Building the economic case for social prescribing

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Background

NASP has published 13 evidence publications to date which suggest that social prescribing can reduce costs and pressure in the health care system. Recognising the urgent need to demonstrate the health economic benefits of social prescribing, we commissioned a rapid scoping review to:

- provide an update to our first economic evidence review
- understand the effectiveness of current research and evaluation methods used to measure:
    - the economic impact of social prescribing (i.e., potential cost savings associated with social prescribing, which may account for health service usage)
    - the impact of social prescribing on health service usage (i.e., potential reductions in primary and secondary health care pressure associated with social prescribing, which may have an economic impact)
- explore the next steps needed to build an evidence-based, cross-sectoral economic case for social prescribing

This rapid scoping review consisted of two parts:

- reviewing 19 studies on the economic impact of social prescribing
- reviewing 7 studies on the impact of social prescribing on health service usage

This briefing summarises the findings of the report, which can be found in full here.

Overview

- Researchers used 5 methods to measure the economic impact of social prescribing: 1) social return on investment, 2) cost description analysis, 3) cost-benefit analysis, 4) regression modelling, and 5) cost-effectiveness analysis.
- Social return on investment was the most common method found but may not be the most appropriate method in all cases; each method has different strengths and limitations.
- Although it is difficult to directly compare results across these 5 methods, each method predominantly shows that **social prescribing can have a positive economic impact.**
- Researchers have also measured the impact of social prescribing on health service usage in 5 key areas: GP appointments, A&E attendance, planned and unplanned secondary care use, and nurse appointments.
- **Reductions in primary and secondary care usage** have been found in each of these areas.
- Determining the economic and health service impacts of social prescribing is challenging because:
    - Range of methods used, which are not directly comparable
    - Low participant numbers
    - Lack of control group and/or statistical analysis
    - Difficulty accessing primary and secondary care data sets

Measuring the economic impact of social prescribing

The authors reviewed 19 studies which measured the economic impact of social prescribing, using at least one of 5 methods. 'Economic impact' relates to the potential cost savings associated with social prescribing, which may result in part from a reduction in health service usage.

Of the 19 studies reviewed, 13 used social return on investment analysis, 7 used cost description analysis, 2 used cost-benefit analysis, 1 used regression modelling and 1 used cost-effectiveness analysis. A definition of each method and its benefits and drawbacks was given, and findings from each of the studies were reviewed. In some cases, researchers used more than one of these methods.

- Findings from studies using each of these methods suggests that social prescribing can have a **positive economic impact.**
- It is difficult to directly compare findings across the studies given the different datasets and methods used to measure impact.

1. Social Return on Investment (SROI)

WHAT IS IT?	A type of cost-benefit analysis (CBA) that results in a ratio of benefits to costs, estimating the social value created for every £1 invested.
HOW MANY STUDIES USED THIS METHOD?	13
PROS	Easy to understand; includes wider social values and difficult to measure outcomes, e.g., reputation, self-esteem, optimism, employment, and physical health.
CONS	Inconsistent (financial) proxies, outcomes and controls; may overlook costs incurred by the voluntary sector; may not account for negative changes, therefore leading to a potential overestimation of ROI.

WHAT HAVE RESEARCHERS FOUND USING THIS METHOD?

All 13 studies found a positive SROI. 9 of 13 studies used only SROI, while 4 used SROI as part of a wider economic evaluation. The range of SROI values for 6 studies of full social prescribing schemes was £2.14-£8.56 for every £1 invested. The range of SROI values for all 13 studies was wider and more variable, due to factors such as sample size, time-period assessed, scale and type of intervention, and SROI methodology. The scoping review did not systematically assess the quality of studies.

While SROI is the most common method used by researchers, this does not necessarily mean that it is the best method. It is important to note that financial proxies vary across these studies and the SROI analyses do not usually account for the cost to the voluntary and community sector, which is the main provider of socially prescribed activities. These studies may not be able to confirm causality because they lack a control group and/or statistical analysis.

Nevertheless, there is good evidence that social prescribing delivers a positive SROI, which the following robust studies illustrate:

- An evaluation of a national social prescribing scheme which served 2,250 people at risk of loneliness reported a SROI of £3.42 for every £1 invested.
- The PrAISED (Promoting Activity, Independence, and Stability in Early Dementia) feasibility study generated SROI ratios ranging from £3.46 to £5.94 for every £1 invested, using a control group to accurately attribute this finding.
- The evaluation of City and Hackney's social prescribing scheme conservatively generated an SROI of £3.51 for every £1 invested. Although no statistical analysis was done to assess whether the sample population was representative, the researchers estimated a potential SROI of £8.56 for the overall population of 2,000 service users.

2. Cost description analysis

WHAT IS IT?	An assessment of changes in GP visits, A&E attendance, medication use, or other health service use over time.
HOW MANY STUDIES USED THIS METHOD?	7
PROS	Simple approach; data is highly sought after.
CONS	Does not account for costs of setting up and running the service across the whole social prescribing scheme; assumes any change is fully attributable to social prescribing.

