



CREaTE

Canterbury Research and Theses Environment

Canterbury Christ Church University's repository of research outputs

<http://create.canterbury.ac.uk>

Please cite this publication as follows:

Chatterjee, H., Camic, Paul M., Lockyer, B. and Thomson, L. (2017) Non-clinical community interventions: a systematised review of social prescribing schemes. *Arts & Health: An International Journal for Research, Policy and Practice*. ISSN 1753-3015.

Link to official URL (if available):

<http://dx.doi.org/10.1080/17533015.2017.1334002>

This version is made available in accordance with publishers' policies. All material made available by CReaTE is protected by intellectual property law, including copyright law. Any use made of the contents should comply with the relevant law.

Contact: create.library@canterbury.ac.uk



Non-clinical community interventions: A systematised review of social prescribing schemes.

To cite this article: Helen J. Chatterjee, Paul M. Camic, Bridget Lockyer & Linda J. M. Thomson (2017): Non-clinical community interventions: a systematised review of social prescribing schemes, *Arts & Health*, DOI: 10.1080/17533015.2017.1334002 To link to this article: <http://dx.doi.org/10.1080/17533015.2017.1334002>

Paul.camic@canterbury.ac.uk

Abstract

Background: This review focused on evaluation of United Kingdom social prescribing schemes published in peer-reviewed journals and reports. Schemes, including arts, books, education, and exercise 'on prescription' refer patients to community sources of non-clinical intervention.

Method: A systematised review protocol appraised primary research material evaluating social prescribing schemes published 2000-15. Searches were performed in electronic databases using keywords, and articles were screened for evaluation of patient data, referral process, assessment method and outcomes; non-evaluated articles were excluded.

Results: Of 86 schemes located including pilots, 40 evaluated primary research material: 17 used quantitative methods including six randomised controlled trials; 16 qualitative methods, and seven mixed methods; 9 exclusively involved arts on prescription.

Conclusions: Outcomes included increase in self-esteem and confidence; improvement in mental wellbeing and positive mood; and reduction in anxiety, depression and negative mood. Despite positive findings, the review identifies a number of gaps in the evidence base and makes recommendations for future evaluation and implementation of referral pathways.

Keywords: community referral; mental wellbeing; non-clinical intervention; arts on prescription; physical health

Introduction

The United Kingdom's (UK's) National Health Service (NHS) faces increasing pressure on its resources during a time of financial constraint consistent with state and private health organisations in many countries. Consequently, voluntary organisations and charities as third sector organisations, are increasing their role in providing an adjunct to primary care services (Coid, Williams & Crombie, 2003; Secretary of State for Health, 2006). Social prescribing, also referred to as community referral, has gained considerable attention in recent years (Husk et al., 2016; Kilgarriff-Foster & O'Cathain, 2015; Mossabir, Morris, Kennedy, Blickem & Rogers, 2015; South & Higgins, 2008). Social prescribing is defined as: 'A mechanism for linking patients with non-medical sources of support within the community'

(CentreForum Mental Health Commission, 2014, p. 6). These sources of support could be for patients with social, emotional, or practical needs and considered vulnerable or at risk, such as people living with long-term health conditions (Mossabir et al., 2015), frequent health service attendees and those in social isolation (Kilgarriff-Foster & O’Cathain, 2015), with mild-to-moderate depression (Husk, et al., 2016) or psychosocial problems (Grant, Goodenough, Harvey & Hine, 2000).

Social prescribing is viewed as a means of addressing mental, psychosocial, or socioeconomic issues, and enhancing community wellbeing and social inclusion (Scottish Development Centre for Mental Health, 2007). As such, it is an emerging strategy for tackling health inequities through partnerships between primary care and third sector organisations. Whilst community referral has tended to be instigated by primary care services through a range of referral models, appropriate community structures (e.g. third sector organisations, community groups and voluntary services) need to be in place to support this referral (Friedli, Jackson, Abernethy & Stansfield, 2009). Well-known models of social prescribing comprise: ‘Arts on Prescription’; ‘Books on Prescription’ / ‘Bibliotherapy’; ‘Education on Prescription’; and ‘Exercise Referral / Exercise on Prescription’; lesser known models include ‘Green Gyms’ and other ‘Healthy Living Initiatives’; ‘Sign Posting’ / ‘Information Referral’; ‘Supported Referral’; and ‘Time Banks’.

