

UNIVERSITY OF
WESTMINSTER 

A review of the evidence assessing impact of social prescribing on healthcare demand and cost implications

**Polley, M.,¹ Bertotti, M.,² Kimberlee, R.,³ Pilkington, K.,⁴
and Refsum, C.⁵**

June 2017

Acknowledgements

This report incorporates research from a Wellcome Trust funded seed award: 'Investigating the provision and conceptualisation of Social Prescribing approaches to health creation'

The authors would like thank Dr Marija Kovandzic for her contribution to this work.

Declarations of conflicts of interest:

¹Dr Marie Polley is Senior Lecturer in the Department of Life Sciences at the University of Westminster and Co-Chair of the Social Prescribing Network. Dr Polley was principle investigator on the Wellcome Trust funded research listed above.

²Dr Marcello Bertotti is a Senior Research Fellow at the Institute for Health and Human Development, University of East London. Dr Bertotti is on the steering committee of the Social Prescribing Network and his research is cited in this review.

³Dr Richard Kimberlee is a Senior Lecturer at the University of the West of England, Bristol. Dr Kimberlee is on the steering committee of the Social Prescribing Network and his research is cited in this review.

⁴Dr Pilkington is a Senior Lecturer, in Systematic Reviews in the School of Health Sciences and Social Work at the University of Portsmouth. Dr Pilkington is on the steering committee of the Social Prescribing Network and was a co-investigator on the Wellcome Trust funded research listed above.

⁵Dr Charlotte Refsum is the National Medical Director's Clinical Fellow at NHS England.

Introduction

1. The bio-psycho-social model of illness encourages healthcare practitioners to think beyond anatomy and physiology to consider how the interplay of mind, body and social circumstances affect health and wellbeing. Medicine has much to offer in treating the biological aetiology of illness and recent commitments to parity of esteem are expected to give equal priority to addressing social, psychological and physical aspects of health. To date, however, the capacity for healthcare practitioners to address the social problems that precipitate and perpetuate ill health have been limited. Social prescribing is a means by which healthcare professionals seek to address the non-medical causes of ill health with non-medical interventions.
2. It is estimated that around 20% of patients consult their general practitioner (GP) for what is primarily a social problem (Low Commission, 2015). It has been suggested that referral to a social prescribing service could reduce this pressure. This paper critically appraises the current evidence as to whether social prescribing reduces the demand for health services and is cost effective.

Method

3. A systematic search for papers was conducted on major online databases and further evaluations were assimilated from key opinion leaders. The criteria for inclusion were to: a) be UK-based, b) describe a social prescribing service that involved referral of a patient from primary care to a 'link worker' who would connect the patient with relevant non-medical interventions in the third sector and c) report either i) quantitative data on demand for healthcare services and/or ii) evaluation of social and economic impact of social prescribing.

Results

4. Of the 94 project reports identified from the systematic search, 14 papers met the criteria set out in the method. Of these, only one was a randomised controlled trial (Grant et al, 2000) and two included a matched controlled group (Bertotti et al, 2015; Maughan et al, 2015).
5. Seven papers looked at the effect on demand for General Practice, reporting an average 28% reduction in demand for GP services following referral. Results ranged from 2% (Kimberlee et al, 2014) to 70% (Longwill, 2014).
6. Five studies (Kimberlee, 2016; Dayson and Bashir, 2014; Bertotti et al, 2015; Farenden et al, 2015; Kimberlee et al, 2014) looked at the effect on Accident and Emergency (A&E) attendances reporting an average 24% fall in attendance following referral. Results ranged from 8% (Kimberlee et al, 2014) to 26.8% (Farenden et al, 2015).
7. Five studies looked at the effect on demand for other secondary care services (Palmer et al, 2017; Kimberlee, 2016; Dayson and Bashir, 2014; Farenden et al, 2015; Brandling et al, 2011). Three reported a fall in emergency hospital admissions in the months following referral (6% (Kimberlee, 2016), 7% (Dayson and Bashir, 2014) and 33.6% (Farenden et al, 2015)) and two studies measured secondary care referrals after social prescribing. One reported statistically significant drops in secondary care referrals at 12 months (55%) and 18 months (64%) (Brandling et al., 2011) and the other projected reductions in demand of

0.1 consultant psychiatrists per annum per patient and 0.2 Community Mental Health Team nurse consultations per annum per patient (Longwill, 2014). However, in contrast, one study showed that the likelihood of referral to secondary mental health care more than doubled after referral. (Grayer et al, 2008)

8. Eight studies calculated value for money assessments such as cost benefit analysis (Burgess, 2014; Windle et al., 2016). None of the studies used the traditional cost-effectiveness or full cost-utility analysis. Estimates varied widely from an annual Return on Investment (ROI) of 0.11 (in the first year of operations) (Dayson and Bashir, 2014) to 0.43 (Kimberlee, 2016). The randomised controlled trial reported higher cost of care per patient in the intervention group than the control, though no value for money assessments were calculated (Grant et al, 2000).

