



The use of social return on investment approaches to evaluate integrated long-term care in high-income countries: A scoping review

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ABSTRACT

Background: The increasing number of older adults with complex care needs underscores the urgent need for improved coordination between health and social services, emphasizing the importance of integrated care models. The Social Return on Investment (SROI) framework is a valuable tool for evaluating the social, economic, and environmental impact of healthcare interventions, including integrated long-term care (LTC) solutions. However, a gap remains in reviews specifically analyzing its application to integrated LTC interventions.

Objective: To examine how SROI has been used to evaluate integrated LTC interventions, particularly for older adults.

Methods: A scoping review of peer-reviewed and grey literature was conducted, covering January 2012 to June 2024, through MEDLINE, CINAHL, Google Scholar, and citation searches. Three independent reviewers assessed study eligibility, following PRISMA guidelines. Data were extracted using PICOS terms and organized into summary tables detailing study characteristics and SROI findings.

Results: Out of 556 screened papers, only 11 studies met the inclusion criteria, with most conducted in the UK. SROI evaluations focused on Personal and Community Resources, such as improved physical and mental health and social connections, while Public Resource benefits, including reduced healthcare workloads, were noted in seven studies. Financial proxies came from sources like HACT Social Value Bank and Global Value Exchange. All studies reported positive SROI ratios, though methodological limitations affect interpretation.

Conclusions: The application of SROI to integrated LTC remains limited, primarily UK-based and reliant on context-specific methodologies. Expanding its use requires standardized methods, broader geographic representation, and localized proxies for more accurate evaluations.

Abbreviations

CR	Community Resources
ER	Environmental Resources
GP	General Practitioner
LTC	Long-term care
MDT	Multidisciplinary team
NO	Negative Outcomes
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
OR	Organizational Resources
PLWD	People living with dementia

PR	Personal Resources
PRISMA	Preferred Reporting Items for Systematic reviews and Meta-Analyses
PuR	Public Resources
RR	Regional Resources
SPRINT	Social Protection Innovative Investment in Long-Term Care
SR	Societal Resources
SROI	Social Return on Investment
ToC	Theory of Change
UK	United Kingdom
VCS	Voluntary and Community Sector
WHO	World Health Organization

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1. Background

The increasing prevalence of age-related chronic illnesses and comorbidities requiring complex and diversified care and support, highlights the critical need to integrate care across health and social services [1–3]. However, assessing the benefits of integrated LTC programmes or interventions against their associated costs is a complex task, as these initiatives often yield diverse and far-reaching effects on individuals, families, and communities [4,5].

The Social Return on Investment (SROI) framework is a recognized tool for assessing the broader impact of health and social care interventions [6–9]. Building on cost-benefit analysis (CBA), SROI incorporates social value alongside financial outcomes [7–11]. It adopts a bottom-up approach to capture social, financial, and environmental outcomes, engaging stakeholders in co-developing a Theory of Change (ToC) to map intervention impact [7,8]. By assigning monetary values to outcomes through financial proxies, SROI helps quantify benefits that traditional evaluations often overlook, offering stakeholders insights into intervention effectiveness [9,12–14].

Similarly to CBA, SROI compares benefits to costs over time, measuring the value created relative to the investment (e.g., a 3:1 ratio indicates 3 units of social value for every unit invested). However, the SROI ratio should not be interpreted as an entirely precise measure that fully captures the total costs and value generated by an intervention, nor should it be used for direct comparisons between cases. Instead, SROI results should always be accompanied by a discussion contextualizing the findings, a sensitivity analysis to examine how variable selection and weighting influence outcomes, and the ToC/logic model illustrating the relationship between inputs and impacts [6,12,15].

The latest SROI guide defines it as a framework for capturing a broader concept of value, aimed at reducing inequality and environmental degradation while improving well-being by incorporating social, environmental, and economic costs and benefits [7,8]. It also specifies

that conducting a SROI analysis entails six distinct stages and is guided by seven fundamental principles [Fig. 1].

Existing reviews on the use of SROI in health interventions include two scoping reviews [16,17], which informed a subsequent review [18], four systematic reviews [15,19–21], one protocol for a systematic review [22], and one meta-analysis [6]. Considering that none of these were specifically focused on applying SROI approaches to evaluate integrated LTC solutions for older adults, this study addresses a key policy gap by responding to the need for frameworks capable of measuring the diverse impacts of such interventions or programmes [3,23]. This review adds to policy discussions by highlighting the methodological fragmentation [6,15] and geographic concentration [16,19] of current SROI applications, underscoring the need for harmonized, policy-relevant approaches to evaluation [18,24,25].

1.1. Definitions

For the purpose of this scoping review, the adopted definition of “integration” follows the perspective proposed by Leutz [26], which conceptualizes it as the effort to link the healthcare system—including acute, primary, and skilled care—with other human service sectors, such as long-term care, education, and vocational or housing services, to enhance clinical outcomes, satisfaction, and efficiency. Thus, only interventions that aim to improve linkage, coordination and/or integration of health and social care components of long-term care in the community were considered [26,27]. It can include elements of case management (e.g. patient needs assessment and personalized care plans with referral to relevant activities), care coordination [e.g. involvement of a multidisciplinary team (MDT)], and disease management (e.g. focusing on people with chronic conditions, or PLWD) to improve health and wellbeing (e.g. social prescribing, arts-based therapies), ensuring sustained engagement (e.g. peer-support programs for people with dementia), and/or empowerment of people and communities as



Fig. 1. The six stages and seven principles of SROI analysis.
Sources: Banke-Thomas et al. [19] and Nicholls et al. [7,8].

co-producers of care (e.g. self-care programs and participatory decision-making models). Those centered in illness and cure, in which the relationship is limited to the moment of consultation, and where users engage primarily as service recipients rather than active participants in their care), weren't considered.

