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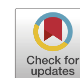
Original Research

# Advancing the social return on investment framework to capture the social value of public health interventions: semistructured interviews and a review of scoping reviews



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A R T I C L E I N F O

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A B S T R A C T

*Objectives:* Investment in public health has far-reaching impacts, not only on physical health but also on communities, economies and the environment. There is increasing demand to account for the wider impact of public health and the social value that can be created, which can be captured through the use of the social return on investment (SROI) framework. This study aims to explore the application of SROI and identify areas of advancement for its use in public health.

*Study design and methods:* Publically available SROI studies of public health interventions previously identified through published systematic scoping reviews were examined through a methodological lens. This was complemented by semistructured interviews with key public health academic experts with experience in the field of SROI. The results were thematically analysed and triangulated.

*Results:* In total, 53 studies and nine interviews were included in the analysis. All interviewees agreed that SROI is a suitable framework to demonstrate the social value of public health interventions. Developmental aspects were also identified through the analysis. This included a more systematic use of SROI principles and methodological developments. Lastly, it was identified that further advancements were needed to promote awareness of SROI and how it can be used to generate investment.

*Conclusion:* By identifying key areas for advancement, the results from this study can be used to further refine the SROI framework for use within the speciality to promote investment in services and interventions that demonstrate maximum value to people, communities, economies and the environment.

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## Introduction

Investment in public health can have far-reaching impacts, not only on an individual's physical health but also on the health of communities, the economy and the environment.[1,2] There is an increasing demand to account for and measure the ‘triple bottom line’ (social, economic and environmental) value of public health services and interventions.[3]

Making the case for investment in public health can be achieved by capturing and measuring social value.[4] The concept of social value has been defined as the quantification of the relative importance that people place on the changes they experience in their lives[5] and encompasses the wider outcomes and impact of an initiative being evaluated. Social value can illustrate the holistic multiple co-benefits of public health interventions by capturing and valuing the wider outcomes experienced by not just those who are directly receiving an intervention but a wide range of stakeholders, such as families and funders.[6]

Social return on investment (SROI) has emerged from the traditional cost-benefit analysis (CBA) to measure social value.[4,6] As opposed to traditional health economics approaches, SROI is an evaluative framework that can be used to capture social value by measuring not only the financial return of an intervention but also the elements that add real value to the lives of stakeholders,[3,7,8] for example, enhanced physical development[9] or decreased social

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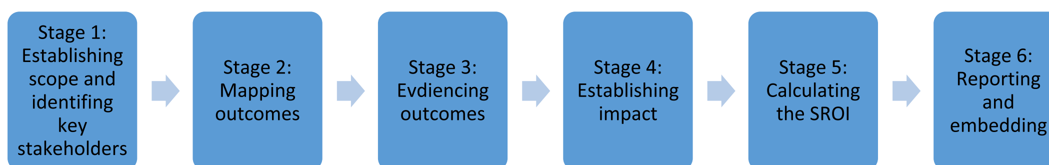


**Fig. 1.** Six stages of the SROI framework.

isolation.[10] Relying heavily on stakeholder engagement, SROI enables financial proxy values to be placed on non-financial returns, presenting a ratio that states how much social value in financial terms is created for every £1 invested. This is extremely beneficial and powerful to the policy and practice of public health, where interventions aim to address the wider determinants of health.[11] The conduct of an SROI study itself requires progression through six main stages (Fig. 1).[12]

Initially, the SROI framework was used most prominently by private consultancies on behalf of the third sector,[13] with a relatively small number of studies being peer-reviewed and published in the academic literature.[14] Although previous research has suggested the relevance of SROI to public health,[15] there is only a limited evidence base that looks at how the SROI framework could be advanced for use specifically in public health.[16]

This unique study aims to explore the application of SROI to capture and measure the social value of public health interventions, with the aim of identifying areas of advancement for the framework. The results can inform the use of SROI to advocate more successfully for sustainable investment in public health.