WHAT HAVE RESEARCHERS FOUND USING THIS METHOD?

5 out of 7 studies found a net reduction in health and social care service usage following a social prescribing intervention. Overall, the studies had modest sample sizes (n=77-247) and did not consistently have control groups or statistical analysis that make it difficult to fully attribute the causal relationship between cost reduction and social prescribing. Researchers estimated cost savings per person per year in GP attendance of £24.40 in one study and £78.37 in another study. An evaluation from Envoy Partnership assigned reductions in resource savings of £102,000 in year 1 and £150,000 in year 2 in GP staff time as well as £106,000 in year 1 and £154,000 in year 2 in hospital usage. 4 of 7 studies used only cost description analysis, while 3 used cost description analysis as part of a wider economic evaluation.

Nevertheless, there is some evidence that social prescribing can lead to a net reduction in health and social care costs, using a cost description analysis approach. A robust example comes from the Ways to Wellness programme in Newcastle upon Tyne. They assessed the data for over 4,500 participants with multiple long-term conditions who received the social prescribing intervention, alongside a matched counterfactual group. They demonstrated that **the secondary care cost was 27% lower in the social prescribing group**. They estimated that this would equate to an **annual secondary care cost reduction of £1.56 million**, based on 2019-20 figures, for the full eligible cohort of 14,652 service users.

An increase in costs was reported by 2 out of 7 studies. However, in the Grow Well Social Prescribing Pilot Evaluation, cost data was only collected for 9 people. In the other study, the cost data was collected for 86 people. Just 13 percent of the total group accounted for more than half of cost increases, particularly among the severely frail. Both studies highlight the need for higher 'n values'[1] as well as using control groups and statistical analysis to ensure that any findings are significant and representative of the larger population.

[1] An 'n value' refers to the 'number' of participants in a study.

3. Cost-benefit analysis (CBA)

WHAT IS IT?	A method which compares the costs and benefits of an intervention, procedure or programme in monetary terms.
HOW MANY STUDIES USED THIS METHOD?	2
PROS	Costs measured in the same units, meaning that monetary costs and benefits can be directly compared between interventions.
CONS	May be difficult to assign actual monetary values to intangible benefits, such as feelings or behaviours.

WHAT HAVE RESEARCHERS FOUND USING THIS METHOD?

Just two studies have used cost-benefit analysis. These studies have mixed results. Both found that health and social care costs increased for some patients, though service usage decreased in some cases and most patients improved their health and wellbeing outcomes.

In one study, the cost data was only collected for 30 people living with dementia. The participants improved health and wellbeing outcomes, but the average health and social care cost increased. Moreover, there was a reduction in GP consultations, but increases in hospital and unpaid caregiving costs. However, there was no control group or statistical analysis to confirm whether these results would be representative outside this small sample. The other study was mentioned in the above section on cost description analysis, as it used both analyses. The number of participants was 86 and most of the cost increases was for a small number of the participants. Again, both highlight the need for higher 'n values' as well as understanding where social prescribing may lead to cost savings for particular target groups.

4. Regression modelling

WHAT IS IT?	A statistical method used to predict healthcare costs which may be based on descriptive patient information and demographics, compared to healthcare costs.
HOW MANY STUDIES USED THIS METHOD?	1
PROS	Helps to determine factors contributing to higher health care costs, including individual risk factors; can inform resource allocation.
CONS	Difficult to obtain patient demographic data and up-to-date health care cost data.

WHAT HAVE RESEARCHERS FOUND USING THIS METHOD?

Just one study used regression modelling. This robust study of a social prescribing intervention for people with type 2 diabetes had a positive result, finding that higher engagement with social prescribing generated the greatest reductions in care costs, including a reduction in care cost of £77.57 per patient, per year. These cost reductions were higher for non-white patients, older patients, and those without additional co-morbidities.

5. Cost-effectiveness analysis (CEA)

WHAT IS IT?	A method in which costs are compared with a treatment's common therapeutic goal, expressed in terms of one main outcome measured in natural units (e.g., improvement in blood pressure or cholesterol level). CEA approaches use Quality Adjusted Life Years (QALYs)[2].
HOW MANY STUDIES USED THIS METHOD?	1
PROS	Can compare health and cost impacts across different inventions for the same health condition; can inform resource allocation.
CONS	May not account for the distribution of costs and benefits among different groups of people.

WHAT HAVE RESEARCHERS FOUND USING THIS METHOD?

Just one study used cost-effectiveness analysis. The evaluation of City and Hackney's social prescribing scheme, which also used SROI, had a positive result. It found that there was a QALY of £20,100, which falls within NICE guidelines for cost-effective interventions. Although robustly conducted, there are a few limitations for this result, including the small number of participants (n=59), that the QALY was calculated only at three-months, and that costs to the voluntary and community sector were not accounted for.

[2] A measure of the value of health outcomes combining length of life and quality of life into a single number. One QALY equates to one year in perfect health, scores range from 1 (perfect health) to 0 (dead).

