BMJ Open

Preparing the prescription: A review of the aim and measurement of social referral programmes

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2017-017734
Article Type:	Research
Date Submitted by the Author:	15-May-2017
Complete List of Authors:	Rempel, Emily; University of Bath, Department of Psychology Wilson, Emma; University of Bath, Department of Psychology Durrant, Hannah; University of Bath, Institute for Policy Research Barnett, Julie; University of Bath, Department of Psychology; University of Bath, Institute for Policy Research
Primary Subject Heading:	Health services research
Secondary Subject Heading:	General practice / Family practice, Mental health, Patient-centred medicine
Keywords:	SOCIAL MEDICINE, MENTAL HEALTH, Organisation of health services < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, PRIMARY CARE

Title:

Preparing the prescription: A review of the aim and measurement of social referral programmes

Corresponding Author:
Emily S. Rempel[1]
Department of Psychology, University of Bath
Claverton Down, Bath, United Kingdom
BA2 7AY
Email: E.S.Rempel@bath.ac.uk
Phone: 01225 384573

Co-Authors:
Emma N. Wilson[1]
Hannah Durrant[2]
Julie Barnett[1, 2]

[1] Department of Psychology, University of Bath
Bath, United Kingdom, BA2 7AY
[2] Institute for Policy Research, University of Bath
Bath, United Kingdom, BA2 7AY

Word count: 3495 words

ABSTRACT

Objective: Our aim was to systematically review, and qualitatively evaluate, the aims and measures of social referral programmes. Our first objective is to identify the aims of social referral initiatives. Our second objective is to identify the measures used to evaluate whether the aims of social referral were met.

Design: Systematic literature review.

Background: Social referral programmes, also called social prescribing and emergency case referral, link primary and secondary health care with community services, often under the guise of decreasing health system costs.

Method: Following the PRISMA guidelines we undertook a literature review to address that aim. We searched in five academic online databases and in one online non-academic search engine, including both academic and grey literature, for articles referring to 'social prescribing' or 'community referral'.

Results: We identified 41 relevant articles and reports. After extracting the aims, measures and type of study, we found that most social referral programmes aimed to address a wide variety of system and individual health problems. This included cost savings, resource reallocation and improved mental, physical and social wellbeing. Across the 41 studies and reports, there were around 133 different kinds of measures or methods of evaluation used. Of these, the most commonly used individual measure was the Warwick-Edinburgh Mental Wellbeing Scale, used in nine studies and reports.

Conclusions: These inconsistencies in aims and measures used, pose serious problems when social prescribing and other referral programmes are often advertised as a solution to health services budgeting constraints, as well as a range of chronic mental and physical health conditions. We recommend researchers and local community organisers alike critically evaluate for whom, where and why their social referral programmes 'work'.

ARTICLE SUMMARY

Strengths and limitations of this study

- A strength of this study was the inclusion of both grey and academic literature to ensure a broad representation of social referral programmes.
- A strength of this study was the systematic nature of the literature search, following PRISMA guidelines and including two independent reviewers.
- A limitation of this study was, that although systematic, there is no guarantee of an entirely comprehensive inclusion of all relevant articles, for example we only accessed articles and reports available online or through the British Library.
- A limitation of this study was the use of the search term 'social prescribing' as this is a generalised UK region-specific term, however this is the term used colloquially to describe social referral programmes.

INTRODUCTION

"The tonic effect of fun and play has long been recognized as an antidote to the stresses, worries, labors, and responsibilities of our workaday life…we must diagnose and prepare the prescription."[1] In 1958, Walt Disney wrote this commentary on film and American life for the 75th anniversary of the Journal of the American Medical Association. Although few would argue Disney was a great early adopter of the social determinants of health model, this demonstrates a timely understanding of the impact of social activities on well-being. Academic research demonstrates that social well-being is closely tied to physical health, a well-known example being the impact of socioeconomic positioning on mortality as demonstrated in the Whitehall Studies, as well as other more recent work by Michael Marmot [2 3]. Though this common understanding has not fully translated into clinical practice and public health. Particularly in the context of publicly funded medical systems like the United Kingdom's National Health Service (NHS), resource limitations and unclear evidence on the causal mechanisms between social activities and improved health make it challenging to incorporate social well-being in treatment models[4].

Over the past decade, one proposed method of addressing this linking up of health and care services is referral out of primary care health systems and in to the community[5 6]. This 'emerging model of care' was alluded to in the NHS 5 Year Forward View[7] in the context of health care needing to move to a partnership rather than discrete episodes of treatment. More substantially, social prescribing was recommended as a key resource for primary care, noting that "non-medical interventions such as social prescribing can contribute to primary care teams meeting the physical, psychological and social care needs of an individual in the round"[8] (pg.7). Sometimes with alternative descriptors such as 'community referral', 'community links', and 'arts on prescription', these programmes link health care to opportunities and events provided by third sector organisations. A rapid evidence review by

the University of York defined '[social] prescribing [as] a way of linking up patients in primary care with sources of support in the community', however the authors highlight that there is no agreed definition [9]. It is theorised that these types of programmes improve social well-being through group and individual community activities and, ultimately, physical and mental health. Although social prescribing is a commonly used term, we use 'social referral' to be as inclusive as possible in describing links between health care and third sector organisations. In cases where a study specifically uses terms like 'arts on prescription' or 'social prescribing' we refer to it as such. We also do not specify primary care as the only source of social referral, we include referrals by other health care workers.

Evidence for the effectiveness of social referral services has been characterised as inconclusive[9]. Although there is significant, if piecemeal, investment in social referral programmes and many advocates of their value[7 10] attempts to summarise the current evidence, and thus address these criticisms, have similarly been inconclusive in evidencing the health, social, or service-related benefits of social referral[11-15]. Mossabir, et al.[13] conducted a scoping review of seven studies on social prescribing and found that although potentially beneficial for psychosocial health, there had been too few empirical studies to draw clear conclusions. The University of York Centre for Reviews and Dissemination [9] goes as far as to argue 'there is little in the way of supporting evidence of effect to inform the commissioning of a social prescribing programme'(pg. 4).

The first step in evaluating any programme is determining what it aims 'to do' and deciding on the measures that will be used to ascertain effectiveness. There has thus far been little reflection on the intended aims of social referral and the measures used to judge whether the aims have been met. Accordingly, our purpose is to summarise the aims and measures of social referral through a systematic review of the literature. Our first objective is to identify the aims of social referral initiatives. Our second objective is to identify the measures used to

evaluate whether the aims of social referral were met. This creates a foundation to inform further programme development and evaluation and for theorising the various mechanisms that may, in specified contexts, be responsible for changes in particular outcomes. We can thus better understand what is meant by 'social prescription' with a view to informing evaluations to consider the contexts in which social prescribing works, for whom and through which mechanisms[16].

LITERATURE SEARCH METHODOLOGY

As part of the 'Collaborating to Deliver Social Prescribing in Bath and North East Somerset' project we conducted a review of empirical and grey literature related to 'social prescribing'. We identified PubMed suggested terms associated with SP. The final terms were 'social prescribing', 'social prescribing services', 'social prescription', 'social prescriptions', 'community referrals', 'community referred', 'community referred patients', 'community refers' OR 'community referring physicians'. We searched SCOPUS, Web of Science, PubMed, NICE Evidence Guidelines database and PsycNET for academic peer-reviewed articles. We also hand searched the reference and citation lists of the peer-reviewed articles. Finally, we examined the first five pages of results identified by internet search engine Google to identify grey literature reports related to 'social prescribing'. After the online database search, academic and non-academic literature reference lists were hand-searched. Only the academic literature's citations were searched as several of the non-academic reports were not held on an academic database therefore citation searches could not be conducted. The initial search, including citations and reference searching, took place in February 2016 and an updated search was conducted in November 2016 to include recent articles and reports.

Identified articles were deemed relevant for inclusion if they reported the assessment of a referral programme of patients from a health context to a social context. A health context was considered any form of health or mental care, for example emergency departments, primary care, and mental health professionals. A social context was considered any form of community programme including cultural programmes, arts classes, or community groups. This excluded programmes evaluating a single programme, e.g. a diabetes health management courses. We excluded these 'single intervention' studies as by definition social referral programmes are premised on referring an individual to a range of interventions. After searching using this broad criteria, additional inclusion criteria were added due to the unexpected range of study methodologies, including many interview studies focused on clinical or provider perspectives. These criteria included the use of empirical methodology (qualitative, mixed methods, or quantitative), assessment of a patient sample and the production of a final article or report. This therefore excluded empirical articles that were evaluating the service provider's views of a social referral programme. Reports or articles that were not in their final version (e.g. commissioner or funding interim reports) were excluded as were conference reports and book chapters. No language or region restrictions were applied. After identification of relevant articles and reports, we extracted the study type, stated aim(s), and measures of each social referral programme. We categorised each study's aim(s) as mental, health, social, service use, service cost, and/or other and also extracted number of aims and whether a study aimed to address both individual and system-level aims. We did not assess study quality as we were not concerned with the results of social referral only the stated aims and measures. We also extracted the social referral programme name, study design, referral criteria, programme location, programme type, number of programme participants, and number of study participants.

The first coder, E. Rempel, developed the initial coding framework and the second coder, E. Wilson, separately coded all articles to this framework, any differences between the coding of aims or measures were subsequently discussed and agreed upon. Due to the qualitative nature of the review, we did not calculate percentage agreement.

RESULTS

The initial academic database search resulted in 603 articles. After duplicate removal, title and abstracts were reviewed according to inclusion and exclusion criteria, 41 articles were identified. On assessment of these full-text articles, 20 were removed for being non-empirical (e.g. discussion or review articles that did not evaluate a specific social referral programme but rather provided a general discussion on social prescribing), two were removed for containing non-patient samples and one was removed as it was a book chapter. After a forwards and backwards citation search, a further 23 articles were identified as relevant. At the initial February 2016 search, six review articles or articles with non-patient samples were also hand-searched for references and citations. Three non-academic articles referenced in grey literature reports that may have been relevant could not be found as copies of these reports were not held online, were not available through inter-library loans and were not held at the British Library. Furthermore after contacting the citing author and place of publication, these articles could still not be found. In total, 41 texts were analysed. See Figure 1 for a PRISMA diagram of the search strategy and results.

Of the 41 empirical studies, seven were qualitative, 17 were quantitative and 18 employed mixed methodologies. Figure 2 outlines the process of 'social referral' programmes described in these studies. The broad nature of the search, led to a braod range of programmes but all followed the basic outline seen in Figure 2. There was considerable variation in indicators of need, referral process and types of activities undertaken. For

example, emergency case management as described by Lee and Davenport[18] specifies the population as those who have three or more emergency department visits per month, as well as a list of specific health concerns, e.g. no general practitioner. Their referral process is nurse-led case management, where they refer to community services as well as other health services. The activities varied including both community-based as well as more traditional health referrals. In contrast, Stickley and Hui[19] describe a prescriptive arts programme. They do not specify a population, only the referral mechanism. The referral was from a primary or secondary mental health worker. The activity was a ten-week arts programme and the anticipated outcome was personal health improvement. Appendix 1 outlines the various types of programmes and study designs. Of the 41 studies, there were 38 unique social referral projects. There were two repeated programmes (Arts on Prescription and the BRIGHT trial), however the four studies were all individual evaluations of these services. As well the Health Trainer and Social Prescribing Service[17] was based on a previous pilot of the CHAT programme[12]. The majority of these texts described either a social prescription programme or an emergency department case management programme. All of the social prescribing programmes were set in the United Kingdom. The emergency department case management programmes were located in the United States, United Kingdom, Canada and Taiwan. All studies included only adult populations with study size ranging from four to 784. Patient samples varied greatly, from kidney patients to elderly adults. Programme size also greatly varied from 12 to 1848 referrals. See Appendices 1 and 2 for more details.

.

Table 1: Summary of Aims of Social Referral Programmes* (n=41)

Aim Level	Core Aim	Stated Aim	Number of References
Individual Level Aim	Improved Mental Well-being	To enhance skills/behaviours that improve mental wellbeing.[20] To help individual retain/recover functional capacity to study or work.[21] To improve/address psychosocial health[22-26] To improve mental health and well-being.[5 19 20 27-39] To improve patient quality of life[39 40] To improve resilience, confidence, and self-esteem.[37 41] To improve spiritual well-being[5] To support emotional needs.[42]	25
	Improved Physical Well-being	To empower and support individuals to choose a healthier lifestyle.[39] To improve physical health and well-being.[5 18 22 28-30 32 34 35 43-46] To improve self-assessed health status.[47] To support the self-management of long-term health conditions.[29 43 48]	16
	Improved Social Well-being	To increase connection to community-based support.[20 28] To improve/address psychosocial health.[22-26] To improve resilience, confidence, and self-esteem.[41] To improve social inclusion/engagement.[21 23 29 30 33 34] To improve social well-being[32 35 45] To support social needs/outcomes.[17 27 42 46 49]	21
	Other	To address practical needs e.g. employment.[42] To improve connection to nature.[30]	2
System Level Aim	Optimised Health Service Use	To broaden health service provision in the community[12] To improve service use.[23] To increase take-up of community activities[20 29 37] To optimise health care coordination[50] To provide appropriate arts course recommendations.[37] To provide better management of psychosocial problems in primary care[40] To reduce emergency department use/acute hospital care.[18 26 28 44 51 52] To reduce health service use[31 35 46 47 50 53] To reduce hospital care use.[29 52 54] To reduce primary care service use.[17 25 28 29] To support the self-management of long-term	23

	physical or mental health conditions[37 43 48]	
Decreased Health Service Cost	To reduce cost associated with long-term health conditions.[43]	6
	To reduce health services costs[5 26 35 46 53]	
Other	To reduce environmental cost (carbon footprint)[53]	1

*Aims of social referral programmes, not study aims.

Table 1 outlines the aims of the programmes described in the empirical studies. The stated aims were those listed in the individual studies, while the core aims were derived by grouping together similar aims across programmes. The core aims were then grouped in relation to the level at which the intervention was aimed: individual or system. The core individual aims identified included improved mental well-being, improved physical well-being and improved social well-being. The core system level aims included optimised health service use and decreased health service cost. Only nine studies stated a single aim. The majority of studies thus stated multiple aims: 16 stated two, 10 stated three, four stated four and one study stated five aims. Nineteen studies focused on both individual and system level outcomes (see Supplementary Appendix 2 for full details). Improved mental well-being was the most common core aim, with 25 of 41 studies. Physical well-being, social well-being and optimised service use were also frequently cited with 16, 21 and 23 studies, respectively. Six studies addressed the least common core aim of cost savings.

The mental well-being core aim was generally characterised by mental health or general well-being. Improved psychosocial state was considered to be both related to social and mental well-being. Physical well-being included both general health and the improvement of long term health conditions, like kidney disease. Social well-being included improvements in social and community engagement and quality of life. Health service use and cost aims included reductions in emergency department use, GP use, hospital stay length and other forms of primary care costs. The service use aim also included instances where

researchers were aiming to increase the uptake of community services. See Appendix 2 for more detail on aims.

Table 2 outlines the measures and methods used to evaluate the social referral projects by frequency. Across all aims these included administrative data/analysis, physical health questionnaires, mental health diagnostic measures, qualitative assessments and social/behavioural questionnaires. Across the 41 studies and reports, there were around 133 different kinds of measures or methods of evaluation used. Twenty-one measures or methods were used more than once, however many of these were forms of administrative data counts. The most commonly used scale was the Warwick-Edinburgh Mental Well-being Scale, used in nine studies.

Table 2: Measures and Methods Used in Studies/Reports of Social Referral by Frequency (n=41)*

Measure/Method	Number of Studies/Reports Using Measure/ Method	Examples of Progamme Aims Addressed**
Semi-structured interviews to explore patient experience.	14	n/a***
Warwick Edinburgh Mental Wellbeing Short Scale	9	Improved Mental Well-being Improved Physical Well-being Improved Social Well-being
Number of GP Appointments (administrative)	6	Optimised Health Service Use Reduced Health Service Cost Improved Physical Well-being
Short case description of participant experience	6	Improved Physical Well-being Improved Social Well-being Optimised Health Service Use
Demographic questions	5	Improved Mental Wellbeing.
Cost Analysis	5	Reduced Health Service

		Cost Optimised Health Service Use
Hospital Anxiety and Depression Scale	5	Improved Mental Well-being Improved Physical Well-being
Focus group with patients to explore patient outcomes	4	n/a***
Emergency Department Admissions/Hospital Episode Statistics (administrative)	6	Optimised Health Service Use
General Health Questionnaire-12	3	Improved Mental Wellbeing Improved Physical Wellbeing
Number of Secondary Referrals (administrative)	3	Optimised Health Service Use Reduced Health Service Cost
Geriatric Depression scale	2	Improved Mental Wellbeing
Focus Group with family members who engaged with the service to explore service experience	2	n/a***
Hospital Admissions Length (administrative)	2	Optimised Health Service Use
Reason for Referral	2	Improved Mental Wellbeing Optimised Health Service Use
Referral records (e.g. what activities were referred to)	2	Improved Social Wellbeing
Social Return on Investment Analysis	2	Reduced Health Service Cost Improved Mental Wellbeing
Work and Social Adjustment Scale	2	Improved Social Wellbeing
Number of Hospital Admissions (administrative)	2	Optimised Health Service Use
Number of Prescriptions for Psychosocial Reasons (administrative)	2	Optimised Health Service Use Improved Mental Wellbeing

*Where the measure or method was used in n>1 report or study.
**These are only example aims because it was not always clear how each aim and measure matched up
***Not applicable as the qualitative semi-structured interviews and focus groups were exploratory and did not have a specific programme aim to measure.