## Methods

This study builds on previously published systematic scoping reviews of grey and academic SROI literature.[6,17] These two reviews were selected as they provided a good sub-sample of public health SROI studies on topics highlighted as priority areas for public health and enabled the study to proceed without the need to undertake an original literature search. Studies identified in the two reviews were included in this analysis,[6,17] and all were based on SROI evaluations of public health interventions. The studies were analysed through a methodological lens by examining the following aspects of the publications: 1) conduct of the study and quality assurance, such as how the SROI framework is practically applied; and 2) how findings are reported and how this could be progressed within the practice of public health. To assess the quality of the SROI evidence, the Krlev et al. quality assurance framework[18] was used to score each individual study, as per previous analyses.[4,6,17]

Semistructured interviews were also undertaken with key public health academic experts with SROI experience to gain a deeper understanding of the application of SROI within public health and allow for triangulation of the information retrieved from the study analysis. Potential participants were identified from the authors of the literature in the systematic scoping reviews, thus creating a purposive sample.[19] All individuals were contacted via email, and informed consent was collected prior to interviewing. Where possible, interviews were carried out via virtual video calls, which were recorded and transcribed. Interview participants were guided by a set of questions that allowed interviewees to elaborate on their experiences and expertise (Supplementary material 1). The option was also given to provide answers to interview questions via an online form if unable to participate in a virtual call. All responses were analysed thematically by the research team.

Approval from an NHS Ethics Committee was not required for this study, as guided by the NHS Research Association ethics decision tool.[20] This research posed minimal risk to all participants, and all interview data were anonymised at the point of collection.

## Results

In total, 73 SROI studies were identified from the two published reviews (Fig. 2). Of these, 20 studies (27.4%) were excluded as the basic quality assurance could not be undertaken due to missing information from the published report. This resulted in a total of 53 studies being included in the analysis (Supplementary material 2).

Of the 53 studies included, 50 (94.3%) were published in the grey literature and 49 (92.5%) were carried out in the UK, with over half of all studies being commissioned by the third sector (54.7%).

In total, 16 international academics were invited to participate in an interview. In total, 12 responded, with nine respondents participating in a virtual interview during October 2022 and three opting to complete an online response to the interview questions. This response rate of 75% satisfied the needs of this exploratory study due to the limited number of public health academics experienced in SROI, and interview saturation was achieved. The mean length of interview for the virtual interviews was approximately 30 min.

Of the individuals interviewed, all had experience of using the SROI framework to evaluate public health interventions. In total, six respondents worked in academia at the point of interview, two had moved from academia into private consultancy positions and one previous academic had moved into the third sector as a community intervention leader. Only two respondents indicated previous experience as a traditional health economist. All respondents had been based in the UK at some stage in their SROI career, which is reflective of the origins of the SROI evidence base.[12]

### *Suitability of SROI for use in public health*

All interviewees demonstrated an understanding of both social value and SROI, illustrating common themes around understanding the significance that people place on particular outcomes and how they value them, and quantifying the monetary value of social outcomes.

> *'It's making people see the bigger picture, and obviously that's what we're trying to do in public health' (Interviewee 8)*

Recognised as a type of CBA by two interviewees, there was a clear understanding amongst the majority that SROI is a guiding set of principles to follow, as opposed to a prescriptive methodology. The importance of a mixed-method approach was commended by more than half of the interviewees, which illustrates how flexible the framework can be.

Six interviewees also noted how SROI enables making intangible impacts more visible, which is extremely significant to understanding population health and public health practice, capturing the wider social value as opposed to just the cost savings and immediate (financial) return:

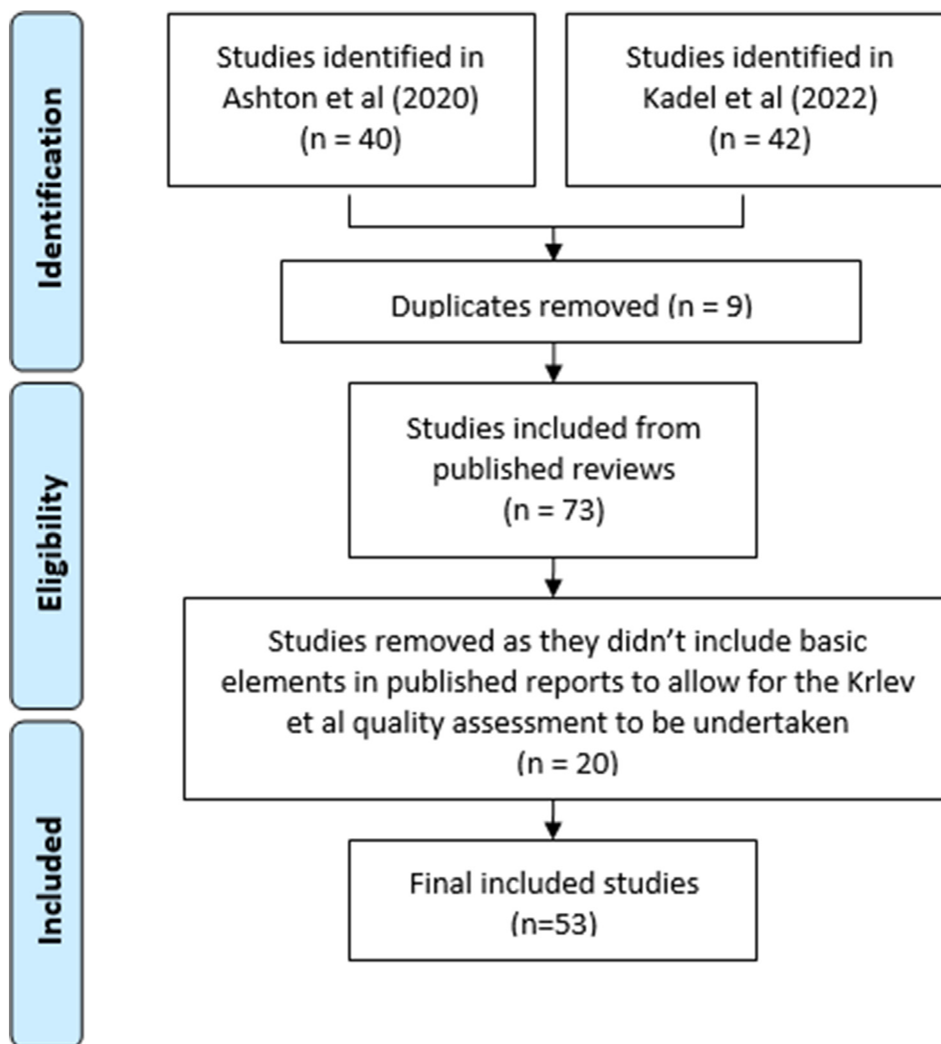


**Fig. 2.** PRISMA flowchart of included studies.

'*Being able to put a dollar value…is incredibly valuable for making an argument as to why governments should even consider investing in this area.' (Interviewee 2)*

*Identified areas for further development*

There were common emerging themes from both the interviews and study analysis around how SROI could be developed as a framework for use in public health (Fig. 3).

a. More systematic use of the SROI principles

When analysing the existing SROI studies, five studies did not acknowledge attribution, three studies did not reference accounting for deadweight and 23 studies did not acknowledge they had accounted for displacement in the published reports. This indicates that some studies may not be meeting the key SROI principle of not overclaiming. However, it has not been possible to tell whether these factors were not considered and accounted for in the analysis, or whether they just were not

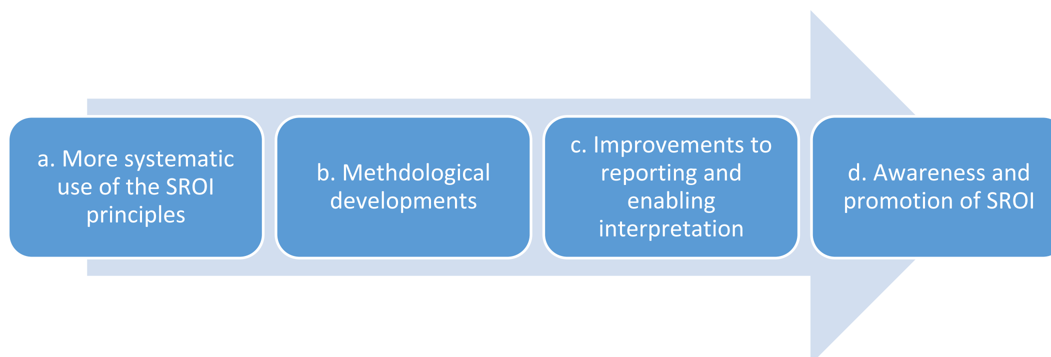


**Fig. 3.** Elements of progression through the SROI journey for use in public health.

**Table 1**
Breakdown of quality assessment using the Krlev et al. quality assessment framework.[18]

| Quality assurance criteria | Yes | % |
|---|---|---|
| Linked to context discussion? | 53 | 100.0 |
| Analysis well documented? | 52 | 98.1 |
| Impact map used? | 42 | 79.2 |
| Control group setup applied? | 2 | 3.8 |
| Ex ante – ex post observations performed? | 47 | 88.7 |
| Indicators valid & comprehensive? | 52 | 98.1 |
| Proxies valid & comprehensive? | 45 | 84.9 |
| Social effects captured? (qualitatively) | 51 | 96.2 |
| Social effects captured? (quantitatively) | 50 | 94.3 |
| Limitations discussed? | 25 | 47.2 |
| SROI ratio interpreted? | 41 | 77.4 |
| Sensitivity analysis performed? | 46 | 86.8 |

reported in the published report, which is an important finding in itself.