9. Four studies carried out broader Social Return on Investment (SROI) calculations. SROI puts an estimated monetary value on the sum of benefits accruing to all stakeholders, not just the NHS. Studies varied in the combination of stakeholders and benefits selected for inclusion in SROI calculations. Patients, Local Authorities (LAs) and the Department of Work and Pensions (DWP) were commonly cited stakeholders. Improved mental wellbeing outcomes and higher rates of employment were examples of positive externalities considered in SROI but excluded from ROI analysis. The mean SROI (Weld et al, 2015) was £2.3 per £1 invested in the first year (Kimberlee, 2016).

Discussion

10. Demand data presents a mixed picture. In the case of GP attendance and secondary care referrals, findings were contradictory. In the case of A&E attendance, findings were spread over a wide range. Both points raise issues about consistency of findings. Despite this, for the most part, social prescribing was reported to have a protective effect on service demand, though the extent of this impact needs to be contextualised.

11. Any reported reduction in demand for health services applies only to the cohort of patients referred to social prescribing, and in one study, only for sub-groups who completed the interventions. In some cases, patients who failed to engage fully with social prescribing had much higher rates of health service use both before and after referral (Dayson and Bashir, 2014). This point is pertinent to value assessments.

12. Firstly, it implies that the service could achieve greater value for money if it were better targeted on the population that completes and responds to it. Secondly, it raises questions about the marginal utility that social prescribing provides in relation to other services designed to reduce demand on services. Given a finite budget, a more effective use of resources might be to commission more targeted interventions designed for the population of patients placing the greatest burden on services (Bertotti et al, 2015).

13. The quality of the data also means that results need to be interpreted with caution. The number of evaluations meeting the inclusion criteria was small. Only one of the studies was a randomised controlled trial (Grant et al, 2000) and few were published in peer-reviewed journals. Evaluations were often subject to high drop-off rates at follow-up meaning these studies had reduced power to show a

statistically significant outcome. In some cases, statistical significance was not discussed at all. Where a high number of patients were lost to follow up, studies were at risk of bias as predominantly patients who had completed the intervention gave feedback.

14. Most studies sought to determine the effect of social prescribing on demand by comparing rates of use before and after referral, rather than between a control and an intervention group. This does not truly isolate the effect of the intervention as it fails to eliminate the impact of what would have occurred anyway over time. It is also important to note that no conclusions can be made about the long-term impact of social prescribing, as the time to follow up was often short.

15. The quality of ROI estimates suffered from a lack of accurate data to inform the calculations. Some studies used only patient reported use of services or GP reports of perceived drops in demand, both of which are subject to recall bias in these non-blinded trials leading to potentially inaccurate estimates. One paper had extrapolated their demand figures from the results of similar studies in other parts of the UK, which is at risk of inaccuracy (Farenden et al, 2015).

16. SROI calculations used inconsistent combinations of potential benefits making it difficult to compare studies based on SROI as they did not always compare like with like.

Conclusion

17. In conclusion, the evidence for social prescribing is broadly supportive of its potential to reduce demand on primary and secondary care. The quality of that evidence is weak, however, and without further evaluation, it would be premature to conclude that a proof of concept for demand reduction had been established. Similarly, the evidence that social prescribing delivers cost savings to the health service over and above operating costs is encouraging but by no means proven or fully quantified.

18. Despite these findings, social prescribing continues to grow in scope and scale across the UK. There are a number of possible reasons for this.

19. Link worker social prescribing schemes often include a number of interventions, some of which are evidence-based and some of which are not. The success or otherwise of a link worker model will depend on the combined success of each intervention. It may be disingenuous therefore, to conclude that paucity of evidence to support the effectiveness of a link worker model implies paucity of evidence for individual interventions. These interventions may still be worthwhile uses of healthcare resources and this could explain their persistence and growth in the UK.

20. Equally, paucity of evidence to support the link worker model should not preclude further evaluation of it. It is more challenging to gain the standard of evidence for complex interventions that is routinely expected of simpler ones. In fact, the standard of evidence to date on the link worker social prescribing model is approximately the standard expected for a complex intervention at this stage in its development (Craig et al, 2006).