DISCUSSION

Examination of the aims of studies seeking to evaluate social referral initiatives and the measures used to evaluate their outcome has revealed extensive heterogeneity. This is unsurprising considering the variability in populations and types of programmes and is not problematic per se. We will discuss the various aims of social referral and the implications of the variety of measures used before considering what this variability means for the future of social referral programmes. In doing so it is important to reiterate the hugely varied nature of the events and opportunities to which people are being referred, as well as the substantial variety of recipients of this referral. Whilst we expect variation in programme aims and measures, these varied programmes were included because they all aimed to link individuals with community and health care services. It is therefore reasonable to assume that there would be some kind of consistency in how they measured and evaluated that 'linking up'.

Aims of social referral

The vast majority of studies, 32 out of the total 41, included multiple aims. Nineteen of these were concerned with both individual and system level outcomes (see Table 1 and Supplementary Appendix 2), for example mental wellbeing and health service costs. While a single study containing aims at individual and system level is not problematic as such, what is problematic is the lack of articulation of the presumed causal pathways from the treatment programme to improved individual health and to better health care resource allocation. As a thought experiment, an individual who is a frequent health service user and has poor control over their diabetic care could, in theory, be empowered by a social referral service and continue high levels of primary care access as they take greater ownership of their health. Indeed a few studies have found an uptake in medical service use post-social referral[34 53 54]. It

is reasonable for programmes to try to address multiple aims, however it is not acceptable for these programmes not to theorise, test and critically evaluate the relationship between them.

Measures of social referral

Measuring what 'works' is inherently linked to defining what these programmes intend to do and requires meaningful, specific and comparable indices. The diversity of measures evident in social referral initiatives, often associated with a series of vaguely similar aims, suggests that what programmes are aiming to do is often unclear. As seen in Table 2, measures used in social referral initiatives are considerably more plentiful than their aims. For example, Bragg, et al.[30] used 12 different tools in their evaluation of an eco-therapy programme. The multiple measures both within and between studies renders comparability between studies, even those addressing the same or similar aims, impossible. Similarly, we could not meaningfully narrow them to provide recommendations on preferred measures. Where there were multiple aims, papers rarely stated which measure was meant to address which aim. While we might infer that administrative counts of GP visits would measure GP use, it is less clear how GP visits would relate to physical wellbeing. Clarity of reporting in the hypothesised relationship between aims and outcomes measures is vital in understanding the causal mechanism between a programme and an outcome. From one perspective, measuring the same outcome in several ways could lead to a more robust proof of effect. In theory this could lead to a stronger evidence base about the effect of social referral on individual and system level outcomes. A less generous explanation behind the proliferation of measures is that researchers and evaluators do not have a definitive understanding of what exactly the exact aim of their social referral service is. It certainly suggests that one of the essential building blocks for an evaluation of a complex health system[55], that is establishing what the existing evidence is, has not been established.

In the final analysis, whilst there is a notable policy push for the implementation of social referral programmes, definitive and systematic evaluations of social referral programmes are not possible while aims and measures are so inconsistent. We hope that this review provides a first step towards categorising the aims of social referral programmes, i.e. to improve physical, mental, and social health, as well as reducing costs and improving health care resource allocation. Although these aims are broad, they provide a framework for highlighting what it is programmes intend to do, and not do, and identifying which measures might best be used to assess different types of aims. This would be a start in applying a more consistent methodology.

The solution to the issue of aim and measurement variability in programmes is not to give up on social referral in general. Certainly the incorporation of social and mental well-being within traditional biomedical health systems seems an essential step in tackling relatively recent problems in health care, e.g. services for aging populations, and may create new opportunities for people who are stagnated in their ability to access services that improve their health. However at this time, despite policy claims of value and claims of the effectiveness of individual programmes, reviews of these programmes are clear that we do not have evidence that this is the case [9 12-15 56-58]. We would argue that whilst aims and measures remain diffuse and the links between them under theorised and under specified that we actually *cannot* know that this is the case. We call on researchers and evaluators alike to consider the active ingredients of their programmes and in doing so echo a similar call made by the University of York asking, simply, for whom, in what context, how, and why do they intend to prescribe social activities[9]? And while these can be challenging to answer, if we do not know the answers to these simple questions, how can we possibly prepare a prescription?

Strengths and weaknesses

Although systematic, we cannot guarantee this is a comprehensive review of all social referral programmes. 'Social prescribing' is a generalised UK region-specific term for medical-based referral to non-medical services. There are likely social referral-like programmes in other countries that are not easily identified. Every effort was made to be as inclusive as possible in phrasing but there will inevitably be some studies missed. Conversely, the strength of our analysis is our inclusion of both grey and academic literature. By including non-academic reports we analysed valuable literature that would normally not be included in reviews. As well, this review is a first step in creating consistency and justification for the inclusion of social referral programmes in broader nationwide initiatives to address the social ills of health. The contribution of our approach to reviewing social referral is valuable due to its focus on aims and measures rather than, as is the case in other reviews, the outcomes of programmes.

CONCLUSION

This review aimed to analyse and summarise the aims and measures used in the evaluation of social referral programmes. Social referral is variously described as social prescribing, community referral and emergency case management among other terms. We found great variation in the aims of these projects including aims to improve mental well-being, physical health, social well-being and costs savings. We further found that measures used to analyse these aims were highly varied. We would suggest that a next step to addressing the social determinants of health in primary and secondary care is to derive more differentiated and concrete definitions of social referral that more specifically reflect what practitioners and commissioners intend for programmes to achieve and thus to dispense with a general notion of social referral often uncritically considered as the 'golden child' of cost savings and improved mental health. However, by setting clear aims and using appropriate measures, social referral can move beyond pilot studies and in to general practice. To that

end, we must endeavour to respond to Walt Disney's call to "diagnose and prepare the prescription"[1].

STATEMENTS

Funding

This work was supported by Innovate UK, project code: 102412-399209.

Data Sharing

Full coding guidelines and summaries for all articles included can be found in the Supplementary Appendix 1 and Supplementary Appendix 2.

Competing Interests

None declared.

Contributions

ESR, JCB and HD designed the study protocol. ESR conducted the database searching, while ESR and ENW conducted the data extraction. The report was written by ESR and JCB. All authors edited the manuscript.

Acknowledgements

The authors would like to acknowledge the support of the 'Collaborating to Deliver Social Prescribing in Bath and North East Somerset' Project Team, including Digital Algorithms Ltd.

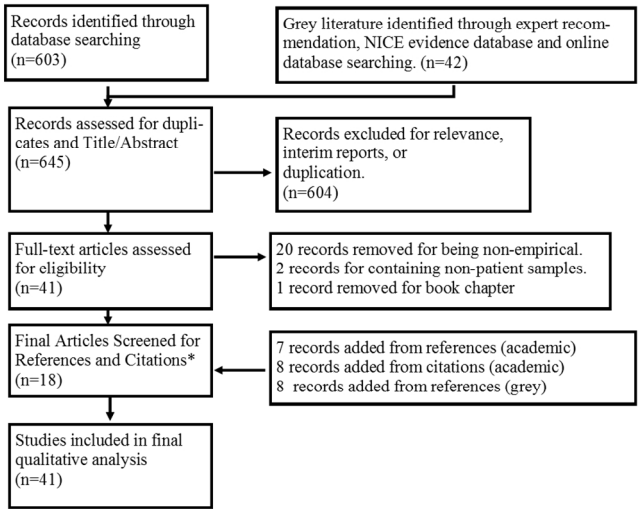
References

1. Disney W. Film entertainment and community life. The Journal of the American Medical Association 1958;**167**(11):1342-45.
2. Marmot M, UCL Institute of Health Equity. Review of social determinants and the health divide in the WHO European Region: final report. Copenhagen: WHO Regional Office for Europe, 2014.
3. Marmot MG, Stansfeld S, Patel C, et al. Health inequalities among British civil servants: the Whitehall II study. The Lancet 1991;**337**(8754):1387-93.
4. Marshall M. A precious jewel-The role of general practice in the English NHS. New England Journal of Medicine 2015;**372**(10):893-97.
5. Kimberlee R, Ward R, Jones M, et al. Proving our value: Measuring the economic impact of Wellspring Health Living Centre's social prescribing *Wellbeing Programme* for low level mental health issues encountered by GP services. Bristol: University of the West of England, 2014.
6. Kimberlee R. Developing a Social Prescribing approach for Bristol: University of the West of England, 2013.
7. NHS. NHS Five Year Forward View. England: National Health Institute, 2014.
8. Dyson B. Improving general practice: A call to action – phase one report. London, UK: NHS England, 2014.
9. The University of York Centre for Reviews and Dissemination. Evidence to inform the commissioning of social prescribing. York: University of York, 2015.
10. Kimberlee R. What is social prescribing? Advances in Social Sciences Research Journal 2015;**2**(1):102-10.
11. Bungay H, Clift S. Arts on Prescription: A review of practice in the UK. Perspectives in Public Health 2010;**130**(6):277-81.
12. South J, Higgins TJ, Woodall J, et al. Can social prescribing provide the missing link? Primary Health Care Research & Development 2008;**9**(04):310.
13. Mossabir R, Morris R, Kennedy A, et al. A scoping review to understand the effectiveness of linking schemes from healthcare providers to community resources to improve the health and well-being of people with long-term conditions. Health & social care in the community 2015;**23**(5):467-84.
14. Kumar GS, Klein R. Effectiveness of case management strategies in reducing emergency department visits in frequent user patient populations: a systematic review. The Journal of emergency medicine 2013;**44**(3):717-29.
15. Soril LJ, Leggett LE, Lorenzetti DL, et al. Reducing frequent visits to the emergency department: a systematic review of interventions. PLoS One 2015;**10**(4):e0123660.
16. Pawson R, Tilley N. *Realistic Evaluation*. London: SAGE, 1997.
17. White J, Kinsella K, South J. An evaluation of social prescribing health trainers in South and West Bradford. Leeds: Leeds Metropolitan University, 2010.
18. Lee K-H, Davenport L. Can case management interventions reduce the number of emergency department visits by frequent users? The Health Care Manager 2006;**25**(2):155-59.
19. Stickley T, Hui A. Social prescribing through arts on prescription in a U.K. city: participants' perspectives (part 1). Public health 2012;**126**(7):574-9.
20. Friedli L, Themessl-Huber M, Butchart M. Evaluation of Dundee Equally Well Sources of Support: Social prescribing in Maryfield Evaluation report four. Dundee: Equally Well Dundee, 2012.
21. Garety PA, Craig TKJ, Dunn G, et al. Specialised care for early psychosis: symptoms, social functioning and patient satisfaction. British Journal of Psychiatry 2006;**188**(1):37-45.
22. Greaves CJ, Farbus L. Effects of creative and social activity on the health and well-being of socially isolated older people: outcomes from a multi-method observational study. The Journal of the Royal Society for the Promotion of Health 2006;**126**(3):134-42.

23. Crawford M, Rutter D, Price K, et al. Learning the lessons: a multi-method evaluation of dedicated community-based services for people with personality disorder: National Co-ordinating Centre for NHS Service Delivery and Organisation R&D (NCCSDO), 2007.
24. Faulkner M. Supporting the psychosocial needs of patients in general practice: the role of a voluntary referral service. Patient Education and Counseling 2004;**52**(1):41-46.
25. Grayer J, Cape J, Orpwood L, et al. Facilitating access to voluntary and community services for patients with psychosocial problems: a before-after evaluation. BMC family practice 2008;**9**:27.
26. Okin RL, Boccellari A, Azocar F, et al. The effects of clinical case management on hospital service use among ED frequent users. The American journal of emergency medicine 2000;**18**(5):603-8.
27. Stickley T, Eades M. Arts on prescription: a qualitative outcomes study. Public health 2013;**127**(8):727-34.
28. Innovation Unit. Wigan community link worker service evaluation. London: Innovation Unit, 2016.
29. City and Hackney Clinical Commissioning Group, University of East London. Shine 2014 final report social prescribing: Integrating GP and community assets for health. London: University of East London, 2014.
30. Bragg R, Wood C, Barton J. Ecominds effects on mental wellbeing: An evaluation for mind. Essex: University of Essex, 2013.
31. Newcastle West Clinical Commissioning Group. Social prescribing for mental health: An integrated approach project report. Newcastle: Newcastle West Clinical Commissioning Group, 2014.
32. Jones M, Kimberlee R, Deave T, et al. The role of community centre-based arts, leisure and social activities in promoting adult well-being and healthy lifestyles. International journal of environmental research and public health 2013;**10**(5):1948-62.
33. Baker K, Irving A. Co-producing Approaches to the Management of Dementia through Social Prescribing. Social Policy & Administration 2016;**50**(3):379-97.
34. Cohen GD, Perlstein S, Chapline J, et al. The impact of professionally conducted cultural programs on the physical health, mental health and social functioning of older adults. The Gerontologist 2006;**46**(6):726-34.
35. ERS Research and Consultancy. Newcastle social prescribing project: Final report. Newcastle upon Tyne: ERS Research and Consultancy, 2013.
36. Morton L, Ferguson M, Baty F. Improving wellbeing and self-efficacy by social prescription. Public health 2015;**129**(3):286-9.
37. Huxley P. Arts on Prescription: An Evaluation. United Kingdom, 1997.
38. The Care Forum. New routes: End of project report. Bristol, UK: The Care Forum, 2015.
39. Kilroy A, Garner C, Parkinson C, et al. Towards Transformation: Exploring the impact of culture, creativity and the arts on health and wellbeing: A consultation report for the critical friends event. Manchester, UK: Arts for Health, Manchester Metropolitan University, 2007.
40. Grant C, Goodenough T, Harvey I, et al. A randomised control trial and economic evaluation of a referrals facilitator between primary care and the voluntary sector. British Medical Journal 2000;**320**(7232):419-23.
41. White M, Salamon E. An interim evaluation of the 'Arts For Well-being' social prescribing scheme in County Durham. Durham: Centre for Medical Humanities, Durham University, 2010.
42. Ramsbottom H, Volpe J, Pantelic V. Social prescribing: A model for partnership working between primary care and the voluntary sector. London: Age UK, n.d.
43. Blakeman T, Blickem C, Kennedy A, et al. Effect of information and telephone-guided access to community support for people with chronic kidney disease: randomised controlled trial. PLoS One 2014;**9**(10):e109135.

44. Liao M-C, Chen L-K, Chou M-Y, et al. Effectiveness of Comprehensive Geriatric Assessment-Based Intervention to Reduce Frequent Emergency Department Visits: A Report of Four Cases. International Journal of Gerontology 2012;**6**(2):131-33.
45. Vogelpoel N, Jarrold K. Social prescription and the role of participatory arts programmes for older people with sensory impairments. Journal of Integrated Care 2014;**22**(2):39-50.
46. Dayson C, Bashir N. The social and economic impact of the Rotherham Social Prescribing Pilot: Summary evaluation report. Sheffield: Sheffield Hallam University, 2014.
47. Reinius P, Johansson M, Fjellner A, et al. A telephone-based case-management intervention reduces healthcare utilization for frequent emergency department visitors. European Journal of Emergency Medicine 2013;**20**(5):327-34.
48. Blickem C, Kennedy A, Jariwala P, et al. Aligning everyday life priorities with people's self-management support networks: An exploration of the work and implementation of a needs-led telephone-based support systen. BMC Health Services Research 2014;**14**(262):1-12.
49. Goodhart C, Layzell S, Cook A, et al. Family support in general practice. Journal of the Royal Society of Medicine 1999;**92**(10):525-28.
50. Hudon C, Chouinard MC, Diadiou F, et al. Case Management in Primary Care for Frequent Users of Health Care Services With Chronic Diseases: A Qualitative Study of Patient and Family Experience. Annals of family medicine 2015;**13**(6):523-8.
51. Skinner J, Carter L, Haxton C. Case management of patients who frequently present to a Scottish emergency department. Emergency medicine journal : EMJ 2009;**26**(2):103-5.
52. Tadros AS, Castillo EM, Chan TC, et al. Effects of an emergency medical services-based resource access program on frequent users of health services. Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors 2012;**16**(4):541-7.
53. Maughan DL, Patel A, Parveen T, et al. Primary-care-based social prescribing for mental health: an analysis of financial and environmental sustainability. Primary health care research & development 2016;**17**(2):114-21.
54. Gupta K, Coupland L, Fottrell E. A two-year review of an 'open access' multidisciplinary community psychiatric service for the elderly. International Journal of Geratric Psychiatry 1996;**11**(9):795-99.
55. Lamont T, Barber N, de Pury J, et al. New approaches to evaluating complex health and care systems. BMJ 2016;**352** (i154):1-5.
56. Thomson LJ, Camic PM, Chatterjee HJ. Social prescribing: A review of community referral schemes. London: University College London, 2015.
57. Kinsella S. Social prescribing: A review of the evidence. Wirral: Wirral Council Business & Public Health Intelligence Team, 2015.
58. Bickerdike L, Booth A, Wilson PM, et al. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. BMJ open 2017;**7**(4):e013384.