Four interviewees collectively commented on the need to encourage more systematic and academic SROI analyses by building on the existing framework of principles for use in public health. Although the framework was received positively to help guide the analysis, a need for more rigorous methodologies to promote robustness, validity, replicability and to avoid over-claiming was identified. For example, accounting for attribution and deadweight in the same way to ensure studies do not overclaim or underclaim value ($n = 4$).

b. Methodological developments for use in public health

Using the Krlev et al. quality assurance criteria,[18] 7.5 % of studies were classified as being of a low quality (achieving a score of 7 or below; $n = 4$).

No studies achieved a maximum quality score. This was largely due to the lack of control groups used within these public health SROI studies (Table 1). The interview analysis also indicated that the gold standard of including a control group in an SROI analysis was difficult and challenging to achieve, which may affect the perceived rigour of SROI compared to other health economic methodologies. However, it was agreed that having a control group is not necessarily an essential element of an SROI, as the aim is to measure change (individual/community/societal/environmental), rather than the effectiveness or efficacy of a specific intervention.

In total, 84.9 % of studies were deemed to have used valid and comprehensive proxies. A common theme reported through the interviews was that SROI is limited in its current practice to what financial data are available to allow for monetisation of outcomes. In total, seven interviewees commented that there needs to be agreement on a standard set of proxy values, or simply progression made in this area. Specifically for public health, this would allow for the interpretation and understanding of results to grow systematically, which will in turn reduce variation in the way that they are applied. This would avoid the creation of 'rank order' system by allowing the application of credible valuations to all types of outcomes.

> '*I think if SROI is to be routinely used in public health, the generation of a value bank that could be consistently applied would be beneficial.*' (Interviewee 3)

c. Improvements to reporting and enabling interpretation

The majority of interviewees (77.8 %) noted that some stakeholders may not have the time to consider how the SROI ratio has been derived, so it is important to think about how the information is reported and presented consistently. This links with the study analysis, where 79.2 % ($n = 42$) reported having used an impact map in their analysis, which is key to understanding the SROI analysis in an efficient and transparent way. However, only 42.9 % of these studies published the impact map within their published report ($n = 18$).

In addition, regarding the presentation of the SROI ratio, 77.4 % ($n = 41$) studies interpreted the ratio on behalf of the reader. However, 26 studies (49.1 %) presented the ratio up front within the publication with little interpretive information shown until later in the report, which can be misleading to interpretation. In addition, less than half of the SROI studies (47.2 %) discussed the limitations of their analysis. This aligned with the results of the interviews, with seven interviewees reflecting that the SROI ratio tends to be misinterpreted, as a result of how it is presented:

> '*It is important that interested parties must think of the ratio as a broader speculative perspective, guided by a number of assumptions, which includes monetary values on improvements to well-being.*' (Interviewee 6)

Suggestions for future development and interpretation highlighted by the interviewees were to focus on the outcomes identified and their value, using the ratio as only an entry point into the wider discussion and also highlighting the sensitivity analysis to help illustrate the range of potential value.

d. Awareness and promotion of SROI

Within half the interviews, a theme emerged around the need to increase the profile of the SROI framework, as public health professionals are fine-tuned in understanding the wider determinants of health but need to be encouraged to put value on those aspects. It was noted that well-being measures are increasingly being used in health economics, which provides the opportunity to promote SROI alongside other tools, such as CBA.

Four interviewees noted how the work has been impactful from a business case perspective, enabling key stakeholders to understand the wider value of interventions and to help shift perspectives of impact:

> '*Understanding that different activities like sport can deliver really powerful economic impacts. As well as the measurement of impacts on health outcomes. So shifting perceptions.*' (Interviewee 6)

## Discussion

As identified within this study, there are numerous positive elements of the SROI framework that lend themselves to assessing the wider value of public health interventions. For example, ensuring key stakeholders are given a voice can lead to the identification of wider social and environmental outcomes. This aligns with existing research that collates the positive factors associated with the use of SROI[3] and promotes the benefits of SROI for use in public health.[4,15,21] This unique study also identified a number of key areas of progression for the use of SROI in public health.

