OR 107 OR 108 OR 109 OR 110 25014047
112	38 AND 101 AND 104 AND 111 OR (104 AND 111 AND 'long-term care insurance'/de)
113	'Technology'/de
114	'Digital technology'/de
115	'Social media'/de
116	'Mobile phone'/de
117	'Smartphone'/exp
118	'Text messaging'/de
119	'Videoconferencing'/de

120	'Wireless communication'/de
121	'Internet'/de
122	'Internet access'/de
123	'Internet use'/de
124	'Web-based intervention'/de
125	'Computer'/de
126	'Wearable computer'/de
127	'Activity tracker'/de
128	'Hearing aid'/de
129	'Smart glasses'/de
130	'Robotics'/de
131	'Artificial intelligence'/de
132	'Computer simulation'/de
133	'Augmented reality'/de
134	'Virtual reality'/de
135	technology:ti,ab,kw OR technologies:ti,ab,kw OR 'artificial intelligence':ti,ab,kw OR ai:ti,ab,kw OR 'virtual reality':ti,ab,kw OR 'augmented reality':ti,ab,kw OR 'computer simulation':ti,ab,kw OR wearable\$:ti,ab,kw OR robotic\$:ti,ab,kw OR 'social media':ti,ab,kw OR texting:ti,ab,kw OR 'text messa*':ti,ab,kw
136	(smart NEAR/3 (device\$ OR phone\$ OR home\$)):ti,ab,kw
137	113 OR 114 OR 115 OR 116 OR 117 OR 118 OR 119 OR 120 OR 121 OR 122 OR 123 OR 124 OR 125 OR 126 OR 127 OR 128 OR 129 OR 130 OR 131 OR 132 OR 133 OR 134 OR 135 OR 136
138	112 NOT 137
139	138 AND [2017-2022]/py2

A1.3 Cumulative Index to Nursing and Allied Health Literature (CINAHL, EBSCO)

Filter: adapted for CINAHL from Economic Evaluations & Models (1).

Results: 14 992 (25 August 2022).

- 1 (MH "Aged")
- 2 (MH "Aged 80 and Over")
- 3 (MH "Frail Elderly")
- 4 (MH "Centenarians")
- 5 (MH "Nonagenarians")
- 6 (MH "Octogenarians")
- 7 (MH "Aging")
- 8 TX (supercentenarian# OR centarian# OR centenarian# OR nonagenarian# OR octogenarian# OR septuagenarian# OR sexagenarian# OR "old* age*" OR elder* OR eldest OR frail* OR "oldest old*" OR senior* OR senium OR "very old*" OR ag#ing OR geriatr* OR senescen* OR retiree# OR veteran#)
- 9 TI ((aged OR old* OR retired) N2 (people OR person# OR wom?n OR m?n OR female# OR male# OR client# OR patient# OR inpatient# OR in-patient# OR outpatient# OR out-patient# OR adult# OR subject# OR population# OR resident# OR individual#)) OR AB ((aged OR old* OR retired) N2 (people OR person# OR wom?n OR m?n OR female# OR male# OR client# OR patient# OR inpatient# OR in-patient# OR outpatient# OR out-patient# OR adult# OR subject# OR population# OR resident# OR individual#))
- 10 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9
- 11 (MH "Long Term Care")
- 12 (MH "Housing for Older Persons")
- 13 (MH "Senior Centers")
- 14 TI ("long-term care" OR "long term care" OR "longterm care" OR "senior centre*" OR "senior center*") OR AB ("long-term care" OR "long term care" OR "longterm care" OR "senior centre*" OR "senior center*")
- 15 S11 OR S12 OR S13 OR S14
- 16 (MH "Assisted Living")
- 17 (MH "Nursing Homes")
- 18 (MH "Subacute Care")
- 19 (MH "Skilled Nursing Facilities")