Figure 1: PRISMA Flow Diagram



*Additional articles (e.g. review and non-empirical papers) that did not meet inclusion criteria in previous search stages were also hand-searched for citations and references.

Figure 1

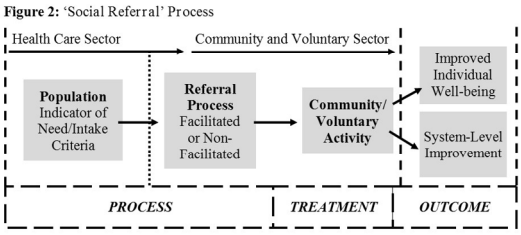


Figure 2

297x209mm (150 x 150 DPI)

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	4-5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4-5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	n/a
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	5-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	5-7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	5-7
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	5-7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	5-7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	5-7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	n/a
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	n/a
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	5-7

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	n/a
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	n/a
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	7-8
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	7-12/suppl.
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	n/a
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	7-12/suppl.
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	n/a
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	n/a
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	n/a
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	13-16
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	16
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13-16
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	18

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.

Appendix 1: Social Referral Programme Design

Reference	Programme name	Peer-reviewed?	Study type	Study design	Stated aim of social referral programme	Programme design	Referral criteria	Study/Progamme location	Number of programme participants	Number of study participants
BAKER, K. AND A. IRVING (2016)	Not listed.	Yes	Qualitative	Qualitative interview and focus group study.	To reduce isolation / loneliness and improve wellbeing.	Non-specific social prescribing service	Individuals with early onset dementia and depression living semi or fully-independent.	NE England, UK	Not listed.	n=30
BLAKEMAN, T., ET AL. (2014)	BRinging Information and Guided Help Together (BRIGHT)	Yes	Quantitative	Pragmatic, two-arm, patient level randomised control trial	To support the self-management of long-term health conditions, improving health / wellbeing and at a reduced cost.	Telephone-guided access to Community Support	Patients with stage 3 Chronic Kidney Disease	Greater Manchester, UK	N=436	n=436 (n=215 to intervention arm)
BLICKEM, C., ET AL. (2014)	Patient-Led Assessment for Network Support (PLANS) as part of BRIGHT trial	Yes	Qualitative	Qualitative interview, focus group, and observation study.	To improve the self-management of long-term health conditions through community support and engagement.	Telephone support service.	Patients with stage 3 Chronic Kidney Disease	Greater Manchester, UK	N=207	n=20
BRAGG, R., ET AL. (2013)	Ecominds	No	Quantitative	Before-after study.	To improve psychological health and wellbeing (confidence, self-esteem, physical and mental health), social inclusion and connection to nature	Eco-therapy programme.	Individuals with mental health problems.	England, UK	Not listed.	n=803

CITY AND HACKNEY CLINICAL COMMISSIONING GROUP AND UNIVERSITY OF EAST LONDON (2014)	City and Hackney Social Prescribing	No	Mixed Methods	8-month follow-up, prospective cohort- control and interview study	To reduce social isolation, better manage long-term conditions, improve health/well-being, increase take-up of community activities and support individuals to visit GP/hospital less.	GP-referred, facilitated social prescribing programme.	Non-specific, targeted social isolation but includes a range of social and mental health problems.	London, UK	N=737	n-15 qualitative, n-486 quantitative (n=184 to intervention arm)
COHEN, G. D., ET AL. (2006)	Creativity and Aging Study	Yes	Quantitative	Quasi-experimental prospective cohort-comparison study.	To improve physical and mental health and social engagement.	Self-referred weekly cultural activity groups.	Ambulatory individuals over 64.	Washington DC, USA	N=>300	n=166
CRAWFORD, M., ET AL. (2007)	Community Links Service	No	Mixed Methods	Semi-structured interview study, 12-month follow-up, before-after study.	To improve service use, address psychosocial needs and decrease the risk for social exclusion for individuals with personality disorder.	GP or primary care referred facilitated social prescribing programme.	Individuals diagnosed with a personality disorder, or exhibiting interpersonal problems.	London, UK	N=76 (assumed based on report, but service was anonymised)	n=11 quantitative, n=12 for qualitative
DAYSON, C. AND N. BASHIR (2014)	Rotherham Social Prescribing Pilot	No	Mixed Methods	6- and 12-month before-after cohort study for administrative data. 3-4-month follow-up cohort study for wellbeing measures. Plus qualitative case studies.	To improve health and social outcomes of individuals with long term conditions and to reduce the use of NHS services to decrease cost.	GP referred facilitated social prescribing programme.	Individuals with long-term health conditions.	Rotherham, UK	N=1607	n-280 quantitative (wellbeing), n-108 quantitative (12 month follow-up), n=451 (6 month follow-up), n=unknown qualitative (case studies)
ERS RESEARCH AND CONSULTANCY (2013)	Newcastle Social Prescribing Project.	No	Mixed Methods	Before-after study and interview study. Plus general demographic analysis.	To improve the physical, mental and social wellbeing of individuals managing long-term conditions and to reduce health service use to reduce cost.	GP referred link worker social prescribing programme.	Mostly individuals with long term health conditions and mental health problems but also problems with social networks/lifestyle.	Newcastle, UK	N=124	n=9 qualitative, n=16 quantitative

FAULKNER, M. (2004)	Patient Support Service (PSS)	Yes	Qualitative	Semi-structured interview 1-month post intervention	To improve the psychosocial state of individuals.	GP or Practice Nurse referred voluntary community referral service.	Patients 18 or over, with psychosocial problems, without other co-occurring concerns like behavioural problems.	Doncaster, UK	N=34	n=11
FRIEDLI, THEMESSL-HUBER & BUTCHART (2012)	Sources of Support from the Dundee Equally Well Test Site	No	Mixed Methods	Before-after comparison study, interview study, and cross-sectional demographic analysis.	To improve mental wellbeing uptake of local services, participation in community activities, social support/contact/networks. And to enhance skills/behaviours that improve mental wellbeing.	GP referred, facilitated social prescribing service	Open but targeting individuals with poor mental wellbeing related to social circumstances, mild to moderate depression or anxiety, long term mental/physical conditions and frequent attenders.	Dundee, UK	N=123	n=16 for before-after study, n=12 interview study, n=123 cross-sectional,
GARETY, P.A., ET AL. (2006)	Lambeth Early Onset Team Care	Yes	Quantitative	Randomised control trial with 18-month follow-up	To help individual retain/recover functional capacity to study or work and/or re-establish supportive social networks.		Individuals aged 16-40 for present for a first time with a non-affective psychosis.	Lambeth, UK	N=144	n=71 to intervention, n=73 control
GOODHART, C., ET AL. (1999)	WellFamily Project	Yes	Mixed Methods	Semi-structured interviews with patients and before-after study (following whether what patients wanted from service was met by referral)	To support individuals experience social difficulties.	GP referred, facilitated family and individual social prescribing service.	Families in need who fall below social services threshold. Specifically individuals who are isolated, depressed, frequent attenders with psychosocial problems, families concerns about child's behaviour, families that have difficulty providing adequate levels of care, and individuals concerned about welfare of other family members.	London, UK	N=136 patients or families	n=20 interview study, n=136 referrals

GRANT, C., ET AL. (2000)	Almathea Project	Yes	Quantitative	Two-arm randomised control trial with one and four month follow-up.	To improve patient quality of life and provide better management of psychosocial problems in primary care.	GP referred, referrals facilitation service between primary care and voluntary sector	Patients 16 or over who have psychosocial problems	Avon, UK	N=161	n=161 (n=90 to intervention arm)
GRAYER, J., ET AL. (2008)	Graduate Primary Care Mental Health Workers (GPC MHW) Community Link Scheme	Yes	Quantitative	Three month follow-up before-after study	To improve patient psychosocial wellbeing and to reduce primary care service use.	Primary care team referred, GPC MHW facilitated community and voluntary referrals service	Patients 18 or over with psychosocial problems.	London, UK	N=108	n=108
GREAVES, C. J. AND L. FARBUS (2006)	Upstream Healthy Living Centre	Yes	Mixed Methods	Qualitative semi-structured interview study and focus groups. And 5-6 month and 10-12 month before-after study.	To improve physical and psychosocial health through active social contact.	A self- or community referred mentoring service with referrals to social activities.	Socially isolated older adults over the age of 50.	Devon, UK	N=229	n=26 qualitative, n=172 quantitative at baseline
GUPTA, K., ET AL. (1996)	Not listed.	Yes	Quantitative	Cross-sectional GP and Patient experience survey and retrospective study.	To reduce hospital care use among elderly people and promote independent living	A multidisciplinary, community psychogeriatric service with telephone support service	Psychiatrically at-risk elderly individuals.	West Lambeth, UK	N=971	n=109
HUDON, C., ET AL. (2015)	V1SAGES project	Yes	Qualitative	Retrospective descriptive semi-structured interview study	To optimise health care coordination and reduce health service use.	Nurse-facilitated case management service for frequent primary care users	Patients aged 18-80 with at least one chronic health condition and who are frequent primary care users.	Quebec, Canada	Not listed.	n=25

HUXLEY, P. (1997)	The Arts on Prescriptio n Project	No	Mixed Methods	Before-after prospective study.	To increase the level of mental well-being of participants using a wide range of creative processes'. Other aims to provide arts opportunities, recommend appropriate arts activities, raise self-esteem/self-confidence, to 'encourage individuals to look after their own health by developing skills in self-assessment and making choices' and to 'encourage participants to take up further arts/leisure activities'. Pg 5.	Primary care referred arts on prescription programme, which assessment by psychiatric nurse.	People with mild to moderate depression.	Stockport, UK	n=83	n=33
INNOVATION UNIT (2016)	Wigan Community Link Worker Service	No	Mixed Methods	Semi-structured interview study and retrospective study.	To improve health and wellbeing and reduce primary / acute care use through connections to community-based support.	Primary care referred community social prescribing.	Individuals with ‘non clinical needs’	Wigan, UK	N=784	n=784 quantitative, n=3 qualitative
INNOVATION UNIT AND GREATER MANCHESTER PUBLIC HEALTH NETWORK (2016)	Bromley-by-Bow Centre	No	Mixed Methods	A short case study.	Not stated.	Healthy Living Centre with GP referred facilitated social prescribing	Not stated.	London, UK	N=700 'in last year'	Not stated.

JONES, M., ET AL. (2013)	South West Wellbeing (SWWB) Programme	Yes	Quantitative	Follow-up time varying, before-after study	To improve physical and mental health and social wellbeing.	Community-based arts, leisure, and social activity service.	"A focus on individuals' experiencing low level mental ill health, long term health conditions, low levels of physical activity and/or diet related ill health. These criteria were combined with low income and/or social isolation." p.1950	SW England, UK	N=1848	n=687 at follow-up
KILROY, A., ET AL. (2007)	Invest to Save Arts in Health Evaluation	No	Mixed Methods	Before-after study. Plus interview study.	(Various) To empower/support individuals to choose a healthier lifestyle. And to create a sense of well-being/transform quality of life for communities and individuals.	Multi-referred, including GP referred, arts on prescription programme.	Varying across six programmes including age (55+) and individuals with moderate/mild depression.	Manchester, UK	Unknown	Six programmes ranging from n=7 to n=35 for quantitative, unknown qualitative
KIMBERLEE, R., ET AL. (2014)	Wellspring Healthy Living Centre's Social Prescribing Programme	No	Quantitative	3- and 12-month before-after cohort study. Plus semi-structured interview study.	To improve wellbeing (mental, spiritual and physical) and reduce health service cost.	GP referred facilitated social prescribing programme.	Individuals with long term health conditions.	Bristol, UK	N=128	n-70 quantitative (3 month follow-up), n=40 qualitative, n-40 (12 month follow-up 1), n-80 (12 month follow-up 2)
LEE, K.-H. AND L. DAVENPORT (2006)	Not listed.	Yes	Quantitative	5-month before-after study.	To reduce the number of emergency department visits and improve patient health.	Nurse-facilitated case management for emergency department frequent users.	Patients with three or more emergency department visits in one month.	Not listed (USA)	N=50	n=50

LIAO, M.-C., ET AL. (2012)	Not listed.	Yes	Mixed Methods	Detailed case description.	To reduce emergency department use and improve health through targeted care.	Comprehensive geriatric assessment (CGA)-based multidisciplinary team (MDT) care.	Patients 65 or older who make five emergency department visits over 30 days at any time in one year.	Not listed (Taiwan)	Not listed.	n=4
MAUGHAN, D. L., ET AL. (2016)	The Connect Project/The Eden Timebank	Yes	Quantitative	Retrospective 18-month follow-up cohort study.	To reduce healthcare service use and the subsequent financial and environmental costs.	GP and healthcare staff referred community social prescribing programme	Adults with a 'common' mental health conditions, not in care, who had used Connect services for at least 6 months	Carlisle, UK	Not listed.	n=55 (n=26 to intervention arm)
MORTON, L., ET AL. (2015)	Not listed.	Yes	Quantitative	Before-after study.	To improve mental wellbeing.	Mental health professional referred cultural prescribing programme.	Individuals with mild to moderate mental health conditions.	Fife, UK	N=262	n=136
NEW ROUTE BATH	New Routes	No	Mixed Methods	Before-after prospective study	To improve wellbeing.	GP referred, facilitated social prescribing service	Individuals with low/moderate mental health issues, housebound, lack of mobility, physical health problems related to mental health/wellbeing, low income/unemployed, recently redundant, long-term sick, retired, carers, ex-carers, learning disabilities, and other vulnerable adults.	Keynsham, England	N=312	N=240

NEWCASTLE WEST CLINICAL COMMISSIONING GROUP (2014)	Social Prescribing for Mental Health	No	Mixed Methods	3- and 9-month follow-up before-after study. Plus four focus groups and two detailed case studies.	To improve general wellbeing and reduce health service use.	Link worker social prescribing programme and a 'light touch' signposting social prescribing programme.	Individuals who have mental health needs alone or in conjunction with a long term condition.	Newcastle, UK	N=21	n=20 quantitative, n=2 case studies, n=unknown qualitative
OKIN, R. L., ET AL. (2000)	Not listed.	Yes	Quantitative	12-month follow-up before-after study.	To reduce the use of acute hospital services and service cost, and reduce the psychosocial problems of frequent emergency department users.	Psychiatric social-worker facilitated case management programme.	Patients who use an emergency department 5 or more times in 12 months, 18 years or older.	San Francisco, USA	N=53	n=53
RAMSBOTTOM, H., ET AL. (N.D.)	The Social Prescribing Pilot Project.	No	Mixed Methods	Detailed case descriptions and a retrospective study.	To support people aged 55 and over with their social, emotional and practical needs.	GP referred social prescribing service	Older persons with mild to moderate depression or social isolation/loneliness.	Yorkshire and Humber, UK	N=117	n-4 case studies, n=unknown quantitative
REINIUS, P., ET AL. (2013)	Not listed.	Yes	Quantitative	1-year follow-up zelen-design randomised control trial.	To improve self-assessed health and reduce health service use among frequent emergency department users.	Telephone-based case management intervention.	Patients with three or more emergency visits over 6 months, over 18 years of age and without dementia/psychotic diseases or terminal illness.	Stockholm County, Sweden	N=271	n=211 intervention, n=57 control, n=3 deceased
SKINNER, J., ET AL. (2009)	Not listed.	Yes	Quantitative	6-month before-after study.	To reduce emergency department visits among frequent users.	Nurse and emergency department specialist facilitated case management programme.	Patients who visited the emergency department 10 or more times in 6 months.	Edinburgh, UK	N=57	n=57
SOUTH, J., ET AL. (2008)	Community Health Advice Team	Yes	Qualitative	Semi-structured interview study	To broaden health service provision in the community.	GP or self-referred facilitated social prescribing programme.	Not listed.	Bradford, UK	Not listed.	n=10

STICKLEY, T. AND A. HUI (2012)	Arts on Prescription programme	Yes	Qualitative	Semi-structured interview study.	To improve mental health.	Mental health professional referred arts based activity groups.	Not listed.	Not listed (UK)	N=>400	n=16
STICKLEY, T. AND M. EADES (2013)	Art on Prescription Programme	Yes	Qualitative	Average 24 month post-intervention interview study.	To create positive mental health and wellbeing outcomes.	Mental health professional referred arts based activity groups. (see Stickley & Hui, 2012)	Not listed.	Not listed (UK)	(see Stickley & Hui 2012)	n=10
TADROS, A. S., ET AL. (2012)	San Diego Resource Access Programme	Yes	Quantitative	Before-after retrospective study	To reduce emergency medical services and hospital use.	Emergency services referred, nurse facilitated case management programme.	Patients with 10 or more emergency service transports in preceding 12 months.	San Diego USA	N=51	n=51
VOGELPOEL, N. AND K. JARROLD (2014)	Not listed.	Yes	Mixed Methods	Detailed case study, interview study, and before-after study.	To improve health and social wellbeing.	GP referred cultural social prescribing programme.	"[Older] people experiencing social isolation and associated health problems who have single or multi-sensory impairment" p.41	Rotherham, UK	N=12	n=12

WHITE, KINSELLA, & SOUTH (2010)	Health Trainer and Social Prescribing Service (based on CHAT pilot)	No	Mixed Methods	Before-after prospective study (single item question) and structured interviews.	To support patients with social needs (study aim to examine if patients make more appropriate use of GP practice after referral)	GP referred, facilitated social prescribing service	Individuals with mild mental health problems, who are socially isolated, with relationship difficulties, facing problems with finance/housing/employment, carer, parent, struggling with long-term condition or disability, coming to terms with bereavement or wishing to adopt healthier lifestyle.	South and West Bradford, England	N=484	n=12 interview study, n=484 quantitative study
WHITE, M. AND E. SALAMON (2010)	Arts for Well-being	No	Mixed Methods	A cross-sectional quantitative and qualitative analysis of feedback forms. Plus qualitative analysis of five focus groups, one participant interview, and two written testimonials.	To improve resilience, confidence, and self-esteem.	Community arts for health improvement, social prescribing programme.	Individuals with long term conditions, new parents or carers.	South and West Bradford, England	N=608	n=22 quantitative, n=42 qualitative (focus groups), n=3 qualitative (other).