A key point for further development was the systematic use of the SROI principles within public health practice. It has been acknowledged previously that SROI is not a methodology that aims to compare with other research methodologies and apply their standards,[13,22] but it acts more as a pragmatic framework of guiding principles to follow. This has led to great variability in how the

principles of SROI are applied across interventions.[8,23] This research highlights the need and demand for a set of principles specific and relevant to the speciality of public health to encourage higher standards of reproducibility and validity, to ensure credibility against other commonly used health economics methodologies. However, due to the subjective nature of social value,[24] any dedicated framework will need to remain relatively flexible and pragmatic in nature.

Secondly, methodological developments and establishment of quality standards for assessing SROI studies in public health were identified as key. Using the Krlev et al. framework,[18] no studies analysed within this research achieved a maximum quality score, with 7.5 % of studies being assessed to be of a low quality. The study analysis reflected the findings from the interviews that a control group is difficult to achieve when assessing the value of public health interventions. This correlates with the wide recognition that controlled experiments are difficult to implement when evaluating public health interventions.[25] Both the study analysis and interviews also uncovered concerns around the suitability and availability of proxy data, specific to the types of outcomes excepted when valuing public health interventions. This mirrors existing literature, which states the difficulties with identifying specific proxies to value particular social outcomes, which is not an issue restricted to public health.[3,26] Suggestions were made for SROI practitioners to develop a standard set of proxies for use within public health.

Thirdly, this study has identified the reporting and interpretation of SROI evidence as areas for further development. For example, 27.4 % (n = 20) of the studies identified from the two published reviews had to be removed from this analysis as they did not present basic information to undertake the quality assurance. In some cases, this was because only a high-level summary was published, as identified by previous research.[18] The findings from the study analysis correlated with reports from the expert interviewees and present opportunities to encourage a higher standard of reporting to promote transparency and reproducibility of SROI studies, which could include always publishing the impact map. For those working in the field of SROI, it is known that the ratio is heavily dependent on the evidence and context specific to that study.[16] The ratio does not tell the story on its own, which can lead to misunderstanding and opportunism.[3] Interviewees suggested an area for progression would be to ensure the ratio is presented as one element of the story, alongside the value assigned to each stakeholder and outcome. This will enable commissioners to clearly identify the value to the investor and the value created for society.[18]

Finally, interviewees noted the need to increase the profile and awareness of SROI within the public health sector and also ensure the impact of the work is captured. This could be achieved by promoting the use of the SROI framework alongside other economic methodologies and processes such as health impact assessment (HIA)[27] to add value and validate the findings. However, existing literature notes that caution needs to be used when doing so as if multiple methods provide contradicting results, it could make commissioners potentially sceptical about the use of SROI.[16]

*Study limitations*

There are a number of SROI studies not included in the analysis that may have been of differing quality or captured different elements of the SROI framework. However, the studies used gave a valid indication of the overall standard of publicly available SROI evidence for the purpose of this scoping work, as common themes emerged throughout the analysis. The Krlev et al. tool[18] was used to assess the quality of the SROI studies as it was utilised in the published scoping reviews.[6,17] However, although it is a widely recognised tool for assessing quality in SROI,[4,6,17] it is exposed to subjectivity in how it is used,[28] and it mainly makes assessment against the SROI principles, rather than on the quality standards of the methodology used. This raises the question of whether a more defined quality assessment framework is needed. Hutchinson et al.[28] have initiated the development of this for use in academia, but further work is needed to define low- or high-quality scoring and clarity around the criteria for use with public health interventions. Finally, this research is prone to a respondent bias as the individuals who participated in the interviews may have had a non-neutral view on SROI as they are experts in the field. However, the results were interpreted with caution and can be viewed alongside the existing evidence based on the use of SROI within public health.[21]

*Areas for future research*

As the focus on the ‘Economy of Well-being’ increases,[29,30] so will the call for frameworks or methodologies to help capture the wider social, economic and environmental outcomes and impacts of services and interventions. The findings from this research can be used to progress SROI alongside HIA as an additional framework, which has previously been identified as an area for advancement in social determinants and equity-focused HIAs and health economic methods.[31]

## Author statements

*Acknowledgments*

Not applicable.