20	TI ("skilled nursing facilit*" or "intermediate care facilit*" or "assisted living" or "care home#" or "extended care" or "nursing home#" or insitutionaliz* or institutionalis*) OR AB ("skilled nursing facilit*" or "intermediate care facilit*" or "assisted living" or "care home#" or "extended care" or "nursing home#" or insitutionaliz* or institutionalis*)
21	(MH "Foster Home Care")
22	(MH "Day Care")
23	(MH "Institutionalization")
24	(MH "Deinstitutionalization")
25	(MH "Community Living")
26	(MH "Community Reintegration")
27	(MH "Community Health Services")
28	(MH "Community Mental Health Services")
29	(MH "Community Mental Health Nursing")
30	(MH "Psychiatric Home Care")
31	(MH "Community Health Nursing")
32	(MH "Home Nursing Professional")
33	(MH "Home Health Care")
34	(MH "Home Nursing")
35	(MH "Respite Care")
36	(MH "Homemaker Services")
37	(MH "Home Visits")
38	(MH "Homebound Persons")
39	TI ((communit* OR home OR independent*) N3 (living OR dwelling OR care)) OR AB ((communit* OR home OR independent*) N3 (living OR dwelling OR care))
40	TI ("in home" OR "at home" OR "own home" OR "in place" OR homecare OR "home based" OR home-based OR homebased OR "home bound" OR homebound OR home-bound OR "Home-and-Community-Based Service#" OR HCBS OR "independent living" OR daycare OR "day care#" OR "foster care" OR "family care home#" OR "family home#" OR "group home#" OR deinstitutionaliz* OR deinstitutionalis* OR "respite care") OR AB ("in home" OR "at home" OR "own home" OR "in place" OR homecare OR "home based" OR home-based OR homebased OR "home bound" OR homebound OR home-bound OR "Home-and-Community-Based Service#" OR HCBS OR "independent living" OR daycare OR "day care#" OR "foster care" OR "family care home#" OR "family home#" OR "group home#" OR deinstitutionaliz* OR deinstitutionalis* OR "respite care")
41	(MH "Health Care Delivery Integrated")

-
- 42 TI ("integration of care" OR "integrated care" OR ("integrated system*" and health))
OR AB ("integration of care" OR "integrated care" OR ("integrated system*" and health))
-
- 43 (MH "Patient Centered Care")
-
- 44 TI ("patient-centred care" OR "person-centred care" OR "patient centred care" OR "person centred care" or "patient-centered care" OR "person-centered care" OR "patient centered care" OR "person centered care") OR AB ("patient-centred care" OR "person-centred care" OR "patient centred care" OR "person centred care" or "patient-centered care" OR "person-centered care" OR "patient centered care" OR "person centered care")
-
- 45 S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44
-
- 46 S10 AND S45
-
- 47 S15 OR S46
-
- 48 MH "Economics" OR MH "Costs and Cost Analysis+" OR MH "Economic Aspects of Illness" OR MH "Resource Allocation+" OR MH "Economic Value of Life" OR MH "Economics Pharmaceutical" OR MH "Economics Dental" OR MH "Fees and Charges+" OR MH "Budgets" OR MH "Decision Trees" OR TI budget* OR TI (economic* OR cost OR costs OR costly OR costing OR price OR prices OR pricing OR pharmacoeconomic* OR "pharmaco-economic*" OR expenditure OR expenditures OR expense OR expenses OR financial OR finance OR finances OR financed) OR TI (cost* N2 (effective* OR utilit* OR benefit* OR minimi* OR analy* OR outcome OR outcomes)) OR TI (value N2 (money OR monetary)) OR TI (markov OR monte carlo) OR TI (decision* N2 (tree* OR analy* OR model*)) OR AB budget* OR AB (economic* OR cost OR costs OR costly OR costing OR price OR prices OR pricing OR pharmacoeconomic* OR "pharmaco-economic*" OR expenditure OR expenditures OR expense OR expenses OR financial OR finance OR finances OR financed) OR AB (cost* N2 (effective* OR utilit* OR benefit* OR minimi* OR analy* OR outcome OR outcomes)) OR AB (value N2 (money OR monetary)) OR AB (markov OR monte carlo) OR AB (decision* N2 (tree* OR analy* OR model*))
-
- 49 TI ("health* security" or out-of-pocket or "out of pocket" or copay* or co-pay* or "financial protection" or "financial hardship" or "financial burden*" or "economic burden*" or "economic hardship*" or "universal health coverage" or UHC or "universal coverage" or "universal pharmacare" or "dental coverage" or caregiver* benefit? or benefit? package* or insurance or catastrophic cost* or cash for care or cash-for-care or payment? or affordab* or spending or fiscal* or market? or subsid* or (health* N3 financ*)) or AB ("health* security" or out-of-pocket or "out of pocket" or copay* or co-pay* or "financial protection" or "financial hardship" or "financial burden*" or "economic burden*" or "economic hardship*" or "universal health coverage" or UHC or "universal coverage" or "universal pharmacare" or "dental coverage" or caregiver* benefit? or benefit? package* or insurance or catastrophic cost* or cash for care or cash-for-care or payment? or affordab* or spending or fiscal* or market? or subsid* or (health* N3 financ*))
-