Appendix 2: Programme Aims and Measures

			Individual Level			Core Aim		Other	No. of aims	Individual & System Aim?												
Reference	Peer-reviewed?	Study Type	Mental Health		Social	Service Use	Service Cost				Stated Aim of SP Programme	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7	Measure 8	Measure 9	Measure 10	Measure 11	Measure 12
Baker, K. and A. Irving (2016)	Yes	Qualitative	1		1				2	0	To reduce isolation / loneliness and improve wellbeing.	Focus Group with family members who engaged with the service to explore service experience	Semi-structured (informal) interviews with participants to explore service experience and wellbeing impact	Focus groups (informal) with participants to explore service experience and wellbeing impact									

Blakeman, T., et al. (2014)	Yes	Quantitative	1		1	1		3	1	To support the self-management of long-term health conditions, improving health / wellbeing and at a reduced cost.	Anxiety Questionnaire from HADS	Dichotomous blood pressure control	Education Impact Questionnaire (heiQ)	Emotional response item from Brief illness Perception Questionnaire	EuroQoL EQ5-D (generic health related quality of life)	Four Physical and Psychological Wellbeing Health Education Outcome Measures from Medical Outcomes Study	Incremental cost effectiveness Ratio	Levels of illness	Medication Knowledge and Medication Motivation subscales from the Modified Morisky Medication Adherence Scale	Social capital service use via frequency of contact with primary and outpatient services	Summary of Diabetes SelfCare Activities Measure	UCLA Loneliness Scale
Blickem, C., et al. (2014)	Yes	Qualitative	1		1			2	1	To improve the self-management of long-term health conditions through community support and engagement.	Semi-structured interviews with participants using normalising process theory														

Bragg, R., et al. (2013)	No	Quantitative	1	1	1		1 (Environmental Connectedness)	3	0	To improve psychological health and wellbeing (confidence, self-esteem, physical and mental health), social inclusion and connection to nature	Community Activity involvement (novel)	Connectedness to Nature Scale (novel)	Environmental Behaviour Likert Scale	Healthy Eating (novel)	Neighbourhood Belonging (from CLES)	Neighbourhood satisfaction (novel)	Perceived Health Scale (novel)	Perceived Positivity Scale	Profile of Mood States	Rosenberg Self Esteem Scale	Social engagement and Support measure (CLES module)	Warwick-Edinburgh Mental Well-being Scale
City and Hackney Clinical Commissioning Group and University of East London (2014)	No	Mixed Methods	1	1	1	1		4	1	To reduce social isolation, better manage long-term conditions, improve health/well-being, increase take-up of community activities and support individuals to visit GP/hospital less.	A&E Attendances (administrative)	Cost Analysis of Delivering Intervention	General Health Score	Hospital Anxiety and Depression Scale	Number of regular activities	Quality of life (EQ5D) Questionnaire	Regional General Practice Consultation Rates (administrative)	Self-reported past week wellbeing	Semi-structured interviews with patients to explore service experience	Social Integration Score		
Cohen, G. D., et al. (2006)	Yes	Quantitative	1	1	1			3	0	To improve physical and mental health and social engagement.	Geriatric Depression Scale Short Form	Loneliness Scale III	Number of falls (Self-report)	Number of GP visits (self-report)	Number of Over-the-counter medications (self-report)	Other health problems (Self-report)	Overall health rating (self-report)	Philadelphia Geriatric Center Morale Scale	Social Activity Inventory			

Crawford, M., et al. (2007)	No	Mixed Methods	1		1	1			3	1	To improve service use, address psychosocial needs and decrease the risk for social exclusion for individuals with personality disorder.	Care Pathway Record	Current use of alcohol or illicit drugs	Focus Groups with service users exploring service experience	Four-item Patient Satisfaction Questionnaire	Mental Health Inventory	Semi-structured interviews with service users exploring service experience	Service utilisation questionnaire	Single-item question exploring motivation to change	Social Functioning Questionnaire	Standardised Assessment of Personality – Abbreviated Scale	`
Dayson, C. and N. Bashir (2014)	No	Mixed Methods		1	1	1	1		4	1	To improve health and social outcomes of individuals with long term conditions and to reduce the use of NHS services to decrease cost.	Case Study Interviews with beneficiaries to explore social impact	Cost-Benefit Analysis	Hospital Episode Statistics (administrative)	Social ROI Analysis	Unspecified wellbeing outcomes tool						

ERS Research and Consultancy (2013)	No	Mixed Methods	1	1	1	1	1		5	1	To improve the physical, mental and social wellbeing of individuals managing long-term conditions and to reduce health service use to reduce cost.	Trends in Social Prescribing Referrals	Semi-structured interviews with patients to explore service experience	Warwick-Edinburgh Mental Well-being Scale Short Form	Confidence Scale	
Faulkner, M. (2004)	Yes	Qualitative	1		1				2	0	To improve the psychosocial state of individuals.	Semi-structured interviews with patients to explore service effectiveness				

Friedli, Themessl-Huber & Butchart (2012)	No	Mixed Methods	1	1	1		3	1	To improve mental wellbeing, uptake of local services, participation in community activities, social support/contact/networks. And to enhance skills/behaviours that improve mental wellbeing.	Demographics Analysis	Semi-structured (assumed) interviews to explore patient experience.	Warwick-Edinburgh Mental Wellbeing Scale Short Scale	Work Social Adjustment Scale	Reason for Referral								
Garety, P.A., et al. (2006)	Yes	Quantitative	1	1			2	0	To help individuals retain/recover functional capacity to study or work and/or re-establish supportive social networks.	Adverse incidents (administrative)	Calgary Depression Rating Scale	Global Assessment of Function	Housing Records (administrative)	Manchester Short Assessment of Quality of Life	Positive and Negative Syndrome Scale	Relationship Records (administrative)	Scale for the Assessment of Insight	Verona Service Satisfaction Scale	Vocational or Educational Status (administrative)			
Goodhart, C., et al. (1999)	Yes	Mixed Methods		1			1	0	To support individuals experience social difficulties.	Referral records (e.g. what activities were referred to)	Semi-structured interviews to explore patient experiences.											

Grant, C., et al. (2000)	Yes	Quantitative	1			1	2	1	To improve patient quality of life and provide better management of psychosocial problems in primary care.	Cost Analysis	Dartmouth-COOP/WONCA Functional Health Assessment Chart	Delighted-terrible Faces Scale	Duke-UNC Functional Social Support Questionnaire	Hospital Anxiety and Depression Scale		
Grayer, J., et al. (2008)	Yes	Quantitative	1		1	1	3	1	To improve patient psychosocial wellbeing and to reduce primary care service use.	Client Satisfaction questionnaire	Clinical Outcomes in Routine Evaluation - Outcomes Measure	Community Link Evaluation (novel)	General Health Questionnaire -12	Number of Specialist MH Referrals (administrative)	Number of GP visits (including for psychosocial problems) (administrative)	Number of Prescriptions for Psychosocial Reasons (administrative)	Work and Social Adjustment Scale
Greaves, C. J. and L. Farbus (2006)	Yes	Mixed Methods	1	1	1		3	0	To improve physical and psychosocial health through active social contact.	Focus group with patients to explore patient outcomes	Geriatric Depression scale	MOS Social Support Survey (altered)	Participant Demographics	Semi-structured interviews with patients to explore patient outcomes	Short form 12 Scale	Health and Social Care Usage (survey)	

Gupta, K., et al. (1996)	Yes	Quantitative		1		1	0	To reduce hospital care use among elderly people and promote independent living	Hospital Admissions Length (administrative)	Hospital Admission Number (administrative)	Quality of Care Questionnaire	Hospital Bed Occupancy (administrative)								
Hudon, C., et al. (2015)	Yes	Qualitative		1		1	0	To optimise health care coordination and reduce health service use.	Focus groups with families of patients to explore service experience	Semi-structured, in-depth interviews with patients to explore service experience										
Huxley, P. (1997)	No	Mixed Methods	1	1		2	1	To increase the level of mental well-being of participants using a wide range of creative processes'. Other aims to provide arts opportunities, recommend appropriate arts activities,	Activities, interests and hobbies question	Contact with other health professionals in the last 3 months	Contacts with GP in the last 3 months	General Health Questionnaire -12	Self-concept question	Social relationships question	Unknown qualitative response method					

										raise self-esteem/self-confidence, to 'encourage individuals to look after their own health by developing skills in self-assessment and making choices' and to 'encourage participants to take up further arts/leisure activities'. Pg 5			
Innovation Unit (2016)	No	Mixed Methods	1	1	1	1		4	1	To improve health and wellbeing and reduce primary / acute care use through connections to community-based support.	Health Service Data Counts (administrative)	Semi-structured interviews with clients to explore service experience	Short case description of participant experience

Innovation Unit and Greater Manchester Public Health Network (2016)	No	Mixed Methods								Not Listed.	Interviews with practitioners about patient progress	Warwick-Edinburgh Mental Wellbeing Scale									
Jones, M., et al. (2013)	Yes	Quantitative	1	1	1			3	0	To improve physical and mental health and social wellbeing.	Centre for Epidemiological Studies Depression Scale	Demographic questions	General Health Likert Scale	GP Physical Activity Questionnaire	Healthy Eating Questions	Life satisfaction Questions	Social Wellbeing Scale (European Social Survey Round 3)	Warwick Edinburgh Mental Well being Short Scale			
Kilroy, A., et al. (2007)	No	Mixed Methods	1	1			1 (Community Wellbeing and Quality of Life)	3	1	(Various programmes) To empower/support individuals to choose a healthier lifestyle. And to create a sense of well-being/transform quality of life for communities and individuals.	General Health Questionnaire-12	Hospital Anxiety and Depression Scale	Ryff's Scale of Psychological Well Being	Semi-structured interviews about participant experience	Warr, Cook & Wall Work and Life Attitudes Survey						

Kimberlee, R., et al. (2014)	No	Quantitative	1	1		1		3	1	To improve wellbeing (mental, spiritual and physical) and reduce health service cost.	Friendship Scale for Isolation	GAD7 Anxiety Scale	GP Visit Rate (administrative)	International Physical Activity Questionnaire	ONS Wellbeing Measures	Perceived Economic Wellbeing	PHQ9 Depression Scale	Social Return on Investment Analysis			
Lee, K.-H. and L. Davenport (2006)	Yes	Quantitative		1		1		2	1	To reduce the number of emergency department visits and improve patient health.	Emergency Department Number of Visits (administrative)										
Liao, M.-C., et al. (2012)	Yes	Mixed Methods		1		1		2	1	To reduce emergency department use and improve health through targetted care.	Emergency department use (administrative)	Short case description of participant experience									
Maughan, D. L., et al. (2016)	Yes	Quantitative				1	1 (Environmental Cost)	2	0	To reduce healthcare service use and the subsequent financial and environmental costs.	Cost analysis	Number of GP Appointments (administrative)	Prescription (psychotropic) Number (administrative)	Secondary Referral Number (administrative)							

Morton, L., et al. (2015)	Yes	Quantitative	1			1	0	To improve mental wellbeing.	General Self-efficacy Scale	Hospital Anxiety and Depression Scale	Warwick-Edinburgh Mental Well-being Scale
Newcastle West Clinical Commissioning Group (2014)	No	Mixed Methods	1	1		2	1	To improve general wellbeing and reduce health service use.	Cost Analysis	Focus Groups with potential or previous patients to explore perceptions and expectations of social prescription	

Okin, R. L., et al. (2000)	Yes	Quantitative	1	1	1	1		4	1	To reduce the use of acute hospital services and service cost, and reduce the psychosocial problems of frequent emergency department users.	Case Manager reported drug or alcohol problems	Cost analysis	Homelessness Status	Number of Emergency Department Visits (administrative)
Ramsbottom, H., et al. (n.d.)	No	Mixed Methods	1	1			1 (Employment and training)	2	0	To support people aged 55 and over with their social, emotional and practical needs.	Short case description of participant experience	Warwick-Edinburgh Mental Well-being Scale		

Reinius, P., et al. (2013)	Yes	Quantitative	1	1		2	1	To improve self-assessed health and reduce health service use among frequent emergency department users.	Length of Stay in Hospital (administrative)	Number of doctors' appointments (administrative)	Numbers of hospitalisations (administrative)	Quantitative analysis of structured interview with patients to assess baseline social and medical status	Short-Form Health Survey (SF-36)	Total emergency health costs (administrative)	
Skinner, J., et al. (2009)	Yes	Quantitative		1		1	0	To reduce emergency department visits among frequent users.	Number of Emergency Department Admissions (administrative)	Unspecified case records (referral type) (administrative)	Unspecified diagnostic detail (administrative)				

South, J., et al. (2008)	Yes	Quali tative			1		1	0	To broaden health service provision in the community.	Short case descrip tion of particip ant experie nce
Stickle y, T. and A. Hui (2012)	Yes	Quali tative	1				1	0	To improve mental health.	Semi-structur ed, in-depth intervie ws with patients using Narrati ve Inquiry Process
Stickle y, T. and M. Eades (2013)	Yes	Quali tative	1	1			2	0	To create positive mental health and wellbeing outcomes.	Semi-structur ed Intervie w with particip ants to explore particip ant experie nce

Tadros, A. S., et al. (2012)	Yes	Quantitative			1		1	0	To reduce emergency medical services and hospital use.	EMS Dispatch Response and Transport Codes	EMS Presence of Comorbidities (administrative)	Most common health complaint for enrolled participants (administrative)	Resource Access Programme Recorded Activity (administrative)	Time and Cost of Health Care Resource Use (administrative)									
The Care Forum (2015)	No	Mixed Methods	1				1	0	To improve wellbeing.	Demographics Analysis	Detailed Case Studies	Five Ways to Wellbeing	Make Yourself Medical Outcome Profile	Number of Activities Undertaken	Reason for referral	Warwick-Edinburgh Mental Wellbeing Scale	Well being Outcomes Star	Referred Activity	Total number of GP referrals				
Vogelpoel, N. and K. Jarrold (2014)	Yes	Mixed Methods	1	1			2	0	To improve health and social wellbeing.	Detailed case studies to explore participant experience (Dynamic Observation scale)	Warwick-Edinburgh Mental Wellbeing Scale (14 and 7 item)												

White, Kinsella, & South (2010)	No	Mixed Methods			1	1			2	1	To support patients with social needs (Study Aim to examine if patients make more appropriate use of GP practice after referral, unclear if this is also programme aim)	Detailed Case Studies	Single-item question on whether patients made progress on their goals	Structured telephone interview about patient views on service.		
White, M. and E. Salamon (2010)	No	Mixed Methods	1		1				2	0	To improve resilience, confidence, and self-esteem.	Content analysis of participant evaluation forms	Review of participant demographic characteristics	Semi-structured participant focus groups to explore participant experiences.	Semi-structured telephone interviews to explore participant experience.	Two written testimonials
Total Number of Articles by Aim			25	16	21	23	6	4		19						

BMJ Open

Preparing the prescription: A review of the aim and measurement of social referral programmes

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2017-017734.R1
Article Type:	Research
Date Submitted by the Author:	15-Jul-2017
Complete List of Authors:	Rempel, Emily; University of Bath, Department of Psychology Wilson, Emma; University of Bath, Department of Psychology Durrant, Hannah; University of Bath, Institute for Policy Research Barnett, Julie; University of Bath, Department of Psychology; University of Bath, Institute for Policy Research
Primary Subject Heading:	Health services research
Secondary Subject Heading:	Evidence based practice, General practice / Family practice, Health policy
Keywords:	Social Prescribing, Social Referral, Literature Review, SOCIAL MEDICINE, Health Services Research

Title:

Preparing the prescription: A review of the aim and measurement of social referral programmes

Corresponding Author:
Emily S. Rempel[1]
Department of Psychology, University of Bath
Claverton Down, Bath, United Kingdom
BA2 7AY
Email: E.S.Rempel@bath.ac.uk
Phone: 01225 384573

Co-Authors:
Emma N. Wilson[1]
Hannah Durrant[2]
Julie Barnett[1, 2]

[1] Department of Psychology, University of Bath
Bath, United Kingdom, BA2 7AY
[2] Institute for Policy Research, University of Bath
Bath, United Kingdom, BA2 7AY

Word count: 3825 words

ABSTRACT

Objective: Our aim was to review, and qualitatively evaluate, the aims and measures of social referral programmes. Our first objective is to identify the aims of social referral initiatives. Our second objective is to identify the measures used to evaluate whether the aims of social referral were met.