21. Another reason why social prescribing continues to grow, despite shortcomings in the quality of evidence to support demand reduction, may be the effect that social prescribing reportedly has on the health and wellbeing of

patients. The social prescribing narrative is compelling and much of the qualitative evidence shows that these services are very well liked by patients and GPs alike (Smith and Skivington, 2016).

22. Furthermore, in an increasing proportion of projects, the cost of funding is shared with external stakeholders to the NHS (Kimberlee, 2016). Sharing the cost of social prescribing improves ROI and makes it a more affordable and worthwhile intervention for the health service to consider. It also makes sense to the non-NHS stakeholder, if sufficient benefits of social prescribing accrue to them too. Joint funding may thus make social prescribing link worker projects such as these more likely to proceed and become more embedded in local communities.

23. The sum of *all* benefits accruing to *all* stakeholders is presented in the Social Return on Investment (SROI) figures and makes the case for either joint funding or subsidy of the projects to realise maximum positive externalities. For this reason, a growing proportion of social prescribing projects are now jointly developed and funded between Clinical Commissioning Groups and local government. This arrangement recognises the unique place that social prescribing has, sitting at the true interface of health and social care.

Recommendations

24. Without much in the way of 'top-down' instruction from national bodies, social prescribing has emerged organically 'from the bottom up'. The most productive role for a national body at this point would be to steer the evolution of social prescribing to ensure that what spreads, works. For this to happen, the quality of evidence needs to be improved and the benefits presented in a consistent format to allow clear comparison. This would be achieved through encouraging more and better evaluations of on-going projects and helping to develop a common evaluation framework to assess impact and draw clear comparisons of effectiveness.

Bertotti, M., Frostick, C., Findlay, G. Harden, A., Netuveli, G., Renton, A., Carnes, D., Sohanpal, R. Hull, S and Hutt, P (2015) Shine 2014 final report Social Prescribing: integrating GP and Community Assets for Health, Health Foundation

Brandling, J, House W, Howitt, D and Sansom A (2011) New Routes Keynsham, The Care Forum.

Burgess, G (2014) Evaluation of the Cambridgeshire Timebanks, Cambridge Centre for Housing & Planning Research, University of Lincoln.

Craig P., Dieppe, P, Macintyre, S. Michie, S. Nazareth, I., and Petticrew, M. (2006) Developing and evaluating complex interventions: new guidance. Medical Research Council.

Dayson, C. and Bashir, N. (2014). The social and economic impact of the Rotherham Social Prescribing Pilot: Main Evaluation Report, Centre for Regional Economic and Social Research (CRESR), Sheffield Hallam University.

Farenden, C., Mitchell, C., Feast, S. and Verdenicci, S. (2015) Community Navigation in Brighton & Hove. Evaluation of a social prescribing pilot, carried out by Impetus.

Grant, C., Goodenough, T., Harvey, I. and Hine, C.(2000) A randomized controlled trial and economic evaluation of a referrals facilitator between primary care and the voluntary sector. *BMJ* , 320, 419–23.

Grayer, J., Cape J., Orpwood, L., Leibowitz, J, and Buszewics, M. (2008) Facilitating access to voluntary and community services for patients with psychosocial problems: a before-after evaluation, *BMC Family Practice*, 9(27).

Kimberlee, R., Ward, R., Jones M. and Powell J. (2014) Proving Our Value: Measuring the economic impact of Wellspring Healthy Living Centre's Social Prescribing Wellbeing Programme for low level mental health issues encountered by GP services. University of West England.

Kimberlee, R. (2016) Gloucestershire Clinical Commissioning Group Social Prescribing Service: Evaluation Report, University of the West of England, Bristol.

Longwill, A, (2014) Independent Evaluation of Hackney Well Family Service, Family Action.

Low Commission. (2015) The role of advice services in health outcomes: evidence review and mapping study.

Maughan, D. L. Patel, A. and Cooke, M. (2015) Primary-care-based social prescribing for mental health: an analysis of financial and environmental sustainability, *Primary Health Care Research & Development*, doi:10.1017/S1463423615000328

Palmer, D. Wheeler J, Hendrix, E., Sango, P N, Hatzidimitriadou E. (2017) Social Prescribing in Bexley: pilot evaluation report, Mind in Bexley.

Smith, M. and Skivington, K. (2016) Community Links Perspectives of community organizations on the Community Links Workers Programme pilot and on collaborative working with primary health care, Institute for Health and Wellbeing, University of Glasgow.

Windle, K, George T, Porter, R, McKay S, Culliney, M, Walker J, Vos, J, Essam N. Saunders, H. (2016) Staying Well in Calderdale programme evaluation: final report.

Weld, S & the UWE SROI Group (2015) Financial Evaluation Report & Social Return on Investment (SROI) Analysis.