LTC is understood as:

A range of services required by persons with a reduced degree of functional capacity, physical or cognitive, and who are consequently dependent for an extended period of time on help with basic activities of daily living (ADL). This 'personal care' component is frequently provided in combination with help with basic medical services such as 'nursing care' (help with wound dressing, pain management, medication, health monitoring), as well as prevention, rehabilitation or services of palliative care. Long-term care services can also be combined with lower-level care related to 'domestic help' or help with instrumental activities of daily living (IADL). [23: 11–12].

Regarding stakeholders, we adopt a definition which describes them as "people or organizations that experience change or influence the activity, whether positively or negatively, as a result of the activity being analyzed." [8: 20]. The chosen concept of stakeholders explicitly follows a "bottom-up" approach or a focus on identifiable actors, and therefore refrains from designating other social reference levels as stakeholders, such as society as a whole [25]. Similarly to previous reviews [15,19], the different types of stakeholders were defined as:

- Beneficiaries: users, those who experience the outcomes of an intervention.
- Implementers: includes project managers, suppliers and subcontractors.
- Promoters: those who provide support and a conducive environment for implementation of the intervention.
- Funders: those who finance the project.

1.2. Aim of the current review

The primary objective of this scoping review is to assess the extent of the literature published in peer-reviewed articles and grey literature between 2012 and 2024 [extending the timespan a previous meta-analysis [6], which ended in 2012] that address the use of SROI approaches to evaluate integrated LTC solutions, primarily oriented towards older adults. To our knowledge, this is the first scoping review specific on the topic.

In trying to address current trends and gaps on the topic, the specific objectives were to (1) verify to what extent are SROI studies available focusing on older adults, specifically in terms of evaluating integrated LTC solutions, (2) identify the outcomes used to assess overall and economic impact across the different analysed studies, and (3) map the financial proxies used.

2. Methods

The current review followed the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) approach [28–30].

Table 1
PICOS criteria for inclusion and exclusion of studies.

Parameter	Inclusion criteria	Exclusion criteria
P (Population)	Older adults (+60). No restriction on the conditions and population characteristics	Children, youth or adults under 60
I (Intervention)	Any intervention, program or policy in integrated LTC solutions	Interventions or initiatives outside LTC settings
C (Comparator)	Conventional LTC solutions / The intervention group itself, before the intervention takes place	–
O (Outcomes)	Health, social and economic impacts evaluated with the SROI framework	–
S (Study Design)	Experimental and quasi-experimental studies, randomized and non-randomized control trials, before and after studies, interrupted time-series studies, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies, descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies that have a SROI component for integrated LTC solutions	SROI framework is used partially and the SROI ratio is not reported

2.1. Inclusion and exclusion criteria

Peer-reviewed and grey literature studies which capture the SROI approach to evaluate any intervention, program or policy in integrated LTC solutions in high-income countries were included in the analysis. As exclusion criteria only studies involving older adults were eligible and interventions or initiatives outside LTC settings weren't considered, as well as publications that were not written in English. The following table reports the inclusion and exclusion criteria following PICOS criteria (Table 1).

2.2. Search strategy

The search strategy targeted English-language peer-reviewed and grey literature publications that capture the SROI approach to evaluate IC solutions in LTC. This review employed a two-step search strategy: first, peer-reviewed articles were searched in selected databases, specifically PubMed and CINAHL (via EBSCO); second, grey literature publications were identified using the Google Scholar web search engine and a citation search was undertaken amongst the reviews screened in all previous databases.

Search terms selection was shaped by previous scoping and systematic reviews on SROI in health interventions. At the initial search stage, the term "long-term care" was also included; however, it yielded a low number of results. The researchers felt that using this term might exclude studies focused on more specific long-term care settings, such as community or home care (Additional File 1).

The aim to supplement the timespan of a previous meta-analysis of practice in SROI studies [6] justifies starting the search in 2012 (the upper limit of the cited meta-analysis), while the option for June 2024 as the upper limit for the date of publications to be analyzed is related to the relevance of the recency of the literature considered in the scoping review. Studies from Europe, USA, Canada, Australia, Singapore and Japan were eligible.

The search was conducted in June and July 2024 by one researcher. Subsequently, two researchers independently screened articles against the predefined PICOS criteria for inclusion and exclusion of publications. A third independent reviewer took the final decision on the eligibility of publications for which consensus was not reached.

2.3. Data extraction and synthesis

A comprehensive extraction form was built to retrieve relevant information from the selected publications including qualitative information regarding the *characteristics of included studies* and the extracted data related to *SROI application*, namely evidence on the type of SROI analysis, the type(s) of stakeholders included, the presentation of a theory of change/logic model scheme, the study design, the existence of a control group, the data source(s) used, the identified outcome groups, the use of established proxy database(s), the calculated SROI ratio and the conduction of a sensitivity analysis. The findings of the included studies, namely conclusions, recommendations/implications, strengths

and limitations, also informed our analysis.