Design: Literature review

Background: Social referral programmes, also called social prescribing and emergency case referral, link primary and secondary health care with community services, often under the guise of decreasing health system costs.

Method: Following the PRISMA guidelines we undertook a literature review to address that aim. We searched in five academic online databases and in one online non-academic search engine, including both academic and grey literature, for articles referring to 'social prescribing' or 'community referral'.

Results: We identified 41 relevant articles and reports. After extracting the aims, measures and type of study, we found that most social referral programmes aimed to address a wide variety of system and individual health problems. This included cost savings, resource reallocation and improved mental, physical and social wellbeing. Across the 41 studies and reports, there were 154 different kinds of measures or methods of evaluation identified. Of these, the most commonly used individual measure was the Warwick-Edinburgh Mental Wellbeing Scale, used in nine studies and reports.

Conclusions: These inconsistencies in aims and measures used, pose serious problems when social prescribing and other referral programmes are often advertised as a solution to health services budgeting constraints, as well as a range of chronic mental and physical health conditions. We recommend researchers and local community organisers alike critically evaluate for whom, where and why their social referral programmes 'work'.

ARTICLE SUMMARY

Strengths and limitations of this study

- A strength of this study was the inclusion of both grey and academic literature to ensure a broad representation of social referral programmes.
- A strength of this study is in the review of aims and measures of social referral programmes, rather than outcomes.
- A limitation of this study was, that there is no guarantee of an entirely comprehensive inclusion of all relevant articles, for example we only accessed articles and reports available online or through the British Library.
- A limitation of this study was the use of the search term 'social prescribing' as this is a generalised UK region-specific term, however this is the term used colloquially to describe social referral programmes.

INTRODUCTION

"The tonic effect of fun and play has long been recognized as an antidote to the stresses, worries, labors, and responsibilities of our workaday life…we must diagnose and prepare the prescription."[1] In 1958, Walt Disney wrote this commentary on film and American life for the 75th anniversary of the Journal of the American Medical Association. Although few would argue Disney was a great early adopter of the social determinants of health model, this demonstrates a timely understanding of the impact of social activities on well-being. Academic research demonstrates that social well-being is closely tied to physical health, a well-known example being the impact of socioeconomic positioning on mortality as demonstrated in the Whitehall Studies, as well as other more recent work by Michael Marmot [2 3]. Though this common understanding has not fully translated into clinical practice and public health. Particularly in the context of publicly funded medical systems like the United Kingdom's National Health Service (NHS), resource limitations and unclear evidence on the causal mechanisms between social activities and improved health make it challenging to incorporate social well-being in treatment models[4].

Over the past decade, one proposed method of addressing this linking up of health and care services is referral out of primary care health systems and in to the community[5 6]. This 'emerging model of care' was alluded to in the NHS 5 Year Forward View[7] in the context of health care needing to move to a partnership rather than discrete episodes of treatment. More substantially, social prescribing was recommended as a key resource for primary care, noting that "non-medical interventions such as social prescribing can contribute to primary care teams meeting the physical, psychological and social care needs of an individual in the round"[8] (pg.7). Sometimes with alternative descriptors such as 'community referral', 'community links', and 'arts on prescription', these programmes link health care to opportunities and events provided by third sector organisations. A rapid evidence review by

the University of York defined '[social] prescribing [as] a way of linking up patients in primary care with sources of support in the community', however the authors highlight that there is no agreed definition [9]. Kimberlee[10] suggests that social prescribing consists of a range of different services, from more traditional smoking cessation programmes, and describes social prescribing as "a route to reducing social exclusion, both for disadvantaged, isolated and vulnerable populations in general, and for people with enduring mental health problems." (pg 105).

Although social prescribing is a commonly used term, we use 'social referral' to be as inclusive as possible in describing links between health care and third sector organisations. In cases where a study specifically uses terms like 'arts on prescription' or 'social prescribing' we refer to it as such. We also do not specify primary care as the only source of social referral, we include referrals by other health care workers.

Evidence for the effectiveness of social referral services has been characterised as inconclusive[9]. Although there is significant, if piecemeal, investment in social referral programmes and many advocates of their value[7 10] attempts to summarise the current evidence, and thus address these criticisms, have similarly been inconclusive in evidencing the health, social, or service-related benefits of social referral[11-15]. Mossabir, et al.[13] conducted a scoping review of seven studies on social prescribing and found that although potentially beneficial for psychosocial health, there had been too few empirical studies to draw clear conclusions. The University of York Centre for Reviews and Dissemination [9] goes as far as to argue 'there is little in the way of supporting evidence of effect to inform the commissioning of a social prescribing programme'(pg. 4).

The first step in evaluating any programme is determining what it aims 'to do' and deciding on the measures that will be used to ascertain effectiveness. There has thus far been

little reflection on the intended aims of social referral and the measures used to judge whether the aims have been met. Accordingly, our purpose is to summarise the aims and measures of social referral through a review of the literature. Our first objective is to identify the aims of social referral initiatives. Our second objective is to identify the measures used to evaluate whether the aims of social referral were met. This creates a foundation to inform further programme development and evaluation and for theorising the various mechanisms that may, in specified contexts, be responsible for changes in particular outcomes. We can thus better understand what is meant by 'social prescription' with a view to informing evaluations to consider the contexts in which social prescribing works, for whom and through which mechanisms[16].

LITERATURE SEARCH METHODOLOGY

As part of the 'Collaborating to Deliver Social Prescribing in Bath and North East Somerset' project we conducted a review of empirical and grey literature related to 'social prescribing'. We identified PubMed suggested terms associated with social prescribing, as this is the most commonly used term to identify these kinds of community linking programmes. The final terms were 'social prescribing', 'social prescribing services', 'social prescription', 'social prescriptions', 'community referrals', 'community referred', 'community referred patients', 'community refers' OR 'community referring physicians'. We used exactly these terms to search each of the following databases: SCOPUS, Web of Science, PubMed, NICE Evidence Guidelines database and PsycNET for academic peer-reviewed articles. See Supplementary File 1 for a full example search strategy. The term 'social referral' was not included as we defined this term post-hoc, to subsume programmes that did not label themselves as 'social prescribing' as well as those that did. Finally, we examined the first five pages of results identified by internet search engine Google to identify grey literature reports related to 'social prescribing'. After the online database search,

academic and non-academic literature reference lists were hand-searched. Only the academic literature's citations were searched as several of the non-academic reports were not held on an academic database therefore citation searches could not be conducted. The initial search, including citations and reference searching, took place in February 2016 and an updated search was conducted in November 2016 to include recent articles and reports. There were no date restrictions applied in either of these searches.

Identified articles were deemed relevant for inclusion if they reported the assessment of a referral programme of patients from a health context to a social context. A health context was considered any form of health or mental care, for example emergency departments, primary care, and mental health professionals. A social context was considered any form of community programme including cultural programmes, arts classes, or community groups. This excluded programmes evaluating a single programme, e.g. a diabetes health management courses. We excluded these 'single intervention' studies as by definition social referral programmes are premised on referring an individual to a range of interventions. After searching using this broad criteria, additional inclusion criteria were added due to the unexpected range of study methodologies, including many interview studies focused on clinical or provider perspectives. These criteria included the use of empirical methodology (qualitative, mixed methods, or quantitative), assessment of a patient sample and the production of a final article or report. This therefore excluded empirical articles that were evaluating the service provider's views of a social referral programme. Reports or articles that were not in their final version (e.g. commissioner or funding interim reports) were excluded as were conference reports and book chapters. No language or region restrictions were applied. After identification of relevant articles and reports, we extracted the study type, stated aim(s), and measures of each social referral programme. We categorised each study's aim(s) as mental, health, social, service use, service cost, and/or other and also extracted

number of aims and whether a study aimed to address both individual and system-level aims. We did not assess study quality as we were not concerned with the results of social referral only the stated aims and measures. We also extracted the social referral programme name, study design, referral criteria, programme location, programme type, number of programme participants, and number of study participants.

E. Rempel screened all initial articles for title and abstract relevancy, and E. Wilson then read these articles, identified by E. Rempel, for verification that they met inclusion criteria. The first coder, E. Rempel, developed the coding framework and the second coder, E. Wilson, separately coded all articles to this framework. Any differences between the coding of aims or measures, or the inclusion of articles, were subsequently discussed and agreed upon. Due to the qualitative nature of the review, we did not calculate percentage agreement.

RESULTS

The initial database search resulted in 645 articles or reports. After duplicate removal, title and abstracts were reviewed according to inclusion and exclusion criteria, 41 articles were identified. On assessment of these full-text articles, 20 were removed for being non-empirical (e.g. discussion or review articles that did not evaluate a specific social referral programme but rather provided a general discussion on social prescribing), two were removed for containing non-patient samples and one was removed as it was a book chapter. After a forwards and backwards citation search, a further 23 articles were identified as relevant. At the initial February 2016 search, six review articles or articles with non-patient samples were also hand-searched for references and citations. Three non-academic articles referenced in grey literature reports that may have been relevant could not be found as copies of these reports were not held online, were not available through inter-library loans and were

not held at the British Library. Furthermore after contacting the citing author and place of publication, these articles could still not be found. In total, 41 texts were analysed. See Figure 1 for a PRISMA diagram of the search strategy and results.

Of the 41 empirical studies, seven were qualitative, 17 were quantitative and 18 employed mixed methodologies. Figure 2 outlines the process of 'social referral' programmes described in these studies. The broad nature of the search, led to a broad range of programmes but all followed the basic outline seen in Figure 2. There was considerable variation in indicators of need, referral process and types of activities undertaken. For example, emergency case management as described by Lee and Davenport[17] specifies the population as those who have three or more emergency department visits per month, as well as a list of specific health concerns. Their referral process is nurse-led case management, where they refer to community services as well as other health services. The activities varied including both community-based as well as more traditional health referrals. In contrast, Stickley and Hui[18] describe a prescriptive arts programme. They do not specify a population, only the referral mechanism. The referral was from a primary or secondary mental health worker. The activity was a ten-week arts programme and the anticipated outcome was personal health improvement. Appendix 1 outlines the various types of programmes and study designs. Of the 41 studies, there were 38 unique social referral projects. There were two repeated programmes (Arts on Prescription and the BRIGHT trial), however the four studies were all individual evaluations of these services. As well the Health Trainer and Social Prescribing Service[19] was based on a previous pilot of the CHAT programme[12]. The majority of these texts described either a social prescription programme or an emergency department case management programme. All of the social prescribing programmes were set in the United Kingdom. The emergency department case management programmes were located in the United States, United Kingdom, Canada and Taiwan. All studies included only adult

populations with study size ranging from four to 784. Patient samples varied greatly, from kidney patients to elderly adults. Programme size also greatly varied from 12 to 1848 referrals. See Appendices 1 and 2 for more details.

.

Table 1: Summary of Aims of Social Referral Programmes* (n=41)

Aim Level	Core Aim	Stated Aim	Number of References
Individual Level Aim	Improved Mental Well-being	To enhance skills/behaviours that improve mental wellbeing.[20] To help individual retain/recover functional capacity to study or work.[21] To improve/address psychosocial health[22-26] To improve mental health and well-being.[5 18 20 27-39] To improve patient quality of life[39 40] To improve resilience, confidence, and self-esteem.[37 41] To improve spiritual well-being[5] To support emotional needs.[42]	25
	Improved Physical Well-being	To empower and support individuals to choose a healthier lifestyle.[39] To improve physical health and well-being.[5 17 22 28-30 32 34 35 43-46] To improve self-assessed health status.[47] To support the self-management of long-term health conditions.[29 43 48]	16
	Improved Social Well-being	To increase connection to community-based support.[20 28] To improve/address psychosocial health.[22-26] To improve resilience, confidence, and self-esteem.[41] To improve social inclusion/engagement.[21 23 29 30 33 34] To improve social well-being[32 35 45] To support social needs/outcomes.[19 27 42 46 49]	21

	Other	To address practical needs e.g. employment.[42] To improve connection to nature.[30]	2
System Level Aim	Optimised Health Service Use	To broaden health service provision in the community[12] To improve service use.[23] To increase take-up of community activities[20 29 37] To optimise health care coordination[50] To provide appropriate arts course recommendations.[37] To provide better management of psychosocial problems in primary care[40] To reduce emergency department use/acute hospital care.[17 26 28 44 51 52] To reduce health service use[31 35 46 47 50 53] To reduce hospital care use.[29 52 54] To reduce primary care service use.[18 25 28 29] To support the self-management of long-term physical or mental health conditions[37 43 48]	23
	Decreased Health Service Cost	To reduce cost associated with long-term health conditions.[43] To reduce health services costs[5 26 35 46 53]	6
	Other	To reduce environmental cost (carbon footprint)[53]	1

*Aims of social referral programmes, not study aims.

Table 1 outlines the aims of the programmes described in the empirical studies. The stated aims were those listed in the individual studies, while the core aims were derived by grouping together similar aims across programmes. The core aims were then grouped in relation to the level at which the intervention was aimed: individual or system. The core individual aims identified included improved mental well-being, improved physical well-being and improved social well-being. The core system level aims included optimised health service use and decreased health service cost. Only nine studies stated a single aim. The majority of studies thus stated multiple aims: 16 stated two, 10 stated three, four stated four and one study stated five aims. Nineteen studies focused on both individual and system level outcomes (see Supplementary Appendix 2 for full details). Improved mental well-being was the most common core aim, with 25 of 42 studies. Physical well-being, social well-being and optimised service use were also frequently cited with 16, 21 and 23 studies, respectively. Six studies addressed the least common core aim of cost savings.

The mental well-being core aim was generally characterised by mental health or general well-being. Improved psychosocial state was considered to be both related to social and mental well-being. Physical well-being included both general health and the improvement of long term health conditions, like kidney disease. Social well-being included improvements in social and community engagement and quality of life. Health service use and cost aims included reductions in emergency department use, GP use, hospital stay length and other forms of primary care costs. The service use aim also included instances where researchers were aiming to increase the uptake of community services. See Appendix 2 for more detail on aims.

Table 2 outlines the measures and methods used to evaluate the social referral projects by frequency. Across all aims these included administrative data/analysis, physical health questionnaires, mental health diagnostic measures, qualitative assessments and social/behavioural questionnaires. Across the 41 studies and reports, 154 different kinds of measures or methods of evaluation were identified (see Appendix 2). Twenty-one measures or methods were used more than once, however many of these were forms of administrative data counts. The most commonly used scale was the Warwick-Edinburgh Mental Well-being Scale, used in nine studies.

Table 2: Measures and Methods Used in Studies/Reports of Social Referral by Frequency (n=41)*

Measure/Method	Number of Studies/Reports Using Measure/ Method	Examples of Progamme Aims Addressed**
Semi-structured interviews to explore patient experience.	14	n/a***
Warwick Edinburgh Mental Wellbeing Short Scale	9	Improved Mental Well-being Improved Physical Well-being Improved Social Well-being
Number of GP Appointments	6	Optimised Health

(administrative)		Service Use Reduced Health Service Cost Improved Physical Well-being
Short case description of participant experience	6	Improved Physical Well-being Improved Social Well-being Optimised Health Service Use
Emergency Department Admissions/Hospital Episode Statistics (administrative)	6	Optimised Health Service Use
Demographic questions	5	Improved Mental Wellbeing.
Cost Analysis	5	Reduced Health Service Cost Optimised Health Service Use
Hospital Anxiety and Depression Scale	5	Improved Mental Well-being Improved Physical Well-being
Focus group with patients to explore patient outcomes	4	n/a***
General Health Questionnaire-12	3	Improved Mental Wellbeing Improved Physical Wellbeing
Number of Secondary Referrals (administrative)	3	Optimised Health Service Use Reduced Health Service Cost
Geriatric Depression scale	2	Improved Mental Wellbeing
Focus Group with family members who engaged with the service to explore service experience	2	n/a***
Hospital Admissions Length (administrative)	2	Optimised Health Service Use
Reason for Referral	2	Improved Mental Wellbeing Optimised Health Service Use
Referral records (e.g. what activities were referred to)	2	Improved Social Wellbeing
Social Return on Investment Analysis	2	Reduced Health Service Cost Improved Mental

		Wellbeing
Work and Social Adjustment Scale	2	Improved Social Wellbeing
Number of Hospital Admissions (administrative)	2	Optimised Health Service Use
Number of Prescriptions for Psychosocial Reasons (administrative)	2	Optimised Health Service Use Improved Mental Wellbeing

*Where the measure or method was used in n>1 report or study.
**These are only example aims because it was not always clear how each aim and measure matched up
***Not applicable as the qualitative semi-structured interviews and focus groups were exploratory and did not have a specific programme aim to measure.