50	TI (primary N3 health* N3 coverage) OR AB (primary N3 health* N3 coverage)
51	TI (health* N3 service* N3 (access* OR coverage* OR utilization)) OR AB (health* N3 service* N3 (access* OR coverage* OR utilization))
52	TI (funding OR funder OR fund#) OR AB (funding OR funder OR fund#)
53	S48 OR S49 OR S50 OR S51 OR S52 or S126 OR S127 OR S128
54	(MH "Health Care Delivery")
55	(MH "Health Care Delivery Integrated")
56	(MH "Primary Health Care")
57	(MH "Continuity of Patient Care")
58	(MH "Health Services Accessibility")
59	(MH "Right to Health")
60	(MH "Universal Health Care")
61	TI ("health* equity" OR "health* inequity" OR "health* inequalit*" OR "health* disparit*" OR "health* access*") OR AB ("health* equity" OR "health* inequity" OR "health* inequalit*" OR "health* disparit*" OR "health* access*")
62	TI (availab* N2 (care OR service*)) OR AB (availab* N2 (care OR service*))
63	TI ("health service* coverage" OR "health coverage" OR "health care coverage" OR "service* coverage" OR "comprehensive coverage") OR AB ("health service* coverage" OR "health coverage" OR "health care coverage" OR "service* coverage" OR "comprehensive coverage")
64	(MH "Eligibility Determination")
65	TI ("eligibility criteria" OR "eligibility determination") OR AB ("eligibility criteria" OR "eligibility determination")
66	MH "Quality of Health Care"
67	(MH "Outcome Assessment")
68	(MH "Clinical Indicators")
69	(MH "Quality Assurance")
70	(MH "Quality Improvement")
71	TI (quality N4 (health OR healthcare OR care OR assurance OR indicator* OR improv*)) OR AB (quality N4 (health OR healthcare OR care OR assurance OR indicator* OR improv*))
72	TI (outcome* N3 (health OR healthcare OR care OR assess*)) OR AB (outcome* N3 (health OR healthcare OR care OR assess*))
73	TI ("health care delivery" OR "healthcare delivery" OR "care delivery" OR "service delivery") OR AB ("health care delivery" OR "healthcare delivery" OR "care delivery" OR "service delivery")

74	S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70 OR S71 OR S72 OR S73 OR S129 OR S130
75	(MH "Legislation")
76	(MH "Legislation Medical")
77	TI (legislation OR legislate OR legislative) OR AB (legislation OR legislate OR legislative)
78	TI (national N2 (strateg* OR framework OR principle* OR objective*)) OR AB (national N2 (strateg* OR framework OR principle* OR objective*))
79	TI ((government or governing or national or public or stakeholder or shareholder) N3 (accountability or accountable)) OR AB ((government or governing or national or public or stakeholder or shareholder) N3 (accountability or accountable))
80	(MH "Social Control")
81	(MH "Organizational Policies")
82	(MH "Public Policy")
83	(MH "Health Policy")
84	TI ((government* or governing or national or countr* or federal or state* or province* or provincial or organization* or organisation*) N3 (oversight or strategy or strategies)) OR AB ((government* or governing or national or countr* or federal or state* or province* or provincial or organization* or organisation*government* or governing or national or countr* or federal or state* or province* or provincial or organization* or organisation*) N3 (oversight or strategy or strategies))
85	TI (policy OR policies) OR AB (policy OR policies)
86	(MH "Health Care Reform")
87	TI (reform N3 (health OR care OR healthcare OR "health care")) OR AB (reform N3 (health OR care OR healthcare OR "health care"))
88	S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87
89	S53 OR S74 OR S88
90	(MH "Program Development")
91	(MH "Program Implementation")
92	(MH "Program Planning")
93	TI (program* OR initiative* OR strateg* OR project* OR model* OR service* OR intervention* OR policy OR policies) OR AB (program* OR initiative* OR strateg* OR project* OR model* OR service* OR intervention* OR policy OR policies)
94	S90 OR S91 OR S92 OR S93
95	(MH "Program Evaluation")