Models of Social Prescribing

Arts on Prescription: The arts (e.g. Clift et al., 2009) have made important contributions to wellbeing across different geographical areas and socioeconomic groups. The importance of Arts on Prescription schemes on national wellbeing was identified in a major policy report by the (UK) All Party Parliamentary Group on Wellbeing Economics (APPG/WE, 2014). The report concluded that Arts on Prescription offered a framework to “look beyond clinical interventions” (APPG/WE, p. 40), in order to provide a context for the delivery of arts and wellbeing programmes that “have a wider role to play in meeting local authorities’ health and wellbeing objectives” (p. 40). This is the first report of its kind internationally, that we are aware of, to specially call for the further development of an Arts on Prescription policy as part of one country’s national agenda on wellbeing. With the publication of the APPG/WE report, the UK joined Australia and Finland as one of first three countries to support on a national level, the value of arts in health and wellbeing (Australian Government, 2013; National Institute for Health & Welfare, 2014).

Arts on prescription programmes offer creative and participatory workshops (e.g. dance, drama, music, painting, and poetry) to support patients with mental and physical health issues. Research shows that creative activity has a positive effect on mental health, is

related to self-expression and self-esteem, initiates opportunities for social contact and participation (Huxley, 1997), and provides purpose, meaning and improved quality of life (Callard & Friedli, 2005; Tyldesley & Rigby, 2003). A national study evaluating the impact of arts programmes for patients with common mental health conditions (e.g. anxiety, depression, phobia, eating disorders) found that participants felt more empowered and confident, and experienced reduced feelings of social exclusion and isolation (Hacking, Secker, Spandler, Kent & Shenton, 2008).

Books on Prescription / Bibliotherapy: Uses self-help books to enable people to manage and understand psychological issues. A core collection of 30 books written and selected by health professionals employ cognitive behavioural therapy principles for common mental health conditions. General or mental health practitioners make a referral for a book borrowed 'on prescription' from a local public library that can also be accessed through self-referral. A study exploring effects of leisure activities, including reading, on dementia risk for participants over 75 years without dementia at baseline, showed that certain activities (e.g. board games, dancing, playing musical instruments and reading) were associated with reduced risk; reading lessened the likelihood of dementia by 35 per cent, second only to dancing at 73 per cent (Vergese et al., 2003). For reducing stress levels, reading was 300 per cent better than taking a walk and 68 per cent better than listening to music (Mindlab International, 2009).

Education on Prescription: Consists of referral to formal learning opportunities, including literacy and basic skills that can involve the use of learning advisers placed in educational establishments, day services, mental health teams or voluntary sector organisations, to identify appropriate educational activities for individuals and support access. Learning opportunities impact positively on health by improving an individual's socioeconomic position, access to health services and information, and resilience, problem-solving, self-esteem and self-efficacy (National Institute for Adult Continuing Education, 2003). A longitudinal UK study of the health impact of learning for 10,000 adults found that participation in education contributed to shifts in attitude and behaviour resulting in increased exercise, life satisfaction, race tolerance, political interest and voting behaviour (Feinstein, Hammond, Woods, Preston & Bynner, 2003).

Exercise Referral / Exercise on Prescription: Involves referring patients to supported exercise programmes (e.g. cycling, dance, gymnasium or leisure centre activity, keep fit, swimming and team sports). In addition to physical health improvement, benefits included learning new skills and achieving goals, improving the way that people look and feel about

themselves, meeting new people, adding structure to the day and improving patterns of sleep. Since their inception in 1990, UK exercise schemes have increased to around 600 (Pavey et al., 2011). Exercise therapy has been promoted as a realistic and readily available tool for depression for referral by general practice, or by self-referral (The Mental Health Foundation, 2005). A review of research into effects of exercise on mental health reported reductions in anxiety, depression and negative mood, with increases in self-esteem and cognitive functioning, concluding that exercise was a neglected intervention in mental health care (Callahan, 2004). A positive association of physical activity with health-related quality of life and wellbeing was found among people with moderate to severe mental health diagnoses (Biddle & Mutrie, 2001). The biological basis for exercise referral is that regular exercise releases naturally-occurring morphine-like neuropeptides (endorphins) produced by the central nervous system and pituitary gland, that inhibit pain signal transmission and produce feelings of euphoria (Vaughan, Polit, Steel, Shum & Morris, 2014; Hillman, Erickson & Kramer, 2008).