*Ethical approval and consent to participate*

As advised by the Public Health Wales Research and Development Office, ethics approval was not required for this study as per guidance from the NHS Health Research Association ethics decision tool. This research posed no potential risk to the individuals participating. All interview participants provided their informed consent before participating, and all information provided was kept anonymous. All methods were carried out in accordance with relevant guidelines and regulations.

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Public Health Wales.

*Competing interests*

The authors declare that they have no competing interests.

*Consent for publication*

Not applicable.

*Availability of data and materials*

The data analysed during the current study are available from the corresponding author on reasonable request.

*Authors’ contributions*

KA designed the study, with input and guidance from MD, ACR, TC and LG. KA carried out the study analysis and interviews, with

support from ACR. All authors edited and approved the final manuscript.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.puhe.2023.11.004.

## References


1. Hamelmann C, Turatto F, Then V, Dyakova M. *Social return on investment: accounting for value in the context of implementing Health 2020 and the 2030 Agenda for Sustainable Development [Internet].* WHO Regional Office for Europe; 2017 [cited 2019 Mar 11]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0009/347976/20170828-h0930-SROI-report-final-web.pdf?ua=1.
2. NHS Confederation. *Analysis: the link between investing in health and economic growth | NHS Confederation [Internet].* 2022 [cited 2023 Jan 4]. Available from: https://www.nhsconfed.org/publications/analysis-link-between-investing-health-and-economic-growth.
3. Maldonado M, Corbey M. Social return on investment (SROI): a review of the technique. *Maandbl Accountancy Bedrijfsecon* 2016 Nov 3;**90**(3):79–86.
4. Banke-Thomas AO, Madaj B, Charles A, van den Broek N. Social Return on Investment (SROI) methodology to account for value for money of public health interventions: a systematic review. *BMC Public Health [Internet]* 2015 Dec [cited 2019 Feb 26];15(1). Available from: http://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-015-1935-7.
5. Social Value UK. *What is social value? [Internet].* Social Value UK; 2022 [cited 2023 Jan 4]. Available from: https://socialvalueuk.org/what-is-social-value/.
6. Ashton K, Schröder-Bäck P, Clemens T, Dyakova M, Stielke A, Bellis MA. The social value of investing in public health across the life course: a systematic scoping review. *BMC Publ Health* 2020 May 1;**20**(1):597.
7. New Economics Foundation. *Economics in policy-making 4. Social CBA and SROI [Internet].* NEF; 2013 [cited 2019 Mar 12]. Available from: https://www.nefconsulting.com/wp-content/uploads/2014/10/Briefing-on-SROI-and-CBA.pdf.
8. Corvo L, Pastore L, Mastrodascio M, Cepiku D. The social return on investment model: a systematic literature review. *Meditari Account Res* 2022 Jan 1;**30**(7):49–86.
9. Chance T. *Cambridgeshire's funded two-year-old childcare social return on investment report [Internet].* 2013 [cited 2023 Jan 18]. Available from: https://socialvalueuk.org/report/cambridgeshires-funded-two-year-old-childcare-social-return-on-investment-report/.
10. Bosco A, Schneider J, Broome E. The social value of the arts for care home residents in England: a Social Return on Investment (SROI) analysis of the imagine arts programme. *Maturitas* 2019 Jun 1;**124**:15–24.
11. Dahlgren G, Whitehead M. The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows. *Publ Health* 2021 Oct 1;**199**:20–4.
12. Social Value UK. *A guide to social return on investment 2012 - social value UK [Internet].* 2012 [cited 2023 Jan 9]. Available from: https://socialvalueuk.org/resource/a-guide-to-social-return-on-investment-2012/.
13. Fujiwara D. *The seven principle problems with SROI - social value UK [Internet].* 2015 [cited 2023 Jan 9]. Available from: https://socialvalueuk.org/resource/the-seven-principle-problems-with-sroi/.
14. Cotter-Roberts A, Ashton K, Stielke A, Dyakova M. Presenting a social value database and simulator for public health. *Eur J Public Health [Internet]* 2022 Oct 21;**32**(Supplement_3):ckac129.425 [cited 2023 Jan 17];32(Supplement_3). Available from: https://doi-org.ezproxy.ub.unimaas.nl/10.1093/eurpub/ckac129.425 http://academic.oup.com/eurpub/article/32/Supplement_3/ckac129.425/6766378.