96	TI (evaluat* or assess* or improv* or apprais* or judge* or evidence or effective* or compar* or survey# or interview* or examin* or effect* or analys* or experiment*) OR AB (evaluat* or assess* or improv* or apprais* or judge* or evidence or effective* or compar* or survey# or interview* or examin* or effect* or analys* or experiment*)
97	(MH "Clinical Trials")
98	(MH "Randomized Controlled Trials")
99	TI (clinical N3 (study OR studies OR trial*)) OR AB (clinical N3 (study OR studies OR trial*))
100	TI ((quasiexperimental OR quasi-experimental) N3 (study OR studies OR trial*)) OR AB ((quasiexperimental OR quasi-experimental) N3 (study OR studies OR trial*))
101	S95 OR S96 OR S97 OR S98 OR S99 OR S100
102	(S47 AND S89 AND S94 AND S101) OR (S94 AND S101 AND (MH "Insurance Long Term Care"))
103	(MH "Technology")
104	(MH "Digital Technology")
105	(MH "Social Media")
106	(MH "Cellular Phone")
107	(MH "Smartphone")
108	(MH "Text Messaging")
109	(MH "Videoconferencing")
110	(MH "Internet")
111	(MH "Internet Access")
112	(MH "Internet-Based Intervention")
113	(MH "Computers and Computerization")
114	(MH "Wearable Sensors")
115	(MH "Fitness Trackers")
116	(MH "Hearing Aids")
117	(MH "Smart Glasses")
118	(MH "Robotics")
119	(MH "Artificial Intelligence")
120	(MH "Computer Simulation")
121	(MH "Augmented Reality")
122	(MH "Virtual Reality")

-
- 123 TI (technology OR technologies OR software OR "artificial intelligence" OR AI or "virtual reality" OR "augmented reality" or "computer simulation" OR wearable# OR robotic# OR "social media" OR texting OR "text messa*") OR AB (technology OR technologies OR software OR "artificial intelligence" OR AI or "virtual reality" OR "augmented reality" or "computer simulation" OR wearable# OR robotic# OR "social media" OR texting OR "text messa*")
-
- 124 TI (smart N3 (device# OR phone# OR home#)) OR AB (smart N3 (device# OR phone# OR home#))
-
- 125 S103 OR S104 OR S105 OR S106 OR S107 OR S108 OR S109 OR S110 OR S111 OR S112 OR S113 OR S114 OR S115 OR S116 OR S117 OR S118 OR S119 OR S120 OR S121 OR S122 OR S123 OR S124
-
- 126 (MH "Financial Support")
-
- 127 (MH "Insurance Health")
-
- 128 (MH "Managed Care Programs")
-
- 129 TI (health* N2 system#) OR AB (health* N2 system#)
-
- 130 (MH "Healthcare Disparities")
-
- 131 S102 NOT S125
- Limiters - Published Date: 20170101-
-

A1.4 EconLit (EBSCO)

Results: 14 390 (25 August 2022).

- 1 (KW "long-term care")

- 2 TX ("long-term care" OR "long term care" OR "longterm care" OR "senior centre*" OR "senior center*")

- 3 (KW "nursing homes")

- 4 TX ("skilled nursing facilit*" or "intermediate care facilit*" or "assisted living" or "care home#" or "extended care" or "nursing home#" or insitutionaliz* or institutionalis*)

- 5 (KW "institutionalization")

- 6 TX ((communit* OR home OR independent*) N3 (living OR dwelling OR care))

- 7 TX ("in home" OR "at home" OR "own home" OR "in place" OR homecare OR "home based" OR home-based OR homebased OR "home bound" OR homebound OR home-bound OR "Home-and-Community-Based Service#" OR HCBS OR "independent living" OR daycare OR "day care#" OR "foster care" OR "family care home#" OR "family home#" OR "group home#" OR deinstitutionaliz* OR deinstitutionalis* OR "respite care")

- 8 TX ("integration of care" or "integrated care" or ("integrated system*" and health))

- 9 TX ("patient-centred care" or "person-centred care" or "patient centred care" or "person centred care" or "patient-centered care" or "person-centered care" or "patient centered care" or "person centered care")

- 10 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9

- 11 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9

Limiters - Published Date: 20170101-

Note: EconLit was added to the search strategy after the inclusion of the Continued Active Learning (CAL) tool. A simplified search strategy was therefore utilized because of the ability of the CAL tool to simplify and accelerate screening for large numbers of titles and abstracts.

A1.5 World Health Organization International Clinical Trials Registry Platform

Search mode: advanced

Search: (long:term care OR long term care OR LTC) AND (financ* OR economic* OR fund* OR cost* OR fee* OR budget* OR price* OR pricing OR expenditure* or expense*)

Recruitment status: ALL

Limiters: none

Results: 2 (1 November 2022).