One of the key objectives of this review was to identify the outcomes used to assess overall and economic impact across the retrieved studies. Given the extensive number of outcomes identified and the lack of standardization within the field, we applied a grouping framework previously used in the literature [6,15]. An iterative process was used to classify the types of outcomes reported in the studies. These outcomes were listed and grouped into categories [e.g., physical health status, stronger communities (increased social connections/contacts), reduced workload for public bodies, etc.]. They were then aligned with the respective "indicator groups", with each addressing a distinct type of impact and organized along a continuum of increasing specificity, ranging from public (or state) resources to personal resources. At this stage, some degree of overlap emerged between certain categories within the same group (e.g. well-being vs mental health; reduced workload vs increased efficiency), suggesting they may not be mutually exclusive. However, such instances were limited in number, carefully looked at during the classification process, and, most importantly, did not compromise the interpretation of findings, as they occurred within the same overarching outcome domain. An additional group was included to capture negative outcomes. For simplicity, these will be referred to as "outcome groups" in this review, using the original classifications and abbreviations: Community Resources (CR), Environmental Resources (ER), Negative Outcomes (NO), Organizational Resources (OR), Personal Resources (PR), Public Resources (PuR), Regional Resources (RR), and Societal Resources (SR).

3. Results

3.1. Characteristics of included studies

The review identified a total of 582 publications. After screening of title and abstracts 30 remained. Full text screening resulted in the inclusion of 11 publications exploring the use of SROI approaches to evaluate integrated LTC solutions suitable for inclusion in the final evidence synthesis. Of the 11 included studies, four were identified through PubMed and CINAHL [32–34], with the remaining seven being retrieved from Google Scholar and citation searching [35–41]. The search, identification and selection process are summarized in detail in the accompanying PRISMA diagram (Fig. 2).

All retrieved studies were published between 2015 and 2024, about half in peer-reviewed journals [31–34,39,41], and five in grey literature [35–38,40] (Table 1). One was conducted in Singapore [36], the remaining 10 in the United Kingdom (UK), mainly England [32,35,37–41], but also in Wales [31,34], or in both England and Wales [33] (Table 2).

Although this review did not intend to compare interventions, it was deemed relevant to outline their respective aims. Enhancing social engagement was the most common objective, included in six studies [31,33–35,39,41], followed by promoting independence and autonomy, which was featured in three [31,32,40]. Two interventions were aimed at fostering creativity and well-being through arts-based programs [33,39], while supporting carers by providing flexible and reliable arrangements was emphasized in other two [34,41]. Targeted health education by engaging pharmacy undergraduates in practice was

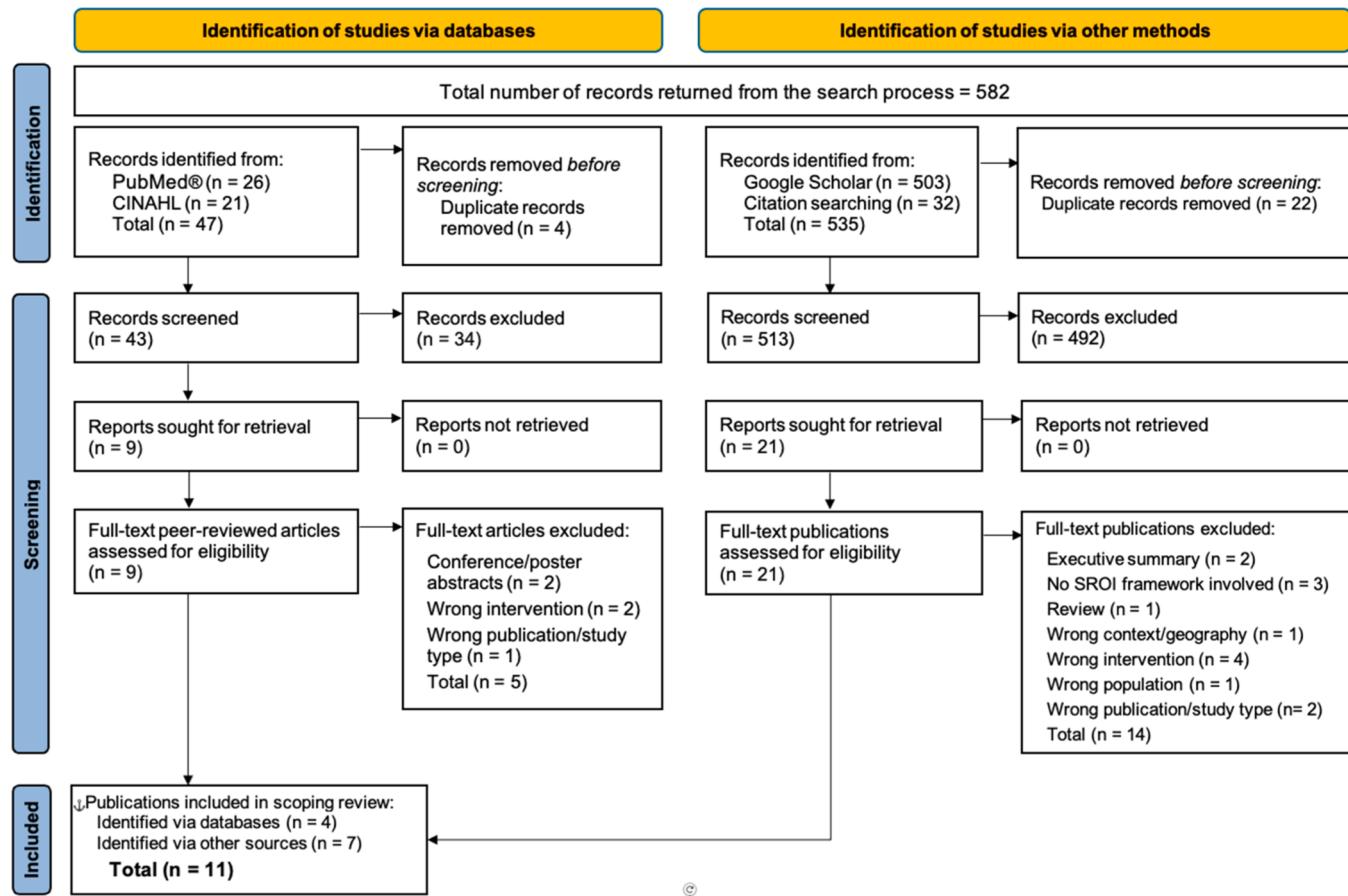


Fig. 2. PRISMA-ScR Flow Diagram summarizing the scoping review search process.
Source: Adapted from Page et al. [29].