DISCUSSION

Examination of the aims of studies seeking to evaluate social referral initiatives and the measures used to evaluate their outcome has revealed extensive heterogeneity. This is unsurprising considering the variability in populations and types of programmes and is not problematic per se. We will discuss the various aims of social referral and the implications of the variety of measures used before considering what this variability means for the future of social referral programmes. In doing so it is important to reiterate the hugely varied nature of the events and opportunities to which people are being referred, as well as the substantial variety of recipients of this referral. Whilst we expect variation in programme aims and measures, these varied programmes were included because they all aimed to link individuals with community and health care services. It is therefore reasonable to assume that there would be some kind of consistency in the measures used to address particular aims.

Aims of social referral

The vast majority of studies, 32 out of the total 41, included multiple aims. Nineteen of these were concerned with both individual and system level outcomes (see Table 1 and Supplementary Appendix 2), for example mental wellbeing and health service costs. While a

single study containing aims at individual and system level is not problematic as such, what is problematic is the lack of articulation of the presumed causal pathways from the treatment programme to improved individual health and to better health care resource allocation. As a thought experiment, an individual who is a frequent health service user and has poor control over their diabetic care could, in theory, be empowered by a social referral service and continue high levels of primary care access as they take greater ownership of their health. Indeed a few studies have found an uptake in medical service use post-social referral[34 53 54]. It is also important to note that when reviewing the grey literature, and indeed some of the academic literature as well, the aims of the programme were not always clearly stated. It is reasonable for programmes to try to address multiple aims, however it is not acceptable for these programmes not to theorise, test and critically evaluate the relationship between them.

Measures of social referral

Measuring what 'works' is inherently linked to defining what these programmes intend to do and requires meaningful, specific and comparable indices. The diversity of measures evident in social referral initiatives, often associated with a series of vaguely similar aims, suggests that what programmes are aiming to do is often different despite having notionally similar programme structures. Additionally of course it is important to take into account the role of population type and activity type in how aims are translated in to measures. However, as seen in Table 2, measures used in social referral initiatives are considerably more plentiful than their aims. For example, Bragg, et al.[30] used 12 different tools in their evaluation of an eco-therapy programme. The multiple measures both within and between studies renders comparability between studies, even those addressing the same or similar aims, impossible. Similarly, we could not meaningfully narrow them to provide recommendations on preferred measures. Where there were multiple aims, papers rarely stated which measure was meant to address which aim. While we might infer that

administrative counts of GP visits would measure GP use, the assumed relationship between number of GP visits and physical wellbeing is less clear. Clarity of reporting in the hypothesised relationship between aims and outcome measures is vital in understanding the causal mechanisms that link a programme and with its outcomes. From one perspective, measuring the same outcome in several ways could lead to a more robust proof of effect. In theory this could lead to a stronger evidence base about the effect of social referral on individual and system level outcomes. A less generous explanation behind the proliferation of measures is that researchers and evaluators do not have a definitive understanding of how exactly the aim of their social referral service can translate in to measures. Where the aims are not clearly set out, it may be that they are not being communicated well but the possible explanation that the aims are unknown or unclear cannot be ruled out. It certainly suggests that one of the essential building blocks for an evaluation of a complex health system[55], that is, establishing the current evidence base, has not been undertaken and/or understood. Establishing the evidence base constitutes a crucial springboard for developing hypotheses as to the mechanisms through which social prescribing programmes might improve social wellbeing and, ultimately, physical and health outcomes. Identification with the group, for example, rather than simply engaging in group activities may be one such mechanism[56].

In the final analysis, whilst there is a notable policy push for the implementation of social referral programmes, definitive and systematic evaluations of social referral programmes are not possible while aims and measures are so inconsistent. As a caveat, one can expect that where populations, and activities vary one can expect different measures. However, where social referral programmes aim to do similar things, measures that are similar should follow, for example the Short Warwick-Edinburgh Mental Wellbeing Scale is not population, nor activity specific. We hope that this review provides a first step towards categorising the aims of social referral programmes, i.e. to improve physical, mental, and

social health, as well as reducing costs and improving health care resource allocation. Although these aims are broad, they provide a framework for highlighting what it is programmes intend to do, and not do, and identifying which measures might best be used to assess different types of aims. This would be a start in applying a more consistent methodology.

The solution to the issue of aim and measurement variability in programmes is not to give up on social referral in general. Certainly the incorporation of social and mental well-being within traditional biomedical health systems seems an essential step in tackling relatively recent problems in health care, e.g. services for aging populations, and may create new opportunities for people who are stagnated in their ability to access services that improve their health. However at this time, despite policy claims of value and claims of the effectiveness of individual programmes, reviews of these programmes are clear that we do not have evidence that this is the case [9 12-15 57-59]. We would argue that whilst aims and measures remain diffuse and the links between them under theorised and under specified that we actually *cannot* know that this is the case. We call on researchers and evaluators alike to consider the active ingredients of their programmes and in doing so echo a similar call made by the University of York asking, simply, for whom, in what context, how, and why do they intend to prescribe social activities[9]? And while these can be challenging to answer, if we do not know the answers to these simple questions, how can we possibly prepare a prescription?

Strengths and weaknesses

Although this review has been systematically conducted providing a transparent account of the process, we cannot guarantee this has included all relevant social referral programmes. 'Social prescribing' is a generalised UK region-specific term for medical-based referral to non-medical services. There are likely social referral-like programmes in other countries that

are not easily identified. Every effort was made to be as inclusive as possible in phrasing but there will inevitably be some studies missed. Conversely, the strength of our analysis is our inclusion of both grey and academic literature. By including non-academic reports we analysed valuable literature that would normally not be included in reviews. As well, this review is a first step in creating consistency and justification for the inclusion of social referral programmes in broader nationwide initiatives to address the social ills of health. The contribution of our approach to reviewing social referral is valuable due to its focus on aims and measures rather than, as is the case in other reviews, the outcomes of programmes.

CONCLUSION

This review aimed to analyse and summarise the aims and measures used in the evaluation of social referral programmes. Social referral is variously described as social prescribing, community referral and emergency case management among other terms. We found great variation in the aims of these projects including aims to improve mental well-being, physical health, social well-being and costs savings. We further found that measures used to analyse these aims were highly varied. We would suggest that a next step to addressing the social determinants of health in primary and secondary care is to derive more differentiated and concrete definitions of social referral that more specifically reflect what practitioners and commissioners intend for programmes to achieve and thus to dispense with a general notion of social referral often uncritically considered as the 'golden child' of cost savings and improved mental health. However, by setting clear aims and using appropriate measures, social referral can move beyond pilot studies and in to general practice. To that end, we must endeavour to respond to Walt Disney's call to "diagnose and prepare the prescription"[1].

STATEMENTS

Funding

This work was supported by Innovate UK, project code: 102412-399209.

Data Sharing

Full coding guidelines and summaries for all articles included can be found in the Supplementary Appendix 1 and Supplementary Appendix 2.

Competing Interests

None declared.

Contributions

ESR, JCB and HD designed the study protocol. ESR conducted the database searching, while ESR and ENW conducted the data extraction. The report was written by ESR and JCB. All authors edited the manuscript.

Acknowledgements

The authors would like to acknowledge the support of the 'Collaborating to Deliver Social Prescribing in Bath and North East Somerset' Project Team, in particular Developing Health & Independence, the Wellbeing College, Second Step, Bath & North East Somerset Council, led by Digital Algorithms Ltd.

References

1. Disney W. Film entertainment and community life. The Journal of the American Medical Association 1958;**167**(11):1342-45.
2. Marmot M, UCL Institute of Health Equity. Review of social determinants and the health divide in the WHO European Region: final report. Copenhagen: WHO Regional Office for Europe, 2014.
3. Marmot MG, Stansfeld S, Patel C, et al. Health inequalities among British civil servants: the Whitehall II study. The Lancet 1991;**337**(8754):1387-93.
4. Marshall M. A precious jewel-The role of general practice in the English NHS. New England Journal of Medicine 2015;**372**(10):893-97.
5. Kimberlee R, Ward R, Jones M, et al. Proving our value: Measuring the economic impact of Wellspring Health Living Centre's social prescribing *Wellbeing Programme* for low level mental health issues encountered by GP services. Bristol: University of the West of England, 2014.
6. Kimberlee R. Developing a Social Prescribing approach for Bristol: University of the West of England, 2013.
7. NHS. NHS Five Year Forward View. England: National Health Institute, 2014.
8. Dyson B. Improving general practice: A call to action – phase one report. London, UK: NHS England, 2014.
9. The University of York Centre for Reviews and Dissemination. Evidence to inform the commissioning of social prescribing. York: University of York, 2015.
10. Kimberlee R. What is social prescribing? Advances in Social Sciences Research Journal 2015;**2**(1):102-10.
11. Bungay H, Clift S. Arts on Prescription: A review of practice in the UK. Perspectives in Public Health 2010;**130**(6):277-81.
12. South J, Higgins TJ, Woodall J, et al. Can social prescribing provide the missing link? Primary Health Care Research & Development 2008;**9**(04):310.
13. Mossabir R, Morris R, Kennedy A, et al. A scoping review to understand the effectiveness of linking schemes from healthcare providers to community resources to improve the health and well-being of people with long-term conditions. Health & social care in the community 2015;**23**(5):467-84.
14. Kumar GS, Klein R. Effectiveness of case management strategies in reducing emergency department visits in frequent user patient populations: a systematic review. The Journal of emergency medicine 2013;**44**(3):717-29.
15. Soril LJ, Leggett LE, Lorenzetti DL, et al. Reducing frequent visits to the emergency department: a systematic review of interventions. PLoS One 2015;**10**(4):e0123660.
16. Pawson R, Tilley N. *Realistic Evaluation*. London: SAGE, 1997.
17. Lee K-H, Davenport L. Can case management interventions reduce the number of emergency department visits by frequent users? The Health Care Manager 2006;**25**(2):155-59.
18. Stickley T, Hui A. Social prescribing through arts on prescription in a U.K. city: participants' perspectives (part 1). Public health 2012;**126**(7):574-9.
19. White J, Kinsella K, South J. An evaluation of social prescribing health trainers in South and West Bradford. Leeds: Leeds Metropolitan University, 2010.
20. Friedli L, Themessl-Huber M, Butchart M. Evaluation of Dundee Equally Well Sources of Support: Social prescribing in Maryfield Evaluation report four. Dundee: Equally Well Dundee, 2012.
21. Garety PA, Craig TKJ, Dunn G, et al. Specialised care for early psychosis: symptoms, social functioning and patient satisfaction. British Journal of Psychiatry 2006;**188**(1):37-45.

22. Greaves CJ, Farbus L. Effects of creative and social activity on the health and well-being of socially isolated older people: outcomes from a multi-method observational study. The Journal of the Royal Society for the Promotion of Health 2006;**126**(3):134-42.
23. Crawford M, Rutter D, Price K, et al. Learning the lessons: a multi-method evaluation of dedicated community-based services for people with personality disorder: National Co-ordinating Centre for NHS Service Delivery and Organisation R&D (NCCSDO), 2007.
24. Faulkner M. Supporting the psychosocial needs of patients in general practice: the role of a voluntary referral service. Patient Education and Counseling 2004;**52**(1):41-46.
25. Grayer J, Cape J, Orpwood L, et al. Facilitating access to voluntary and community services for patients with psychosocial problems: a before-after evaluation. BMC family practice 2008;**9**:27.
26. Okin RL, Boccellari A, Azocar F, et al. The effects of clinical case management on hospital service use among ED frequent users. The American journal of emergency medicine 2000;**18**(5):603-8.
27. Stickley T, Eades M. Arts on prescription: a qualitative outcomes study. Public health 2013;**127**(8):727-34.
28. Innovation Unit. Wigan community link worker service evaluation. London: Innovation Unit, 2016.
29. City and Hackney Clinical Commissioning Group, University of East London. Shine 2014 final report social prescribing: Integrating GP and community assets for health. London: University of East London, 2014.
30. Bragg R, Wood C, Barton J. Ecominds effects on mental wellbeing: An evaluation for mind. Essex: University of Essex, 2013.
31. Newcastle West Clinical Commissioning Group. Social prescribing for mental health: An integrated approach project report. Newcastle: Newcastle West Clinical Commissioning Group, 2014.
32. Jones M, Kimberlee R, Deave T, et al. The role of community centre-based arts, leisure and social activities in promoting adult well-being and healthy lifestyles. International journal of environmental research and public health 2013;**10**(5):1948-62.
33. Baker K, Irving A. Co-producing Approaches to the Management of Dementia through Social Prescribing. Social Policy & Administration 2016;**50**(3):379-97.
34. Cohen GD, Perlstein S, Chapline J, et al. The impact of professionally conducted cultural programs on the physical health, mental health and social functioning of older adults. The Gerontologist 2006;**46**(6):726-34.
35. ERS Research and Consultancy. Newcastle social prescribing project: Final report. Newcastle upon Tyne: ERS Research and Consultancy, 2013.
36. Morton L, Ferguson M, Baty F. Improving wellbeing and self-efficacy by social prescription. Public health 2015;**129**(3):286-9.
37. Huxley P. Arts on Prescription: An Evaluation. United Kingdom, 1997.
38. The Care Forum. New routes: End of project report. Bristol, UK: The Care Forum, 2015.
39. Kilroy A, Garner C, Parkinson C, et al. Towards Transformation: Exploring the impact of culture, creativity and the arts on health and wellbeing: A consultation report for the critical friends event. Manchester, UK: Arts for Health, Manchester Metropolitan University, 2007.
40. Grant C, Goodenough T, Harvey I, et al. A randomised control trial and economic evaluation of a referrals facilitator between primary care and the voluntary sector. British Medical Journal 2000;**320**(7232):419-23.
41. White M, Salamon E. An interim evaluation of the 'Arts For Well-being' social prescribing scheme in County Durham. Durham: Centre for Medical Humanities, Durham University, 2010.
42. Ramsbottom H, Volpe J, Pantelic V. Social prescribing: A model for partnership working between primary care and the voluntary sector. London: Age UK, n.d.

43. Blakeman T, Blickem C, Kennedy A, et al. Effect of information and telephone-guided access to community support for people with chronic kidney disease: randomised controlled trial. PLoS One 2014;**9**(10):e109135.
44. Liao M-C, Chen L-K, Chou M-Y, et al. Effectiveness of Comprehensive Geriatric Assessment-Based Intervention to Reduce Frequent Emergency Department Visits: A Report of Four Cases. International Journal of Gerontology 2012;**6**(2):131-33.
45. Vogelpoel N, Jarrold K. Social prescription and the role of participatory arts programmes for older people with sensory impairments. Journal of Integrated Care 2014;**22**(2):39-50.
46. Dayson C, Bashir N. The social and economic impact of the Rotherham Social Prescribing Pilot: Summary evaluation report. Sheffield: Sheffield Hallam University, 2014.
47. Reinius P, Johansson M, Fjellner A, et al. A telephone-based case-management intervention reduces healthcare utilization for frequent emergency department visitors. European Journal of Emergency Medicine 2013;**20**(5):327-34.
48. Blickem C, Kennedy A, Jariwala P, et al. Aligning everyday life priorities with people's self-management support networks: An exploration of the work and implementation of a needs-led telephone-based support systen. BMC Health Services Research 2014;**14**(262):1-12.
49. Goodhart C, Layzell S, Cook A, et al. Family support in general practice. Journal of the Royal Society of Medicine 1999;**92**(10):525-28.
50. Hudon C, Chouinard MC, Diadiou F, et al. Case Management in Primary Care for Frequent Users of Health Care Services With Chronic Diseases: A Qualitative Study of Patient and Family Experience. Annals of family medicine 2015;**13**(6):523-8.
51. Skinner J, Carter L, Haxton C. Case management of patients who frequently present to a Scottish emergency department. Emergency medicine journal : EMJ 2009;**26**(2):103-5.
52. Tadros AS, Castillo EM, Chan TC, et al. Effects of an emergency medical services-based resource access program on frequent users of health services. Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors 2012;**16**(4):541-7.
53. Maughan DL, Patel A, Parveen T, et al. Primary-care-based social prescribing for mental health: an analysis of financial and environmental sustainability. Primary health care research & development 2016;**17**(2):114-21.
54. Gupta K, Coupland L, Fottrell E. A two-year review of an 'open access' multidisciplinary community psychiatric service for the elderly. International Journal of Geratric Psychiatry 1996;**11**(9):795-99.
55. Lamont T, Barber N, de Pury J, et al. New approaches to evaluating complex health and care systems. BMJ 2016;**352** (i154):1-5.
56. Sani, F., Madhok, V., Norbury, M., et al. Greater number of group identifications is associated with healthier behaviour: Evidence from a Scottish community sample. British Journal of Health Psychology, 2015;**20**(3), 466-481. doi:10.1111/bjhp.12119
57. Thomson LJ, Camic PM, Chatterjee HJ. Social prescribing: A review of community referral schemes. London: University College London, 2015.
58. Kinsella S. Social prescribing: A review of the evidence. Wirral: Wirral Council Business & Public Health Intelligence Team, 2015.
59. Bickerdike L, Booth A, Wilson PM, et al. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. BMJ open 2017;**7**(4):e013384.