A1.6 ClincialTrials.gov

Search mode: advanced

Search ("other terms"): ("long:term care" OR "long term care" OR LTC) AND (financ* OR economic* OR fund* OR cost* OR fee* OR budget* OR price* OR pricing OR expenditure* or expense*)

Limiters: none

Results: 0 (1 November 2022).

A1.7 ProQuest Dissertations and Thesis

Search mode: advanced

Search: title(long:term care OR long term care OR LTC) AND title(financ* OR economic* OR fund* OR cost* OR fee* OR budget* OR price* OR pricing OR expenditure* or expense*) AND title(program* or initiative* or strateg* or project* or model* or service* or intervention* or policy or policies)

Limiters: 1 January 2017 to present

Results: 4 (21 November 2022).

A1.8 Canadian Agency for Drugs and Technologies in Health, Grey Matters

Search: all websites included in the “health economics” category were searched or browsed for relevant records (including the Centre for Health Economics and Policy Analysis [McMaster University], Centre for Reviews and Dissemination [University of York], Economic Burden of Illness in Canada [Public Health Agency of Canada], Health Economics Research Unit [University of Aberdeen], IDEAS/RePEc [Research Papers in Economics] database, Institute of Health Economics publications [Canada], National Quality Measures Clearinghouse [Agency for Healthcare Research and Quality, USA], Office of Health Economics publications [United Kingdom], Ontario Case Costing Initiative [Ontario Ministry of Health and Long-Term Care], and Toronto Health Economics and Technology Assessment [THETA] Collaborative publications and Knowledge Translation to Policy activities); if the website had a search feature, we searched for (“long-term care” OR “long term care”); if there were too many results, we narrowed it by adding AND (financing OR funding)

Limiters: 2017 to present

Results: 34 (38 minus 4 duplicates) (21 November 2022).

Reference

1. Economic Evaluations & Models – MEDLINE. CADTH Search Filters Database. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2016 (<https://searchfilters.cadth.ca/link/16>, accessed 1 May 2023).