Table 2

Characteristics of included studies.

Ref.	Title	Study demographics		Country	Aim of intervention	Population	Intervention Setting(s)	Type of integrated care
		Year	Publication type					
[31]	<i>Social Return on Investment Analysis of the Health Precinct Community Hub for Chronic Conditions</i>	2020	Peer-reviewed journal	Wales	Promoting social participation, enhancing individual's autonomy and independence	Older adults (55+), living at home, with no or mild cognitive impairment	Community	Coordination (Social prescribing referral to tailored exercise plans, therapy, and support to improve health and self-management of chronic conditions)
[32]	<i>RCT-based Social Return on Investment (SROI) of a Home Exercise Program for People with Early Dementia Comparing In-Person and Blended Delivery Before and During the COVID-19 Pandemic</i>	2024	Peer-reviewed journal	England	Promoting activity, independence, and stability in early dementia while serving as a cost-effective alternative to day center and residential services	Older adults, living at home, with early dementia	Home-care	Coordination (Home-based exercise program and community referral (limited for the blended program))
[33]	<i>Dementia and Imagination: A Social Return on Investment Analysis Framework for Art Activities for People Living with Dementia</i>	2020	Peer-reviewed journal	England and Wales	Enabling creativity, inspiration, and social connections, enhancing well-being and personal development	People living with dementia (PLWD) or evidence of age-related memory impairment and carers	Residential care homes, Hospitals, Community venues	Linkage (Arts-based programme and social participation)
[34]	<i>A Study to Explore the Feasibility of Using a Social Return on Investment Approach to Evaluate Short Breaks</i>	2023	Peer-reviewed journal	Wales	Helping PLWD achieving their well-being goals, fostering supportive and connected communities and providing unpaid carers with flexible, reliable, and consistent short breaks	PLWD and their unpaid carers	Community amenities	Coordination (Tailored day support arrangement to PLWD and their unpaid carers)
[35]	<i>Measuring Well-being Outcomes in Older People Receiving Help from The Age UK 'Together for Health' Initiative: A Social Return on Investment Analysis</i>	2016 Report		England	Reducing social isolation and loneliness among older adults who frequently visit their GP or hospital	Older residents with and without dementia	Community amenities	Coordination (Support in practical and health-related activities, post-hospital discharge checks, social inclusion and service signposting)
[36]	<i>Impact of Community Health Angels Monitoring Programme: Evaluating a Pharmacy Service-Learning Programme</i>	2018	Academic journal	Singapore	Engaging older community members with medical needs while providing pharmacy undergraduates an opportunity to apply their knowledge in practice	Older adults with chronic conditions	Home-care	Coordination (Chronic disease monitoring, preventive support and social participation)
[37]	<i>The Rotherham Social Prescribing Service for People with Long-Term Health Conditions: Annual Evaluation Report</i>	2015 Report		England	Enhancing General Practitioners (GP) capacity to address the non-clinical needs of patients with complex long-term conditions who heavily utilize primary care resources	People with long-term health conditions	Community amenities	Coordination [Social prescribing referral to voluntary and Community Sector (VCS) activities]
[38]	<i>The Social Prescribing service in the London Borough of Waltham Forest: final evaluation report</i>	2017 Report		England	Enhancing access to support services that improve health and well-being while expanding the role of the VCS in service provision	General population 18+	Community amenities	Coordination (Social prescribing referral to package of psychological and physical health support in the community or statutory sector)
[39]	<i>The social value of the arts for care home residents in England: a social return on investment (SROI) analysis of the Imagine Arts programme</i>	2019	Peer-reviewed journal	England	Improving care providers skills to deliver high-quality art programs and without for older adults, while promoting dementia their social engagement and health through tailored, participatory activities	Older residents with dementia	Residential care homes	Linkage (Arts-based programme and social participation)
[40]	<i>Self-Care Social Prescribing - Social Return on Investment</i>	2018	Report	England	Empowering patients to make informed health decisions and adopt healthy habits by increasing access to community-based support sessions	Older adults (+65) with long-term conditions	Community amenities	Coordination (Social prescribing referral to health and wellbeing services and activities provided by VCS organizations)
[41]	<i>Quantifying the benefits of peer support for people with dementia: a social return on investment (SROI) study</i>	2018	Peer-reviewed journal	England	Reducing isolation and loneliness associated with dementia and providing information and support to PLWD and their carers on how to manage the condition to live well	PLWD and their carers	Community amenities	Linkage (Peer-to-peer learning and support with community-based services)

described as goal in one study [36], and one intervention was aimed at improving the capacity of general practitioners (GPs) to address non-clinical needs of patients with complex conditions [37].

Most interventions were primarily targeted at older adults with chronic conditions or dementia [32–34,36,37,40,41]. Of these, three were specifically aimed at people living with dementia (PLWD) [33,34,

41], with two also addressing the needs of their unpaid carers [33,41]. Older adults in general (with and without dementia) were the focus of three interventions [33,35,39], whereas one study included the general population aged 18+, aiming to broaden access to community health services [38].