15. Edwards RT, Charles JM, Lloyd-Williams H. Public health economics: a systematic review of guidance for the economic evaluation of public health interventions and discussion of key methodological issues. *BMC Publ Health* 2013 Oct 24;**13**(1):1001.
16. Edwards RT, Lawrence CL. 'What you see is all there is': the importance of heuristics in cost-benefit analysis (CBA) and social return on investment (SROI) in the evaluation of public health interventions. *Appl Health Econ Health Policy* 2021 Sep 1;**19**(5):653–64.
17. Kadel R, Stielke A, Ashton K, Masters R, Dyakova M. Social Return on Investment (SROI) of mental health related interventions—a scoping review. *Front Public Health [Internet]* 2022 Dec 9 [cited 2023 Jan 4];10. Available from: https://www.frontiersin.org/articles/10.3389/fpubh.2022.965148/full.
18. Krlev G, Münscher R, Mülbert K. Social Return on Investment (SROI): state-of-the-art and perspectives - a meta-analysis of practice in Social Return on Investment (SROI) studies published 2002-2012 [Internet]. *Heidelberg* 2013 [cited 2023 Jan 4]. Available from: https://archiv.ub.uni-heidelberg.de/volltextserver/18758/.
19. Business Research Methodology. *Purposive sampling [Internet]. Research-methodology*. 2023 [cited 2023 Jan 17]. Available from: https://research-methodology.net/sampling-in-primary-data-collection/purposive-sampling/.
20. Health Research Authority. *Do I need NHS ethics approval? [Internet].* 2022 [cited 2023 Jan 4]. Available from: https://www.hra-decisiontools.org.uk/ethics/.
21. Ashton K, Green L, Clemens T, Parry-Williams L, Dyakova M, Bellis MA. Exploring the social value of Public Health Institutes: an international scoping survey and expert interviews. *Front Public Health [Internet]* 2022 Aug 17;**10** [cited 2023 Jan 5];10. Available from: https://www.frontiersin.org/articles/10.3389/fpubh.2022.906286/full.
22. Maier F, Grünhaus C, Simsa R, Millner R. SROI as a method for evaluation research: understanding merits and limitations. *Voluntas Int J Voluntary Nonprofit Organ* 2015;**26**(5):1805–30.
23. Pathak P, Dattani P. *Social return on investment: three technical challenges [Internet].* 2014 [cited 2023 Jan 10]. Available from: https://www-ingentaconnect-com.mu.idm.oclc.org/content/mcb/sej/2014/00000010/00000002/art00001.
24. Laing C, Moules N. Social return on investment: a new approach to understanding and advocating for value in healthcare [Internet]. *The Journal of Nursing Administration* 2017 [cited 2023 Jan 11]. Available from: https://pubmed.ncbi.nlm.nih.gov/29135853/.
25. Crane M, Bohn-Goldbaum E, Grunseit A, Bauman A. Using natural experiments to improve public health evidence: a review of context and utility for obesity prevention. *Health Res Pol Syst* 2020 May 18;**18**(1):48.
26. Muyambi K, Gurd B, Martinez L, Walker-Jeffreys M, Vallury K, Beach P, et al. Issues in using social return on investment as an evaluation tool. *Eval J Australas* 2017 Sep 1;**17**(3):32–9.
27. World Health Organization. *Health impact assessment [Internet].* 2023 [cited 2023 Jan 17]. Available from: https://www.who.int/health-topics/health-impact-assessment#tab=tab_1.
28. Hutchinson CL, Berndt A, Gilbert-Hunt S, George S, Ratcliffe J. Valuing the impact of health and social care programmes using social return on investment analysis: how have academics advanced the methodology? A protocol for a systematic review of peer-reviewed literature. *BMJ Open* 2018 Dec 1;**8**(12):e022534.
29. EuroHealthNet. *An economy of wellbeing for health equity | EuroHealthNet [Internet].* 2023 [cited 2023 Jan 11]. Available from: https://eurohealthnet.eu/publication/an-economy-of-wellbeing-for-health-equity/.
30. Diener E, Seligman MEP. Beyond money: toward an economy of well-being. *Psychol Sci Publ Interest* 2004 Jul 1;**5**(1):1–31.
31. Ashton K, Parry-Williams L, Dyakova M, Green L. Health impact and social value of interventions, services, and policies: a methodological discussion of health impact assessment and social return on investment methodologies. *Front Public Health [Internet]* 2020 Feb 27 [cited 2023 Jan 11];8. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7056887/.