Annex 2. Continuous Active Learning (CAL) tool

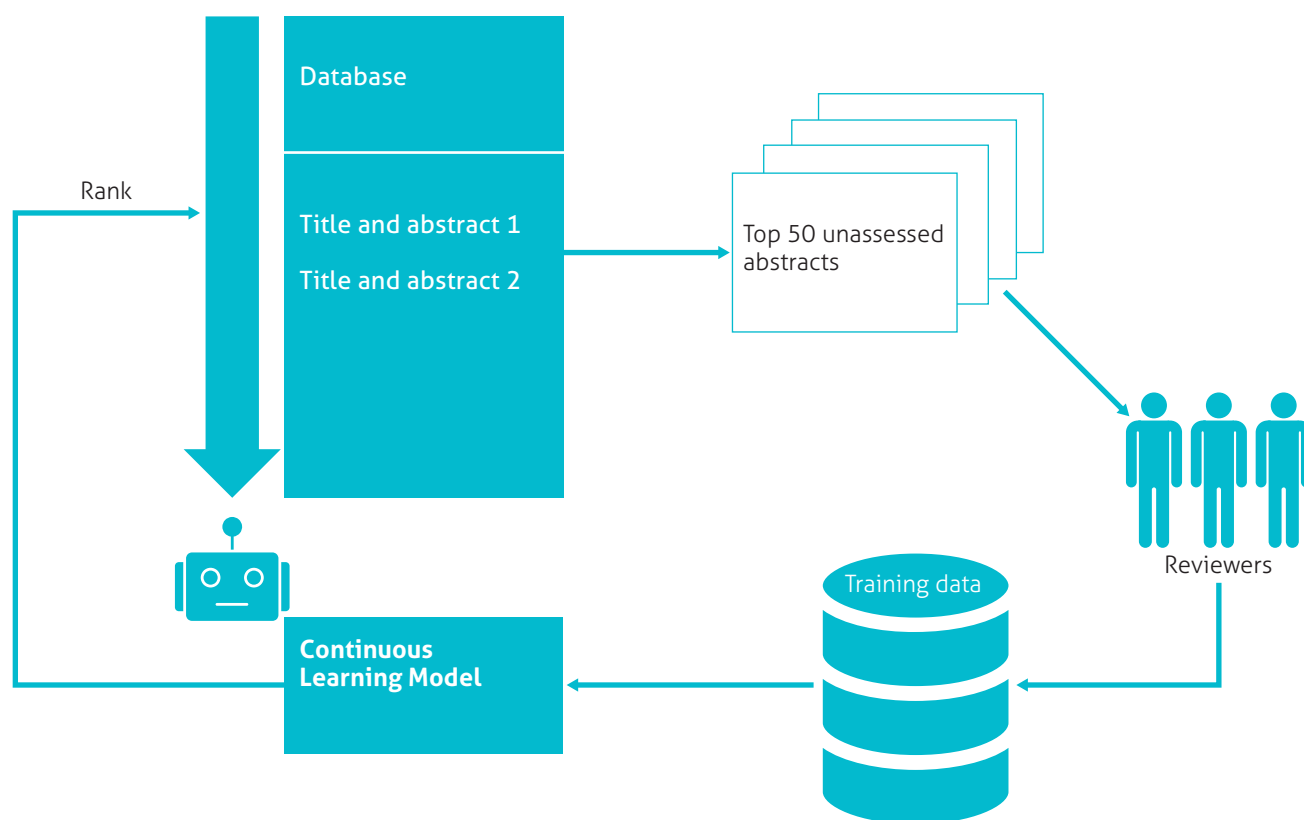


Fig. A2.1. The Continuous Active Learning tool (1). The search strategy for the review question is used to start training the machine-learning model, which predicts and quantifies the relevance of abstracts from a database. The abstracts are ranked in order of highest to lowest relevance. The top-ranked abstracts are presented to human reviewers for relevance screening. The screening results are used to update the CAL model for better prediction, generating another batch of top-ranked abstracts for screening in the next iteration of the feedback loop. The goal is to identify all relevant abstracts with minimum screening effort. Adapted with permission from Zhang (2).

References

1. Cormack GV, Grossman MR. Technology-assisted review in empirical medicine: Waterloo participation in CLEF eHealth. Waterloo: University of Waterloo; 2018 (http://ceur-ws.org/Vol-2125/paper_89.pdf, accessed 1 May 2023).
2. Zhang H. Increasing the efficiency of high-recall information retrieval. Waterloo: University of Waterloo; 2019 (<https://uwspace.uwaterloo.ca/handle/10012/14594>, accessed 1 May 2023).

Annex 3. Screening tools

A3.1 Title and abstract screening tool for CAL

- Q1. Long-term care (LTC) for older adults and their family/friend caregivers?
- Q2. Empirical evaluation of initiatives?
- Q2a: Empirical evaluation?
- Q2b: About initiatives including start-up/reforms policies or programmes within the last 5 years?
- Q3. Aims to improve outcomes for care receivers and funders?

A3.2 Title/abstract and full-text screening tool for Covidence

A3.2.1 Population

Is the study focused on people 60 years of age and older?

If yes, move to the next section

If no, stop screening and exclude

Note: Include if it is unclear.

A3.2.2 Setting

Is the study focused on LTC for older adults and their family/friend caregivers in any setting?

If yes, move to the next section

If no, stop screening and exclude

Note: LTC settings can include the community (such as home care and support), rehabilitative care, palliative care, residential care facilities, assisted living facilities, nursing homes and/or any other institutional setting. Exclude hospital-based care and short-term rehabilitation (≤ 90 days) and restorative care.

A3.2.3 Intervention

Is this about an intervention of interest (initiatives/programmes and/or reforms/policies)?

If no, stop screening and exclude

If yes, move to the next section

Note: If the study is technological or of a medical device or product innovation, exclude.

A3.2.4 Evaluation

Is this an empirical evaluation?

If yes, move to the next section

If no, stop screening and exclude

Note: Empirical evaluation includes randomized control trials, non-randomized controlled studies, quasi-experimental studies, observational studies, cohort studies and economic evaluations. If unclear include. Exclude reviews (these are being tracked and details will be included in the report). Exclude theoretical evaluation and simulation study.

A3.2.5 LTC financing

Does this paper directly address LTC financing?

If no, stop screening and exclude

If yes, move to the next section

Note: Exclude economic evaluations of a single simple intervention (e.g. economic evaluations of fall prevention programmes, polypharmacy reduction programmes, antibiotic stewardship programmes, exercise programmes etc.). Include evaluations of programmes/policies aimed at addressing LTC financing (e.g. economic evaluations of LTC insurance programmes or LTC policies).

A3.2.6 Date

Was this published in the last 5 years?

If no, stop screening and exclude

If yes, move to the next section

Note: Exclude if data collection was before 2017. Exclude if the initiative/programme and/or policy/reform was implemented pre-2017. Include if data collection or the date of implementation is unclear.