In terms of settings where the interventions took place, as commonly observed in care integration strategies, community-based approaches (e.g. social prescribing initiatives that connect individuals to resources such as physical activity or arts-based programs and social participation opportunities through community amenities) were the most prevalent, appearing in eight studies [31,33–35,37,38,40,41]. Home-care settings

were featured in two, specifically for older adults with early dementia or chronic conditions [32,36]. Residential care homes also served as settings for interventions in two studies, with one also incorporating other venues such as hospitals or community settings [33,39]. Primary care settings were included in one study, alongside community-based support services [40].

The types of integrated care varied across the interventions. Most studies [31,32,34–38,40] had an intermediate level of integration, falling under the “Coordination” umbrella [26], while three included interventions which better align with “Linkage”, the first, lower level of integration [33,39,41].

Table 3
SROI application.

Study characteristics	Number of studies	Examples
SROI Type		
Evaluative-type only	9	
Forecast-type only	1	
Evaluative + Forecast-type	1	
Stakeholders included		
Only beneficiaries	3	
Beneficiaries and implementers	3	Beneficiaries: Care home residents; Informal and/or formal carers
Beneficiaries and promoters	–	Implementers: Artists delivering the sessions; Companions
Beneficiaries and funders	1	Promoters: Care home providers; NHS
Beneficiaries, implementers and promoters	–	Funders: NHS; Public funders of health and care research; Public funders of artistic and cultural activities
Beneficiaries, implementers and funders	1	
All stakeholders	3	
Theory of change framework/logic model		
No	4	
Yes	7	
Study design		
Baseline and follow-up data collection	1	
Baseline and follow-up data collection + stakeholders' insights	6	
Post-intervention data collection + stakeholders' insights	4	
Control group		
No	10	
Yes	1	
Data source(s)		
Qualitative alone	–	
Qualitative + primary	1	Qualitative sources: Interviews and/or focus groups with stakeholders
Qualitative + secondary	2	Primary quantitative data sources: Life Essentials Assessment Framework (LEAF); Carer Strain Index (CSI); Falls Efficacy Scale International (FES-I)
Qualitative + primary + secondary	7	Secondary quantitative data sources: Data regarding the number of GP appointments and/or acute hospital episodes; Case notes
Quantitative (primary) alone	–	
Quantitative (secondary) alone	–	
Quantitative (primary + secondary)	1	
Outcome groups*		
Personal Resources - PR	11	(Physical and mental) Health status; Human capital (Knowledge and skills); Independence; Job satisfaction
Community Resources - CR	11	Increased social connection/contacts; Increased participation in community activities/community engagement
Public Resources - PuR	7	Reduced workload for public bodies/health service usage (e.g. NHS); Increased efficiency of procedures
Regional Resources - RR	2	Increased private incomes; Economic development (productivity, employment)
Organizational Resources	1	Improved reputation/publicity
Societal Resources	1	Awareness raising for the issue at hand (public discourse)
Environmental Resources - ER	–	Ecological awareness; Environmental; Preservation (avoidance of pollution)
Negative Outcomes - NO	2	Creation of increased investment needs (negative SROI ratio); Adverse job satisfaction outcomes
Use of established proxy database(s)		
No	6	
Yes	5	HACT UK Social Value Bank; Global Value Exchange
SROI ratio		
Negative	1	
Positive	10	
Sensitivity analysis		
No	3	
Yes	8	

* As defined by Krlev et al. [6].

3.2. SROI application

Of the 11 analyzed publications, nine focused on evaluative-type SROI studies [31–37,39,41]. One study utilized a forecast-type [38], and another incorporated a combination of both evaluative and forecast-type SROI [40] (Table 3, Additional File 3).

In all the reviewed studies, stakeholders were identified before determining which would be included in the SROI analysis. An examination of stakeholder inclusion in the evaluation phase revealed that only in three studies all key stakeholder groups—beneficiaries, implementers, promoters, and funders - were included in the SROI assessments [39,40,31]. One study [35] included beneficiaries, implementers and funders in the SROI analysis, and another included beneficiaries and funders [33]. Three incorporated both beneficiaries and implementers [34,36,41], while another three considered only beneficiaries in the evaluation phase [32,37,38]. These groups are frequently primarily engaged to inform the development of the ToC/logic model, which was presented in seven of the retrieved studies [31–35,39,40].

Regarding the study design, seven of the included publications involved baseline and follow-up data collection [31–33,35,37–39], four undertook data collection post-intervention [40,36,34,41], and 10 used stakeholders' insights [31,33–36,38,39,37,40,41]. One study [32] also used a control group.

The data underpinning the SROI application, including stakeholder outcomes and their valuation, was collected from a range of sources. The majority of studies relied on a combination of qualitative data (e.g. interviews/focus groups with stakeholders), primary quantitative data (e.g. surveys to stakeholders), and existing secondary quantitative data (e.g. data regarding the number of GP appointments) [31,33,34,37,38–40]. A smaller number used a mix of qualitative data and existing quantitative information [36,41], while one study utilized only quantitative information (both primary and secondary) [32] (Table 3).

3.2.1. Outcomes and financial proxies used to measure the economic impact and social value of interventions

Almost all the previously described outcome groups were represented in the sample of analyzed studies, except for those related to Environmental Resources (ER) [e.g. ecological awareness, environmental preservation (avoidance of pollution)] (Additional file 4).