Measuring the impact of social prescribing on health service usage

The authors reviewed 7 studies which measured the impact of social prescribing on health service usage. 'Health service usage' relates to the potential reduction in pressure on primary and secondary care, which may result in cost savings.

Of the 7 studies reviewed, 4 examined GP appointments, 3 A&E attendance, 3 planned secondary care appointments, 2 nurse appointments, and 2 unplanned secondary care attendance. The findings from each of the studies were reviewed. In most cases, researchers looked at more than one of these data sets.

- ➡ Findings from studies measuring these impacts suggests that social prescribing may **reduce health service usage** within primary and secondary care.
- ➡ There is currently more evidence on primary care usage than on secondary care.
- ➡ It is difficult to attribute causality or determine statistically significant results without control groups and statistical analysis.

1. Impacts on primary care

- The Evaluation Report of the Social Prescribing Demonstrator Site in Shropshire is a robust example of a study demonstrating the potential for social prescribing to reduce GP appointments. They used a match control to demonstrate causality. The researchers found a **statistically significant reduction in GP appointments of 40%** for the social prescribing group at 3 months.
- The Evaluation of the East Merton Social Prescribing Pilot found a **statistically significant reduction in GP appointments of 33%** after 3 months. A similar finding was found at 6 months, which was not statistically significant. However, there was no control group and the n value was small (n=138), so limited conclusions can be drawn.

[2] A measure of the value of health outcomes combining length of life and quality of life into a single number. One QALY equates to one year in perfect health, scores range from 1 (perfect health) to 0 (dead).

- An evaluation of social prescribing in Tower Hamlets found a 12.3% reduction in GP appointments. The authors extrapolated this to a 12-month period and determined that around 1,566 GP appointments would be avoided, which could represent a cost saving of £70,483 per annum. However, they did not use a control group and therefore causality cannot be established.

2. Impacts on secondary care

- The Evaluation of the East Merton Social Prescribing Pilot found a reduction in A&E attendance at 3 months, which was not statistically significant. At 6 months, there was a **statistically significant reduction in A&E attendance of 50%** However, there was no control group, and the n value was small (n=43), so limited conclusions can be drawn.
- An evaluation of the Rotherham Social Prescribing Service found a small net increase in the number and cost of peoples' inpatient spells and A&E attendances in the 12 months following referral, but the authors note that they felt that these results masked a much more complex picture. Additionally, no control group was used for this study, therefore this limits the interpretation of the findings of this work.
- Another Rotherham-based study of an Age UK social prescribing programme found that 20 of 239 referrals would have been admitted to the hospital if they had not had the social prescribing intervention. This was estimated to be a cost saving of £32,180 across the 20 prevented admissions. However, there was no control group to establish causality.
- A report from Involve used a large data set (n=5,908) and found a reduction in A&E visits of between 15.4-23.6% and a reduction in unplanned hospital admission visits of between 2.8-8.3% after 6 months. However, there was no control group to determine causality or statistical analysis to determine statistical significance.

What are the challenges in demonstrating the economic and health service impacts of social prescribing?

- Social prescribing is a complex, multisector approach with multiple inputs and outcomes, which are difficult to account for using traditional approaches to health economics.

- Due to the broad range of variables in each study, it is not possible to directly compare all the economic results.
- Datasets are small and not always proportionally representative of the whole sample population.
- It is difficult to access primary and secondary care data records.
- Many studies were pilot, feasibility or small-scale studies, which did not carry out statistical analysis or have control groups. This means that:
    - Some reported decreases or increases in health and social care service usage (and associated costs) need to be further tested with a larger n value to determine if the trend is statistically significant.
    - Some were not able to attribute the proportion of change to the role of social prescribing with the methods used.

Next steps

Based upon this report and wider stakeholder views, NASP recognises the urgent need for more coordination, and the important role we can play in convening stakeholders across and within sectors to:

- Develop consistency and consensus on methods/approaches to economic analysis of social prescribing, including language and terminology.
- Facilitate data sharing, and highlight issues on data access, coverage or granularity.
- Inform future research and evaluations.

It is vital that proposed methods and approaches to evaluating the economic and service usage benefits of social prescribing are achievable for the individuals and organisations who are collecting data, and capacity within the VCFSE sector is a particularly important consideration. We will work to ensure that the perspectives of VCSFE organisations (and operational NHS staff such as social prescribing link workers) are represented in work to progress the evidence on economic impacts of social prescribing, and that identified needs such as training/availability of resources, are also tackled.

About this report

You can read the full report here. It was commissioned by NASP and authored by Dr Marie Polley, Dr Helen Seers, Olivia Toye, Todd Henkin, Dr Hannah Waterson, Dr Marcello Bertotti, and Professor Helen Chatterjee.
Please contact the Evidence and Evaluation team at evidence@nasp.info for further information on this work.

About NASP

NASP is a national charity that champions social prescribing. We support and connect people, communities and organisations so that more people across the UK can enjoy better health and wellbeing.