Figure Legends:

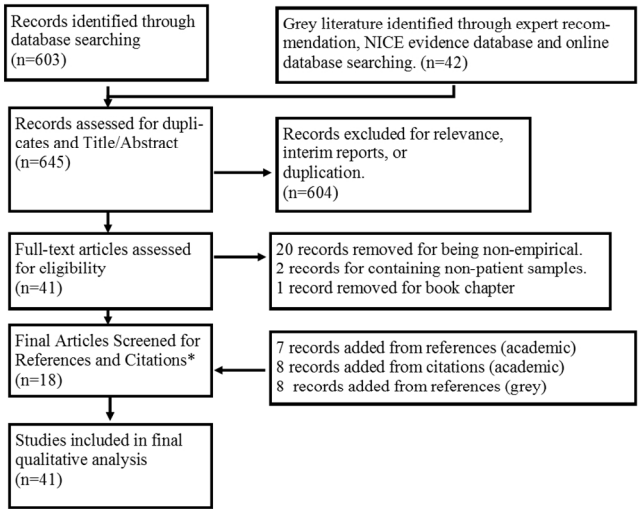
Figure 1: PRISMA Flow Diagram

Figure 1 shows the PRISMA Flow Diagram for the literature search strategy for 'social referral' programmes. The main criteria for inclusion was an empirical assessment of a programme that contained a patient referral out of the health care system and in to the community or voluntary system. 645 articles and reports were initially identified and assessed for duplication and relevance. 41 articles and reports were then assessed for full-text eligibility. 18 articles or reports were identified. The citations and reference lists for the academic articles were searched for additional literature, alongside other non-eligible review papers, as well as the reference lists of the non-academic reports. This resulted in 23 articles further identified as relevant. A final 41 studies were included in the qualitative synthesis.

Figure 2: 'Social Referral' Process

Figure 2 shows a summary of the social referral process identified in the literature search. All programmes' participants were identified by various indicators of need, for example low level mental health conditions, within the health care sector. The participants were then provided with either a facilitated or non-facilitated referral to a community or voluntary activity. Patient identification and referral represent the 'process' while the activity represents the 'treatment' of social referral programmes. Finally, the proposed outcomes included either improved individual well-being, for example mental wellbeing, and/or system-level improvement, for example reallocated health care resources.

Figure 1: PRISMA Flow Diagram



*Additional articles (e.g. review and non-empirical papers) that did not meet inclusion criteria in previous search stages were also hand-searched for citations and references.

Figure 1

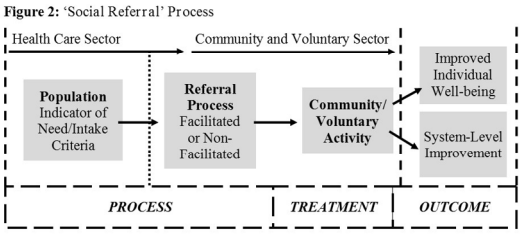


Figure 2

297x209mm (150 x 150 DPI)

Supplementary File 1: Search strategy

Example Database Search Terms: PubMed*

1- ("social prescribing"[All Fields] OR "social prescribing services"[All Fields] OR "social prescription"[All Fields] OR "social prescriptions"[All Fields]) OR ("community referrals"[All Fields] OR "community referred"[All Fields] OR "community referred patients"[All Fields] OR "community referring physicians"[All Fields] OR "community refers"[All Fields])

*No other restrictions were applied, for example there were no date or article type restrictions.

Other databases searched:

SCOPUS, Web of Science, NICE Evidence Guidelines, Google, and PsycNET.

Appendix 1: Social Referral Programme Design

Reference	Programme name	Study design*	Stated aim of social referral programme	Programme design	Referral criteria	Study/Programme location	Number of programme participants	Number of study participants
BAKER, K. AND A. IRVING (2016)	Not listed.	Immediate post-intervention qualitative interview and focus group study.	To reduce isolation / loneliness and improve wellbeing.	Non-specific social prescribing service	Individuals with early onset dementia and depression living semi or fully-independent.	NE England, UK	Not listed.	n=30
BLAKEMAN, T., ET AL. (2014)	BRinging Information and Guided Help Together (BRIGHT)	6-month pragmatic, two-arm, patient level randomised control trial	To support the self-management of long-term health conditions, improving health / wellbeing and at a reduced cost.	Telephone-guided access to Community Support	Patients with stage 3 Chronic Kidney Disease	Greater Manchester, UK	N=436	n=436 (n=215 to intervention arm)
BLICKEM, C., ET AL. (2014)	Patient-Led Assessment for Network Support (PLANS) as part of BRIGHT trial	Two-week follow-up qualitative interview, focus group, and observation study.	To improve the self-management of long-term health conditions through community support and engagement.	Telephone support service.	Patients with stage 3 Chronic Kidney Disease	Greater Manchester, UK	N=207	n=20
BRAGG, R., ET AL. (2013)	Ecominds	Flexible timeline before-after study.	To improve psychological health and wellbeing (confidence, self-esteem, physical and mental health), social inclusion and connection to nature	Eco-therapy programme.	Individuals with mental health problems.	England, UK	Not listed.	n=803

CITY AND HACKNEY CLINICAL COMMISSIONING GROUP AND UNIVERSITY OF EAST LONDON (2014)	City and Hackney Social Prescribing	8-month follow-up, prospective cohort-control and interview study	To reduce social isolation, better manage long-term conditions, improve health/well-being, increase take-up of community activities and support individuals to visit GP/hospital less.	GP-referred, facilitated social prescribing programme.	Non-specific, targeted social isolation but includes a range of social and mental health problems.	London, UK	N=737	n-15 qualitative, n-486 quantitative (n=184 to intervention arm)
COHEN, G. D., ET AL. (2006)	Creativity and Aging Study	Baseline to 12-month follow-up quasi-experimental prospective cohort-comparison study.	To improve physical and mental health and social engagement.	Self-referred weekly cultural activity groups.	Ambulatory individuals over 64.	Washington DC, USA	N=>300	n=166
CRAWFORD, M., ET AL. (2007)	Community Links Service	Semi-structured interview study, 12-month follow-up, before-after study.	To improve service use, address psychosocial needs and decrease the risk for social exclusion for individuals with personality disorder.	GP or primary care referred facilitated social prescribing programme.	Individuals diagnosed with a personality disorder, or exhibiting interpersonal problems.	London, UK	N=76 (assumed based on report, but service was anonymised)	n=11 quantitative, n=12 for qualitative
DAYSON, C. AND N. BASHIR (2014)	Rotherham Social Prescribing Pilot	6- and 12-month before-after cohort study for administrative data. 3-4-month follow-up cohort study for wellbeing measures. Plus qualitative case studies.	To improve health and social outcomes of individuals with long term conditions and to reduce the use of NHS services to decrease cost.	GP referred facilitated social prescribing programme.	Individuals with long-term health conditions.	Rotherham, UK	N=1607	n-280 quantitative (wellbeing), n-108 quantitative (12 month follow-up), n=451 (6 month follow-up), n=unknown qualitative (case studies)

ERS RESEARCH AND CONSULTANCY (2013)	Newcastle Social Prescribing Project.	Before-after study and interview study. Plus general demographic analysis.	To improve the physical, mental and social wellbeing of individuals managing long-term conditions and to reduce health service use to reduce cost.	GP referred link worker social prescribing programme.	Mostly individuals with long term health conditions and mental health problems but also problems with social networks/lifestyle.	Newcastle, UK	N=124	n=9 qualitative, n=16 quantitative
FAULKNER, M. (2004)	Patient Support Service (PSS)	Semi-structured interview 1-month post intervention	To improve the psychosocial state of individuals.	GP or Practice Nurse referred voluntary community referral service.	Patients 18 or over, with psychosocial problems, without other co-occurring concerns like behavioural problems.	Doncaster, UK	N=34	n=11
FRIEDLI, THEMESSL-HUBER & BUTCHART (2012)	Sources of Support from the Dundee Equally Well Test Site	Before-after comparison study, interview study, and cross-sectional demographic analysis.	To improve mental wellbeing uptake of local services, participation in community activities, social support/contact/networks. And to enhance skills/behaviours that improve mental wellbeing.	GP referred, facilitated social prescribing service	Open but targeting individuals with poor mental wellbeing related to social circumstances, mild to moderate depression or anxiety, long term mental/physical conditions and frequent attenders.	Dundee, UK	N=123	n=16 for before-after study, n=12 interview study, n=123 cross-sectional,
GARETY, P.A., ET AL. (2006)	Lambeth Early Onset Team Care	Randomised control trial with 18-month follow-up	To help individual retain/recover functional capacity to study or work and/or re-establish supportive social networks.		Individuals aged 16-40 for present for a first time with a non-affective psychosis.	Lambeth, UK	N=144	n=71 to intervention, n=73 control

GOODHART, C., ET AL. (1999)	WellFamily Project	Semi-structured interviews with patients and before-after study (following whether what patients wanted from service was met by referral)	To support individuals experience social difficulties.	GP referred, facilitated family and individual social prescribing service.	Families in need who fall below social services threshold. Specifically individuals who are isolated, depressed, frequent attenders with psychosocial problems, families concerns about child's behaviour, families that have difficulty providing adequate levels of care, and individuals concerned about welfare of other family members.	London, UK	N=136 patients or families	n=20 interview study, n=136 referrals
GRANT, C., ET AL. (2000)	Almathea Project	Two-arm randomised control trial with one and four month follow-up.	To improve patient quality of life and provide better management of psychosocial problems in primary care.	GP referred, referrals facilitation service between primary care and voluntary sector	Patients 16 or over who have psychosocial problems	Avon, UK	N=161	n=161 (n=90 to intervention arm)
GRAYER, J., ET AL. (2008)	Graduate Primary Care Mental Health Workers (GPC MHW) Community Link Scheme	Three month follow-up before-after study.	To improve patient psychosocial wellbeing and to reduce primary care service use.	Primary care team referred, GPC MHW facilitated community and voluntary referrals service	Patients 18 or over with psychosocial problems.	London, UK	N=108	n=108
GREAVES, C. J. AND L. FARBUS (2006)	Upstream Healthy Living Centre	Qualitative semi-structured interview study and focus groups. And 5-6 month and 10-12 month before-after study.	To improve physical and psychosocial health through active social contact.	A self- or community referred mentoring service with referrals to social activities.	Socially isolated older adults over the age of 50.	Devon, UK	N=229	n=26 qualitative, n=172 quantitative at baseline
GUPTA, K., ET AL. (1996)	Not listed.	Cross-sectional GP and Patient experience survey and	To reduce hospital care use among elderly people and promote independent living	A multidisciplinary, community psychogeriatric service with	Psychiatrically at-risk elderly individuals.	West Lambeth UK	N=971	n=109

		two-year retrospective study.		telephone support service				
HUDON, C., ET AL. (2015)	V1SAGES project	Retrospective descriptive semi-structured interview study.	To optimise health care coordination and reduce health service use.	Nurse-facilitated case management service for frequent primary care users	Patients aged 18-80 with at least one chronic health condition and who are frequent primary care users.	Quebec, Canada	Not listed.	n=25
HUXLEY, P. (1997)	The Arts on Prescription Project	Before-after prospective study.	To increase the level of mental well-being of participants using a wide range of creative processes'. Other aims to provide arts opportunities, recommend appropriate arts activities, raise self-esteem/self-confidence, to 'encourage individuals to look after their own health by developing skills in self-assessment and making choices' and to 'encourage participants to take up further arts/leisure activities'. Pg 5.	Primary care referred arts on prescription programme, which assessment by psychiatric nurse.	People with mild to moderate depression.	Stockport, UK	n=83	n=33
INNOVATION UNIT (2016)	Wigan Community Link Worker Service	Semi-structured interview study and retrospective study (Plus a small, case study of 5 months before and after).	To improve health and wellbeing and reduce primary / acute care use through connections to community-based support.	Primary care referred community social prescribing.	Individuals with ‘non clinical needs’	Wigan, UK	N=784	n=784 quantitative, n=3 qualitative n=43 small quantitative before-after component

INNOVATION UNIT AND GREATER MANCHESTER PUBLIC HEALTH NETWORK (2016)	Bromley-by-Bow Centre	A short case study.	Not stated.	Healthy Living Centre with GP referred facilitated social prescribing	Not stated.	London, UK	N=700 'in last year'	Not stated.
JONES, M., ET AL. (2013)	South West Wellbeing (SWWB) Programme	Follow-up time varying (average 110 days) before-after study	To improve physical and mental health and social wellbeing.	Community-based arts, leisure, and social activity service.	"A focus on individuals' experiencing low level mental ill health, long term health conditions, low levels of physical activity and/or diet related ill health. These criteria were combined with low income and/or social isolation." p.1950	SW England, UK	N=1848	n=687 at follow-up
KILROY, A., ET AL. (2007)	Invest to Save Arts in Health Evaluation	Before-after study. Plus interview study.	(Various) To empower/support individuals to choose a healthier lifestyle. And to create a sense of well-being/transform quality of life for communities and individuals.	Multi-referred, including GP referred, arts on prescription programme.	Varying across six programmes including age (55+) and individuals with moderate/mild depression.	Manchester, UK	Unknown	Six programmes ranging from n=7 to n=35 for quantitative, unknown qualitative

KIMBERLEE, R., ET AL. (2014)	Wellspring Healthy Living Centre's Social Prescribing Programme	3- and 12-month before-after cohort study. Plus semi-structured interview study.	To improve wellbeing (mental, spiritual and physical) and reduce health service cost.	GP referred facilitated social prescribing programme.	Individuals with long term health conditions.	Bristol, UK	N=128	n-70 quantitative (3 month follow-up), n=40 qualitative, n-40 (12 month follow-up 1), n-80 (12 month follow-up 2)
LEE, K.-H. AND L. DAVENPORT (2006)	Not listed.	5-month before-after study.	To reduce the number of emergency department visits and improve patient health.	Nurse-facilitated case management for emergency department frequent users.	Patients with three or more emergency department visits in one month.	Not listed (USA)	N=50	n=50
LIAO, M.-C., ET AL. (2012)	Not listed.	Detailed case description.	To reduce emergency department use and improve health through targeted care.	Comprehensive geriatric assessment (CGA)-based multidisciplinary team (MDT) care.	Patients 65 or older who make five emergency department visits over 30 days at any time in one year.	Not listed (Taiwan)	Not listed.	n=4
MAUGHAN, D. L., ET AL. (2016)	The Connect Project/The Eden Timebank	Retrospective 18-month follow-up cohort study.	To reduce healthcare service use and the subsequent financial and environmental costs.	GP and healthcare staff referred community social prescribing programme	Adults with a 'common' mental health conditions, not in care, who had used Connect services for at least 6 months	Carlisle, UK	Not listed.	n=55 (n=26 to intervention arm)

MORTON, L., ET AL. (2015)	Not listed.	Before-after study.	To improve mental wellbeing.	Mental health professional referred cultural prescribing programme.	Individuals with mild to moderate mental health conditions.	Fife, UK	N=262	n=136
NEWCASTLE WEST CLINICAL COMMISSIONING GROUP (2014)	Social Prescribing for Mental Health	3- and 9-month follow-up before-after study. Plus four focus groups and two detailed case studies.	To improve general wellbeing and reduce health service use.	Link worker social prescribing programme and a 'light touch' signposting social prescribing programme.	Individuals who have mental health needs alone or in conjunction with a long term condition.	Newcastle, UK	N=21	n=20 quantitative, n=2 case studies, n=unknown qualitative
OKIN, R. L., ET AL. (2000)	Not listed.	12-month follow-up before-after study.	To reduce the use of acute hospital services and service cost, and reduce the psychosocial problems of frequent emergency department users.	Psychiatric social-worker facilitated case management programme.	Patients who use an emergency department 5 or more times in 12 months, 18 years or older.	San Francisco, USA	N=53	n=53
RAMSBOTTOM, H., ET AL. (N.D.)	The Social Prescribing Pilot Project.	Detailed case descriptions and a retrospective study.	To support people aged 55 and over with their social, emotional and practical needs.	GP referred social prescribing service	Older persons with mild to moderate depression or social isolation/loneliness.	Yorkshire and Humber, UK	N=117	n-4 case studies, n=unknown quantitative
REINIUS, P., ET AL. (2013)	Not listed.	1-year follow-up zelen-design randomised control trial.	To improve self-assessed health and reduce health service use among frequent emergency department users.	Telephone-based case management intervention.	Patients with three or more emergency visits over 6 months, over 18 years of age and without dementia/psychotic diseases or terminal illness.	Stockholm County, Sweden	N=271	n=211 intervention, n=57 control, n=3 deceased