As expected, given that all the retrieved studies focused on integrated LTC interventions, the outcome groups were primarily dominated by those related to Personal Resources (PR) and Community Resources (CR), both of which were present in all publications (Additional File 4). However, when considering multiple occurrences per study, PR-related outcome categories (e.g., physical and/or mental health status, human capital such as knowledge and skills, independence, meaningful activities/hobbies) more than doubled the prevalence of CR-related ones (e.g., stronger communities through increased social connections/contacts and cohesiveness, such as integration of networks involving family and friends) Public Resources (PuR) -related outcome categories, such as reduced workload for public bodies/health service usage (e.g. NHS) or increased efficiency of procedures were present in seven studies [31,32, 35–38,40]. Regional resources (RR) such as increased private incomes and economic development (productivity, employment) outcomes were represented in two studies [35,38], similarly to Negative Outcomes (NO) [e.g. creation of increased investment needs (negative SROI ratio) and adverse job satisfaction outcomes] [32,36]. Organizational Resources (OR), such as improved reputation/publicity and Societal Resources (SR), namely awareness raising for the issue at hand (public discourse) were only represented in one study each [35,39].

Financial proxies, which assign monetary values to non-market outcomes such as health improvements, social connectedness, or independence, were widely used in the retrieved studies to quantify the economic impact and social value generated by the interventions, enabling the calculation of SROI ratios. Almost half of the studies relied on established proxy databases, such as the HACT Social Value Bank

(42), which contains a suite of 88 outcomes, each having a defined financial metric (e.g. good overall health valued at £20,141, regular attendance at a social group valued at £1850). This database applies well-being valuation based on national surveys to estimate the effect of specific factors (e.g. independence) on an individual's well-being [31–35].

Complementary or alternative approaches to established proxy databases were also adopted. For example, market-based prices of existing services or products were used as conservative proxies to estimate the value of interventions, such as community-based activities or care services. Outcomes related to health service utilization were measured using proxies such as avoided GP consultations, reduced outpatient costs, and savings in hospital care expenditures. For example, NHS costs were frequently used to estimate the reduction in resource use. Additionally, proxies were applied to informal care contributions, where the economic value of unpaid caregiving by family members or volunteers was estimated based on replacement costs or time equivalents.

The proxies were then utilized to calculate SROI ratios, which quantify the social value generated for every monetary unit invested. All studies presented positive ratios, ranging from relatively modest values, such as £0.58 for every £1 invested [32], to higher returns exceeding £5 for every £1 invested [31,33,41]. Only in one case a negative SROI was calculated, for a home-based exercise program with referral to community activities, which due to the COVID-19 pandemic needed to be delivered in a blended format (the ratio for the in-person delivery was positive, despite its greater cost), with implied the restriction of community activities [32]. Therefore, while all publications supported the respective interventions based on the social value generated, this case highlighted the need for further research to refine (lower cost) blended approaches for improved cost-effectiveness. The higher ratios (around 5:1) were obtained in interventions that share elements of coordination, social engagement, and long-term impact [31,33,35,41]. Some involve linking individuals to multiple forms of support, whether through social prescribing referrals to physical activity and participation or practical and health-related assistance, post-hospital discharge checks, and service signposting, suggesting that enhanced care coordination may contribute to higher social value [35,31]. Meanwhile, others emphasize interventions in which participants are actively engaged in groups of arts-based activities and peer support [33,41], which have been linked to improved (mental and physical) health and reduced care burden [43, 44].

Among the included studies, eight conducted a sensitivity analysis to assess the robustness of their SROI estimates [31–35,38,39,37], testing how variations in key assumptions (e.g., proxy values, discount rates, attribution factors) affect the final ratio. Three studies did not conduct, or at least didn't explicitly report, such an analysis [36,40,41].

3.2.2. Challenges and opportunities in the use of SROI

In analyzing the strengths, limitations and recommendations/implications identified in existing studies which applied SROI approaches to evaluate Integrated LTC solutions, the use of this framework seems to pose potential and notable challenges. On the one hand, the reviewed studies highlighted strengths such as: (i) the inclusion of various stakeholder groups [31]; (ii) the capture of multiple outcomes of a complex intervention, which are relevant to stakeholders [32]; (iii) the evaluation of different groups (of participants) with distinct designs and structures, through a mixed methods approach [41]; (iv) the active participation of older adults (participants) during the whole period of the study [39]; or (v) the adoption of a societal perspective [31]. Positive SROI ratios across interventions underscored the cost-effectiveness and social value of these initiatives, emphasizing their role in supporting health systems, social care, and community well-being.

However, several challenges were identified in the consistent application of SROI methodologies. These include unavailable data for some stakeholders [31,34,35,40,41], small sample sizes, lack of primary data, and absence of longitudinal data, all of which limit accurate social

value estimation and long-term impact assessment [38]. The lack of control groups also complicates attribution of outcome changes to interventions [35,37–39]. This limitation, along with the lack of standardization across studies, particularly regarding the measurement and valuation of outcomes (financial proxies), and the programs/interventions and proxies being specific to geographical contexts, restrict the generalizability of results and comparison between programs/interventions [32,33,39]. Other aspects such as the reliance on subjective indicators to measure outcomes, assigning financial proxies to soft themes (e.g. wellbeing, confidence), the dependence on researcher discretion to match outcomes with proxy values, or the risk of focusing solely on the ratio without looking at the content behind it, were also mentioned as limitations [32,40,41]. The COVID-19 pandemic may have further exacerbated these issues, disrupting program implementation and data collection, which likely influenced reported outcomes [32].