A3.2.7 Outcomes

Does the study aim to improve any of the following outcomes for care receivers and funders: service coverage, quality, financial protection and/or financial sustainability?

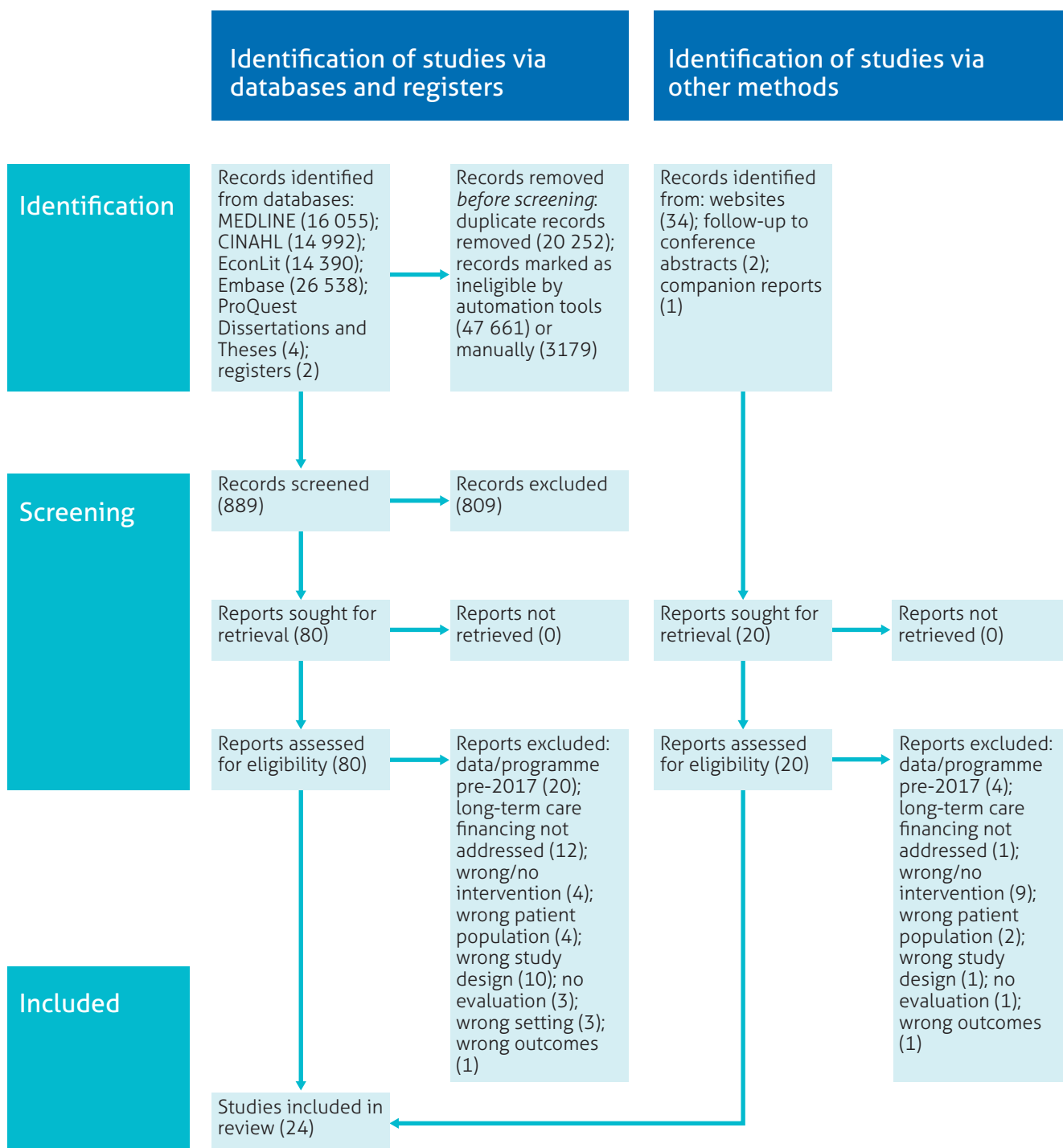
If yes, move to the next section

If no, stop screening and exclude

Note: Initiatives or programmes should address either: access to coverage or quality of LTC services, including the managing of activities of daily living and instrumental activities of daily living; or financial protection and sustainability for recipients of care and their family/friend caregivers or for government bodies.