SKINNER, J., ET AL. (2009)	Not listed.	6-month before-after study.	To reduce emergency department visits among frequent users.	Nurse and emergency department specialist facilitated case management programme.	Patients who visited the emergency department 10 or more times in 6 months.	Edinburgh, UK	N=57	n=57
SOUTH, J., ET AL. (2008)	Community Health Advice Team	Semi-structured interview study	To broaden health service provision in the community.	GP or self-referred facilitated social prescribing programme.	Not listed.	Bradford, UK	Not listed.	n=10
STICKLEY, T. AND A. HUI (2012)	Arts on Prescription programme	Semi-structured interview study.	To improve mental health.	Mental health professional referred arts based activity groups.	Not listed.	Not listed (UK)	N=>400	n=16
STICKLEY, T. AND M. EADES (2013)	Art on Prescription Programme	Average 24 month post-intervention interview study.	To create positive mental health and wellbeing outcomes.	Mental health professional referred arts based activity groups. (see Stickley & Hui, 2012)	Not listed.	Not listed (UK)	(see Stickley & Hui 2012)	n=10
TADROS, A. S., ET AL. (2012)	San Diego Resource Access Programme	15-month both before-after retrospective study	To reduce emergency medical services and hospital use.	Emergency services referred, nurse facilitated case management programme.	Patients with 10 or more emergency service transports in preceding 12 months.	San Diego US	N=51	n=51

THE CARE FORUM (2015)	New Routes	Before-after prospective study	To improve wellbeing.	GP referred, facilitated social prescribing service	Individuals with low/moderate mental health issues, housebound, lack of mobility, physical health problems related to mental health/wellbeing, low income/unemployed, recently redundant, long-term sick, retired, carers, ex-carers, learning disabilities, and other vulnerable adults.	Keynsham, England	N=312	N=240
VOGELPOEL, N. AND K. JARROLD (2014)	Not listed.	Detailed case study, interview study, and unspecified length before-after study.	To improve health and social wellbeing.	GP referred cultural social prescribing programme.	"[Older] people experiencing social isolation and associated health problems who have single or multi-sensory impairment" p.41	Rotherham, UK	N=12	n=12

WHITE, KINSELLA, & SOUTH (2010)	Health Trainer and Social Prescribing Service (based on CHAT pilot)	Before-after 9-month prospective study (single item question) and structured interviews.	To support patients with social needs (study aim to examine if patients make more appropriate use of GP practice after referral)	GP referred, facilitated social prescribing service	Individuals with mild mental health problems, who are socially isolated, with relationship difficulties, facing problems with finance/housing/employment, carer, parent, struggling with long-term condition or disability, coming to terms with bereavement or wishing to adopt healthier lifestyle.	South and West Bradford, England	N=484	n=12 interview study, n=484 quantitative study
WHITE, M. AND E. SALAMON (2010)	Arts for Well-being	A cross-sectional quantitative and qualitative analysis of feedback forms. Plus qualitative analysis of five focus groups, one participant interview, and two written testimonials.	To improve resilience, confidence, and self-esteem.	Community arts for health improvement, social prescribing programme.	Individuals with long term conditions, new parents or carers.	South and West Bradford, England	N=608	n=22 quantitative, n=42 qualitative (focus groups), n=3 qualitative (other).
***FOLLOW-UP TIME INCLUDED WHERE REPORTED.**								

Appendix 2: Programme Aims and Measures

	Core Aim																					
	Individual Level			System Level		Other	No. of aims	Individual & System Aim?*														
Reference	Mental Health	Social		Service Use	Service Cost				Stated Aim of SP Programme	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7	Measure 8	Measure 9	Measure 10	Measure 11	Measure 12
Baker, K. and A. Irving (2016)	1		1				2	0	To reduce isolation / loneliness and improve wellbeing.	Focus Group with family members who engaged with the service to explore service experience	Semi-structured (informal) interviews with participants to explore service experience and wellbeing impact	Focus groups (informal) with participants to explore service experience and wellbeing impact									

Blakeman, T., et al. (2014)	1		1	1		3	1	To support the self-management of long-term health conditions, improving health / wellbeing and at a reduced cost.	Anxiety Questionnaire from HADS	Dichotomous blood pressure control	Education Impact Questionnaire (heiQ)	Emotional response item from Brief illness Perception Questionnaire	EuroQoL EQ5-D (generic health related quality of life)	Four Physical and Psychological Wellbeing Health Education Outcome Measures from Medical Outcomes Study	Incremental cost effectiveness Ratio	Levels of illness	Medication Knowledge and Medication Motivation subscales from the Modified Morisky Medication Adherence Scale	Social capital service use via frequency of contact with primary and outpatient services	Summary of Diabetes SelfCare Activities Measure	UCLA Loneliness Scale						
Blickem, C., et al. (2014)	1		1			2	1	To improve the self-management of long-term health conditions through community support and engagement.	Semi-structured interviews with participants using normalising process theory																

Bragg, R., et al. (2013)	1	1	1		1 (Environmental Connectedness)	3	0	To improve psychological health and wellbeing (confidence, self-esteem, physical and mental health), social inclusion and connection to nature	Community Activity involvement (novel)	Connectedness to Nature Scale (novel)	Environmental Behaviour Likert Scale	Health y Eating (novel)	Neighbourhood Belonging (from CLES)	Neighbourhood satisfaction (novel)	Perceived Health Scale (novel)	Perceived Positivity Scale	Profile of Mood States	Rosenberg Self Esteem Scale	Social engagement and Support measure (CLES module)	Warwick-Edinburgh Mental Well-being Scale
City and Hackney Clinical Commissioning Group and University of East London (2014)	1	1	1	1		4	1	To reduce social isolation, better manage long-term conditions, improve health/well-being, increase take-up of community activities and support individuals to visit GP/hospital less.	A&E Attendances (administrative)	Cost Analysis of Delivering Intervention	General Health Score	Hospital Anxiety and Depression Scale	Number of regular activities	Quality of life (EQ5D) Questionnaire	Regional General Practice Consultation Rates (administrative)	Self-reported past week well-being	Semi-structured interviews with patients to explore service experience	Social Integration Score		
Cohen, G. D., et al. (2006)	1	1	1			3	0	To improve physical and mental health and social engagement.	Geriatric Depression Scale Short Form	Loneliness Scale III	Number of falls (Self-report)	Number of GP visits (self-report)	Number of Over-the-counter medications (self-report)	Other health problems (Self-report)	Overall health rating (self-report)	Philadelphia Geriatric Center Morale Scale	Social Activity Inventory			

Crawford, M., et al. (2007)	1		1	1			3	1	To improve service use, address psychosocial needs and decrease the risk for social exclusion for individuals with personality disorder.	Care Pathway Record	Current use of alcohol or illicit drugs	Focus Groups with service users exploring service experience	Four-item Patient Satisfaction Questionnaire	Mental Health Inventory	Semi-structured interviews with service users exploring service experience	Service utilisation questionnaire	Single-item question exploring motivation to change	Social Functioning Questionnaire	Standardised Assessment of Personality – Abbreviated Scale		
Dayson, C. and N. Bashir (2014)		1	1	1	1		4	1	To improve health and social outcomes of individuals with long term conditions and to reduce the use of NHS services to decrease cost.	Case Study Interviews with beneficiaries to explore social impact	Cost-Benefit Analysis	Hospital Episode Statistics (administrative)	Social ROI Analysis	Unspecified wellbeing outcomes tool							
ERS Research and Consultancy (2013)	1	1	1	1	1		5	1	To improve the physical, mental and social wellbeing of individuals managing long-term conditions and to reduce health service use to reduce cost.	Trends in Social Prescribing Referrals	Semi-structured interviews with patients to explore service experience	Warwick-Edinburgh Mental Well-being Scale Short Form	Confidence Scale							

Faulkner, M. (2004)	1	1			2	0	To improve the psychosocial state of individuals.	Semi-structured interviews with patients to explore service effectiveness												
Friedli, Themessl-Huber & Butchart (2012)	1	1	1		3	1	To improve mental wellbeing, uptake of local services, participation in community activities, social support/contact/networks. And to enhance skills/behaviours that improve mental wellbeing.	Demographics Analysis	Semi-structured (assumed) interviews to explore patient experience.	Warwick-Edinburgh Mental Wellbeing Scale Short Scale	Work Social Adjustment Scale	Reason for Referral								
Garety, P.A., et al. (2006)	1	1			2	0	To help individuals retain/recover functional capacity to study or work and/or re-establish supportive social networks.	Adverse incidents (administrative)	Calgary Depression Rating Scale	Global Assessment of Function	Housing Records (administrative)	Manchester Short Assessment of Quality of Life	Positive and Negative Syndrome Scale	Relationship Records (administrative)	Scale for the Assessment of Insight	Verona Service Satisfaction Scale	Vocational or Educational Status (administrative)			

Goodhart, C., et al. (1999)		1			1	0	To support individuals experience social difficulties.	Referral records (e.g. what activities were referred to)	Semi-structured interviews to explore patient experiences.							
Grant, C., et al. (2000)	1		1		2	1	To improve patient quality of life and provide better management of psychosocial problems in primary care.	Cost Analysis	Dartmouth-COOP/WONCA Functional Health Assessment Chart	Delighted-terrible Faces Scale	Duke-UNC Functional Social Support Questionnaire	Hospital Anxiety and Depression Scale				
Grayer, J., et al. (2008)	1	1	1		3	1	To improve patient psychosocial wellbeing and to reduce primary care service use.	Client Satisfaction questionnaire	Clinical Outcomes in Routine Evaluation - Outcomes Measure	Community Link Evaluation (novel)	General Health Questionnaire-12	Number of Specialist MH Referrals (administrative)	Number of GP visits (including for psychosocial problems) (administrative)	Number of Prescriptions for Psychosocial Reasons (administrative)	Work and Social Adjustment Scale	

Greaves, C. J. and L. Farbus (2006)	1	1	1			3	0	To improve physical and psychosocial health through active social contact.	Focus group with patients to explore patient outcomes	Geriatric Depression scale	MOS Social Support Survey (altered)	Participant Demographics	Semi-structured interviews with patients to explore patient outcomes	Short form 12 Scale	Health and Social Care Usage (survey)				
Gupta, K., et al. (1996)				1		1	0	To reduce hospital care use among elderly people and promote independent living	Hospital Admissions Length (administrative)	Hospital Admission Number (administrative)	Quality of Care Questionnaire	Hospital Bed Occupancy (administrative)							
Hudon, C., et al. (2015)				1		1	0	To optimise health care coordination and reduce health service use.	Focus groups with families of patients to explore service experience	Semi-structured, in-depth interviews with patients to explore service experience									

Huxley, P. (1997)	1		1		2	1	To increase the level of mental well-being of participants using a wide range of creative processes'. Other aims to provide arts opportunities, recommend appropriate arts activities, raise self-esteem/self-confidence, to 'encourage individuals to look after their own health by developing skills in self-assessment and making choices' and to 'encourage participants to take up further arts/leisure activities'. Pg 5	Activities, interests and hobbies question	Contact with other health professionals in the last 3 months	Contacts with GP in the last 3 months	General Health Questionnaire-12	Self-concept question	Social relationships question	Unknown qualitative response method

Innovation Unit (2016)	1	1	1	1		4	1	To improve health and wellbeing and reduce primary / acute care use through connections to community-based support.	Health Service Data Counts (administrative)	Semi-structured interviews with clients to explore service experience	Short case description of participant experience								
Innovation Unit and Greater Manchester Public Health Network (2016)								Not Listed.	Interviews with practitioners about patient progress	Warwick-Edinburgh Mental Wellbeing Scale									
Jones, M., et al. (2013)	1	1	1			3	0	To improve physical and mental health and social wellbeing.	Centre for Epidemiological Studies Depression Scale	Demographic questions	General Health Likert Scale	GP Physical Activity Questionnaire	Healthy Eating Questions	Life satisfaction Questions	Social Wellbeing Scale (European Social Survey Round 3)	Warwick-Edinburgh Mental Wellbeing Short Scale			

Kilroy, A., et al. (2007)	1	1			1 (Community Wellbeing and Quality of Life)	3	1	(Various programmes) To empower/support individuals to choose a healthier lifestyle. And to create a sense of well-being/transform quality of life for communities and individuals.	General Health Questionnaire-12	Hospital Anxiety and Depression Scale	Ryff's Scale of Psychological Well Being	Semi-structured interviews about participant experience	Warr, Cook & Wall Work and Life Attitudes Survey						
Kimberlee, R., et al. (2014)	1	1		1		3	1	To improve wellbeing (mental, spiritual and physical) and reduce health service cost.	Friendship Scale for Isolation	GAD7 Anxiety Scale	GP Visit Rate (administrative)	International Physical Activity Questionnaire	ONS Wellbeing Measures	Perceived Economic Wellbeing	PHQ9 Depression Scale	Social Return on Investment Analysis			
Lee, K.-H. and L. Davenport (2006)		1		1		2	1	To reduce the number of emergency department visits and improve patient health.	Emergency Department Number of Visits (administrative)										
Liao, M.-C., et al. (2012)		1		1		2	1	To reduce emergency department use and improve health through targetted care.	Emergency department use (administrative)	Short case description of participant experience									

Maughan, D. L., et al. (2016)		1	1	1 (Environmental Cost)	2	0	To reduce healthcare service use and the subsequent financial and environmental costs.	Cost analysis	Number of GP Appointments (administrative)	Prescription (psychotropic) Number (administrative)	Secondary Referral Number (administrative)
Morton, L., et al. (2015)	1				1	0	To improve mental wellbeing.	General Self-efficacy Scale	Hospital Anxiety and Depression Scale	Warwick-Edinburgh Mental Well-being Scale	
Newcastle West Clinical Commissioning Group (2014)	1	1			2	1	To improve general wellbeing and reduce health service use.	Cost Analysis	Focus Groups with potential or previous patients to explore perceptions and expectations of social prescription		

Okin, R. L., et al. (2000)	1		1	1		4	1	To reduce the use of acute hospital services and service cost, and reduce the psychosocial problems of frequent emergency department users.	Case Manager reported drug or alcohol problems	Cost analysis	Homelessness Status	Number of Emergency Department Visits (administrative)				
Ramsbottom, H., et al. (n.d.)	1		1		1 (Employment and training)	2	0	To support people aged 55 and over with their social, emotional and practical needs.	Short case description of participant experience	Warwick-Edinburgh Mental Well-being Scale						
Reiniu s, P., et al. (2013)		1		1		2	1	To improve self-assessed health and reduce health service use among frequent emergency department users.	Length of Stay in Hospital (administrative)	Number of doctors' appointments (administrative)	Numbers of hospitalisations (administrative)	Quantitative analysis of structured interview with patients to assess baseline social and medical status	Short-Form Health Survey (SF-36)	Total emergency health costs (administrative)		

Skinner, J., et al. (2009)		1		1	0	To reduce emergency department visits among frequent users.	Number of Emergency Department Admissions (administrative)	Unspecified case records (referral type) (administrative)	Unspecified diagnostic detail (administrative)	
South, J., et al. (2008)		1		1	0	To broaden health service provision in the community.	Short case description of participant experience based on interview.			
Stickley, T. and A. Hui (2012)	1			1	0	To improve mental health.	Semi-structured, in-depth interviews with patients using Narrative Inquiry Process			

Stickley, T. and M. Eades (2013)	1	1			2	0	To create positive mental health and wellbeing outcomes.	Semi-structured Interview with participants to explore participant experience									
Tadros, A. S., et al. (2012)			1		1	0	To reduce emergency medical services and hospital use.	EMS Dispatch Response and Transport Codes	EMS Presence of Comorbidities (administrative)	Most common health complaint for enrolled participants (administrative)	Resource Access Programme Recorded Activity (administrative)	Time and Cost of Health Care Resource Use (administrative)					
The Care Forum (2015)	1				1	0	To improve wellbeing.	Demographics Analysis	Detailed Case Studies	Five Ways to Wellbeing	Make Yourself Medical Outcome Profile	Number of Activities Undertaken	Reason for referral	Warwick-Edinburgh Mental Wellbeing Scale	Wellbeing Outcomes Star	Referred Activity	Total number of GP referrals

Vogelpoel, N. and K. Jarrold (2014)	1	1			2	0	To improve health and social wellbeing.	Detailed case studies to explore participant experience (Dynamic Observation scale)	Warwick-Edinburgh Mental Wellbeing Scale (14 and 7 item)				
White, Kinsella, & South (2010)		1	1		2	1	To support patients with social needs (Study Aim to examine if patients make more appropriate use of GP practice after referral, unclear if this is also programme aim)	Detailed Case Studies	Single-item question on whether patients made progress on their goals	Structured telephone interview about patient views on service.			
White, M. and E. Salamon (2010)	1		1		2	0	To improve resilience, confidence, and self-esteem.	Content analysis of participant evaluation forms	Review of participant demographic characteristics	Semi-structured participant focus groups to explore participant experiences.	Semi-structured telephone interviews to explore participant experience.	Two written testimonials	

Total Number of Articles by Aim	25	16	21	23	6	4		19

*Where 1 indicates the study aimed to address both a system and individual level aim.

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	4-5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4-5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	n/a
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	~~5-7~~6
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	5-~~7~~6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	~~5-7~~6
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6~~5-7~~
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	~~5-~~7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	6~~5~~-7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	n/a
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	n/a
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	6~~5-7~~

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	n/a
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	n/a
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	7-~~8~~
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	~~7-12/suppl.~~Appendix 1 and 2
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	n/a
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	~~7-12/suppl.~~Appendix 1 and 2
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	n/a
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	n/a
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	n/a
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	14~~3~~-16
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	16
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	16~~3~~-17~~6~~
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	18

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

PRISMA 2009 Checklist

doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.