4. Discussion

Focusing on interventions aimed at older adults, this scoping review sought to examine the body of research in English on the use of SROI approaches to assess integrated long-term care (LTC) interventions or programmes. The results provided insights into a narrow area of research in this field, which was mainly dominated by studies related to various interventions within the British, specifically the English NHS. The studies included in this scoping review did not contain a comparison to a control group, except for one study, and some questions regarding the general applicability of SROI attempts to measure PC-IC remain up for discussion [25].

The results suggest that although SROI framework is being applied to capturing the complex effects of LTC interventions and programmes, its use in this field is still limited, as only a relatively small number of studies ($n = 11$) qualified for inclusion in this scoping review.

Additionally, the dominance of UK-based publications reflects previous findings [15,16,19] and raises concerns about broader applicability, as LTC arrangements vary significantly across countries [23], from the extent and type of government involvement to the roles and influence of other stakeholders in LTC.

Most studies used established SROI methods [7,8], applying mixed methods to combine qualitative and quantitative data, an approach increasingly used in health research [45,46]. The majority aimed to address broader well-being and social determinants of health, such as promoting social engagement, enhancing autonomy, and fostering supportive communities. As in previous reviews [6,15], personal and community resource outcomes such as improvements in physical and mental health, social participation, and independence, were most reported. The substantial emphasis on these domains underscores SROI's applicability in capturing wider determinants of health, thus going beyond more conventional perspectives [18]. Nevertheless, leveraging the use of SROI in integrated LTC to evaluate impacts in a broader set of outcome groups, such as societal (e.g. gender equality in care delivery) and environmental (e.g. telemedicine) resources, could extend its relevance beyond traditional healthcare settings.

Significant methodological heterogeneity was observed in the included studies. Key areas of inconsistency include the scope of stakeholder inclusion, the selection of financial proxies, and the use of sensitivity analysis. While some studies incorporated a broad range of stakeholders - including beneficiaries, implementers, promoters and funders - others engaged only a part of these groups, similarly to what was found on previous reviews of SROI use in public health and physical activity and sports interventions [15,19]. As stakeholder engagement is a fundamental premise of SROI [7,8,10], excluding critical actors may lead to an incomplete assessment of social impacts. This supports the need for a more systematic use of the SROI principles and guidance on how to apply them to further develop the framework [9,18]. Nearly half of the studies relied on established proxy databases, mostly HACT Social Value Bank, but also Global Value Exchange [42,47], but market-based

valuations or ad hoc estimates were also used. These proxies play a key role in quantifying non-market outcomes, such as wellbeing and confidence, but their use has its challenges. The HACT Social Value Bank exemplifies this approach, providing financial metrics for 88 outcomes that account for wellbeing improvements, healthcare savings, and, where applicable, state-level cost reductions [42]. These values are grounded in extensive research and national data surveys conducted over almost a decade, focusing on individuals lived experiences and self-reported wellbeing to ensure a person-centered and evidence-based perspective. However, while such established proxy databases contribute to standardizing the assignment of monetary values to outcomes, thereby enhancing the robustness of SROI assessments, their reliance on context-specific (UK) data poses limitations for broader applicability. Although the UK remains the most prominent user of the SROI framework, which was reflected in the present review, this geographic concentration raises concerns about findings' relevance to other countries [6,15,19,20], limiting the utility of SROI evidence for cross-country policy learning or EU-wide LTC reform. Similar concerns were raised in the Social Protection Innovative Investment in Long-Term Care (SPRINT) project, which developed tools to adapt SROI for long-term care in diverse European contexts. These include a feasibility framework for calculating SROI using localized proxies, a map for assessing LTC financing risks, and a guide for applying adaptive financial proxies suited to different welfare state models [24,48,49]. These initiatives highlight the need for context-specific SROI approaches, considering LTC financing, service models, and labour conditions beyond the UK. The emphasis on public sector savings is also challenging, as it may overlook the social value linked to improved quality of life and raises debate over whether savings should reflect variable or total costs [10]. These arguments support the call for a standard set of proxy values for monetization of outcomes [18].

Despite methodological variations, studies consistently reported positive SROI ratios (0.58:1 to over 5:1, with only a blended delivery of an intervention having a negative ratio), indicating substantial social value from integrated LTC interventions. However, as noted in previous reviews on SROI in health interventions [16,18,19], ratios vary due to differences in methodology, stakeholder inclusion, timespans, and outcome measures. Additionally, while some interventions differ in scope but share characteristics which could explain their higher SROI ratios [31,33,35,41], these should be interpreted with caution, as some of the other included studies also incorporate similar elements yet yielded different results. Moreover, the most recent SROI guide [8] explicitly advises against comparing ratios across different activities. Also, three studies included in this review, including one which ratio was amongst the highest, did not explicitly report having conducted a sensitivity analysis of the performed calculation, which is essential for assessing its robustness and reliability [6]. Rather than serving as definitive indicators of impact, ratios should be viewed as a basis for further exploration and debate on the social value of integrated LTC interventions.

SROI's strengths include its societal perspective and ability to capture outcomes that matter to multiple stakeholders, such as care recipients, formal and informal caregivers, and healthcare systems [7,8]. SROI can be used in favour of a more traditional cost-benefit analysis when a potential social intervention or mode of change appears to be less beneficial in a standardized way for the entire population, and local importance takes on a dominant [25]. However, challenges persist in developing a robust evidence base. As noted in the challenges section, other gaps such as unavailability of data for outcome measurement, the absence of control groups, inconsistencies in outcome measures and monetary proxies are notable limitations.

The findings align with prior reviews calling for methodological advancements in SROI application. For instance, the importance of aligning SROI principles with systematic reporting frameworks to enhance transparency was emphasized, while there was also a call for more rigorous approaches to selecting and justifying financial proxies

that account for local contexts [18,19].