Annex 4. PRISMA diagram

Fig. A4.1. PRISMA diagram reporting the identification of studies for inclusion in the review. Adapted from Page et al. (1). Three reviewers initially independently screened 500 records each using CAL and a combined screening sample of 1970 for a total screening sample of 3470 records. With an estimate of duplicate records of 8.4% among the first 1500, we estimate that a total of 3179 records were manually screened using CAL.



Reference

1. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. doi:10.1136/bmj.n71.

Annex 5. Data extraction form

General information

Study ID

Enter the Covidence record number here.

Example: #34

Title

Title of paper/abstract/report

Last name of lead author

Characteristics of study

Publication type

If publication type is "other" please specify the details below.

- Journal article
- Dissertation/thesis
- Report
- Other *Click or tap here to enter text.*

Aim/purpose/objective of study

Enter the research question or hypothesis.

Study design

Studies might not always explicitly state the design, in which case select the best option based on the methods section. If unclear, please include any relevant information in the notes section below.

- Randomized controlled trial
- Non-randomized experimental study
- Quasi-experimental design
- Cohort study
- Cross-sectional study
- Case-control study
- Case series
- Case report
- Economic evaluation
- Comparative case study
- Policy analysis
- Qualitative research (specific approach)
- Other *Click or tap here to enter text.*

Country/setting

If the study is comparing countries/settings, ensure all the countries are listed, separated by semicolons. If the study does not mention the country but mentions a region, enter the region.

Population description

Describe the overall population. For more than one population start a new paragraph.

Gender

Enter the breakdown of population gender if reported.

Sexual orientation

Enter the breakdown of population sexuality if reported.

Race

Enter the breakdown of population racial composition if reported.

Age

Enter the overall age of population if reported. If age is reported as a range (e.g. 35–50 years) enter the relevant range and accompanying value with a colon in between (e.g. 60–79: 50%). If there are multiple ranges, separate using a semicolon (e.g. 60–79: 50%; 80–99: 50%).

Place of residence

Enter the breakdown of places of residence (e.g. rural, urban, suburban, long-term care [LTC] congregate setting, etc.) if reported.

Occupation

Enter the breakdown of occupations if reported.

Religious backgrounds

Enter the breakdown of religious backgrounds if reported.

Education

Enter the breakdown of educational backgrounds if reported.

Socioeconomic status

Enter the breakdown of socioeconomic status if reported.

Social capital

Social capital refers to social relationships, networks and social support. Enter information related to the social capital of the population if reported.

Disability

Enter the breakdown of the population disability categories if reported.

LTC financing**LTC system description**

Describe the overall LTC system. For more than one system start a new paragraph.

Financing description

Describe how the LTC system is financed. For more than one system start a new paragraph.

Funding mechanism

Enter the details of the funding mechanism(s) in the relevant column. Enter NA in boxes where the funding mechanism is not applicable. Include the percentage mix for each funding mechanism if reported. If not reported, enter NR.

Funding mechanism	Details	Percentage mix
Guarantees		
Insurance		
Fees for service		
Loans		
Repayable contributions		
Result-based financing		
Equity		
Bonds		
Charitable donations		
Local government subsidies		
Taxes		
Co-payment by users		
Central government subsidies		
Other		

Service description

Describe the services covered under the programme policy reform or initiative if reported.

Coverage

How does the initiative/programme/policy/reform address LTC coverage? Enter NA if not addressed.

Quality

How does the initiative/programme/policy/reform address LTC quality? Enter NA if not addressed.

Financial protection

How does the initiative/programme/policy/reform address LTC financial protection? Enter NA if not addressed.

Financial sustainability

How does the initiative/program/policy/reform address LTC financial sustainability? Enter NA if not addressed.

Empirical evaluation

Intervention

What is the initiative/programme/policy/reform?

Comparator

What is the initiative/programme/policy/reform being compared to?
If there is no comparator enter NA.

Intervention time frame

What is the time frame of the intervention?

Examples: policy put in place in June of 2017; pilot project from January 2017 to August 2019.

Data sources

Enter the sources of data. If there are multiple sources separate them with a semi-colon.

Dates of data collection

Enter the start and end date of data collection in yyyy/mm format.
If data sources are distinct years enter all years of data collection separated by commas.

Examples: 2017/11–2018/03; 2014; 2019; 2021.

Key findings and/or outcomes

Enter the key findings related to LTC financing.

Author's overall conclusion

Enter the authors' conclusions as it relates to LTC financing.

Reviewer notes

Enter any relevant notes or comments that are not captured elsewhere.

World Health Organization
Centre for Health Development
(WHO Kobe Centre – WKC)
Kobe, Japan
www.who.int/kobe_centre/en/