4.1. Limitations of the current review

Although efforts were made to adhere to the established principles for conducting scoping reviews, the current analysis is not without its limitations, which must be acknowledged. Firstly, resource constraints restricted the search process to three databases: CINAHL, Medline, and Google Scholar. This limitation, combined with the focus on English-language publications, may have narrowed the pool of included studies and potentially reduced the diversity and scope of the analysis on the application of SROI in integrated LTC solutions. Furthermore, the selected search terms may not have captured all relevant configurations of integrated LTC interventions. Lastly, given the known heterogeneity of interventions and use of the SROI framework, the scope of this review didn't comprise the comparison of interventions and breakdown of the sensitivity analysis carried out in most of the included studies.

4.2. Policy and practice implications

The current review raises questions for policymakers, funders, and health managers considering utilizing SROI to assess integrated LTC interventions and offers insights on how the framework can be adapted to inform strategic decisions. Due to its inherent complexity, the provision of integrated LTC often involves a combination of formal and informal care arrangements as well interprofessional and intersectoral collaborations, crossing responsibilities and various of funding sources. In this context, translating outcomes into monetary values, which is a core feature of SROI, may risk oversimplifying nuanced social processes, particularly when evaluations prioritise short-term, publicly measurable effects [10,50]. This is a long-standing concern in SROI research, especially regarding how proxy values are selected. Valuing less tangible outcomes requires careful judgement, contextual evidence, and stakeholder insight to ensure proxies are meaningful and appropriate [7,8,19].

To address these limitations and fully realise the potential of SROI in the long-term care context, policymakers should consider the following recommendations:

- Support the inclusion of informal care and out-of-pocket cost in SROI analyses to reflect the full spectrum of social and economic impacts.
- Promote longitudinal SROI evaluations that capture delayed or cumulative benefits over time.
- Prioritise non-clinical person-centred outcome domain into national SROI guidelines or impact frameworks for LTC services capturing the full continuum of care across sectors (ie. social support, housing stability, community participation and care coordination).
- Support the creation of flexible SROI methodologies that include shared components (such as classification of outcomes, financial proxy libraries or logic model templates) while allowing for adaptation to national and local specificities. This can foster methodological coherence across regions and facilitate mutual learning, without imposing a uniform standard.
- Use SROI to encourage integrated reporting of outcomes across services and funders to support share data infrastructure and impact measurement.

This review also suggests many earlier SROI applications in LTC focused primarily on public sector advantages such as reduced utilization of public-guaranteed services or increased cost-effectiveness and underreport other value creation aspects. For example, recent research refers to the heavy economic burden that the out-of-pocket (OOP) costs impose on the care recipients and their families, especially in countries with weak public LTC coverage, leading to adverse health outcomes [51]. Excluding such costs can lead to incomplete or misleading accounts of the SROI obtained by interventions and reduce the usefulness

of this assessment for policymaking. Expounding a more comprehensive perspective of integrated LTC value therefore requires methodological approaches that draw on evidence from the perspective all concerned parties, including care recipients and informal caregivers.

Capturing a fuller picture of integrated LTC value may require methodological approaches that reflect experiences of all relevant stakeholders, including informal caregivers and care recipients. SROI may still be a suitable framework for informing local planning, priority setting, and cross-institutional dialogue among those involved in delivering and commissioning LTC, including health, social and community care services. However, to be effective, it must be adapted to the institutional, social, and financial specificities of each context. Decision-makers considering its use should prioritize a bottom-up perspective strategy, promoting efforts aimed at creating locally valid proxies, broadening outcome domains, and involving a broad range of stakeholders in the assessment process (6, 15). Recent initiatives on the application of the SROI framework to LTC [24,48,49], along with EU-level actions to support reforms and investments in this area such as strategic partnerships with the WHO and the Organisation for Economic Co-operation and Development (OECD) [52,53], highlight the growing momentum behind international efforts to improve evaluation of integrated LTC outcomes. These developments may also provide a favourable context for strengthening the relevance and rigour of SROI and other outcomes-based approaches in this field.

5. Conclusions

This scoping review represents an initiating effort to explore the use of SROI approaches to evaluate integrated LTC in high-income countries, specifically its potential for spanning social, economic and health-related outcomes. The current evidence, however, remains limited and is characterized by a lack of geographic and country-related diversity and high methodological discrepancy. Most of the included studies employ non-standardized approaches and heterogeneous reporting of financial proxies, whereas the dominance of UK-based studies underlines the need to expand the evidence base to include more internationally representative studies. Such limitations hinder the potential usefulness of SROI as a policy tool in heterogeneous health systems.

To reach its full potential for informing policymakers, SROI methods must be translated into local contexts. This could be achieved through developing locally relevant proxy values and active involvement of a variety of stakeholders in evaluation design. International-level collaboration is also required to promote standardization in methods and reporting to allow cross-country learning and comparison.

Policy makers and funders in high-income countries could benefit from looking at the creation and evolution of SROI not as a merely technical exercise but as an opportunity to bring accountability, transparency, and person-centeredness to LTC reform, planning, funding and evaluation. Strengthening the evidence base regarding social and economic value in LTC has the potential to contribute to better-informed, more equitable, and highly sustainable policy decisions amid population aging.

CRediT authorship contribution statement

Susana Ramalho Marques: Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ricardo Rodrigues:** Writing – review & editing, Validation, Funding acquisition, Formal analysis, Conceptualization. **Jürgen Zerth:** Writing – review & editing, Validation. **Carola Orrego:** Writing – review & editing, Methodology.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

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Supplementary materials

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