Green Gyms / Ecotherapy: Support participants in becoming physically and mentally healthier through contact with nature (e.g. walking in parks, developing green spaces). Exercise in a natural environment has been associated with self-esteem and positive mood (Countryside Recreation Network, 2005; Pretty, Griffin, Sellens & Pretty, 2003). Ecotherapy offered an accessible, cost-effective complement to existing treatments for mild-to-moderate mental health conditions (Mind, 2013). In an assessment of wellbeing for UK allotment gardeners, the main themes to emerge were 'a space of one's own, meaningful activity, increased feelings of connectedness and improved physical and mental health' (Webber, Hinds & Camic, 2015: 20). A review of studies on gardening as a mental health intervention found benefits across emotional, social, vocational, physical and spiritual domains (Clatworthy, Hinds & Camic, 2013). A national UK review demonstrated that green gyms had the greatest impact on participants with the lowest physical health on joining who were nine times more likely to improve whereas those with the lowest mental health were three times more likely to improve (Yerrell, 2008).

Healthy Living Initiatives: Use social prescribing models to support health improvement and address health inequalities by targeting disadvantaged sectors of the population. Initiatives involve activities prescribed by community nurses or other health visitors for promoting health in its broadest sense (e.g. health checks, healthy eating, exercise, and smoking cessation). Initiatives aim to give hope and encourage people to try different activities, develop new skills, make friends, and have an enjoyable time. A review of exercise studies concluded that although there was an increase in numbers of sedentary people who became

moderately active, health risk reduction was small because out of every 17 people referred, only one became moderately active (Williams, Hendrey, France, Lewis & Wilkinson, 2007).

Signposting / Information Referral: Consists of a series of links or 'signposts' designed to guide patients to sources of health and welfare information (e.g. financial advice, care services, housing support, treatment options, self-help and support groups). The prescriptions give information through websites addresses and telephone numbers, and provide current NHS and patient organisation updates.

Supported referral: Focuses on enabling mental health service users to identify and access support to meet their needs, though places less emphasis on specific activities. Options for referral depend on the level of support required; most models involve a facilitator whose role includes liaising with providers and enabling patients to access the service prescribed by overcoming practical barriers or providing moral support.

Time banks: Based upon mutual volunteering schemes, participants deposit time spent helping others and withdraw time when they need assistance. All time is valued equally and transactions are recorded by a time broker. The use of time banks within urban renewal recognised that isolation might be a source of poor health, and problems could be social rather than medical in origin. Over 290 UK time banks provided referral to services in parallel with IAPTs, and the Department of Health worked with Timebanking UK to explore practical aspects of rolling out time banks in GP surgeries (National Endowment for Science, Technology and the Arts: NESTA, 2013). Seyfang and Smith (2002) found that time banks attracted socially excluded groups such as disabled or retired people and, compared with traditional volunteers, around twice as many time bank volunteers were not in formal employment. Frequent volunteering impacted positively on self-esteem and quality of life through social interaction. Volunteering (under 'Give') was one of the 'Five Ways to Wellbeing' (New Economics Foundation, 2009).

Social Prescribing in the UK

Social prescribing has been on the UK public health agenda for nearly two decades but has gathered more momentum in recent years due to the social, political, and economic environment, consequently, its potential to contribute to national health and wellbeing has been more widely recognised. The National Endowment for Science, Technology and the Arts (NESTA, 2013, p. 6), for example, stated that 'it is the social context in which people live that often determines their health and wellbeing', and Public Health England (2015, p. 4) recognised that 'community empowerment occurs when people work together to shape the

decisions that influence their lives and health and begin to create a more equitable society'. Mossabir et al. (2014) reviewed social interventions that linked health service patients to community-based sources of support, some of which were social prescribing schemes, and suggested that these interventions might bridge the gap between medical treatment and psychological wellbeing.

Key policy reports have provided a climate for social prescribing within local communities. The Prime Minister's Challenge on Dementia (Older People and Dementia Team, 2012) stated that the NHS and Social Care was working with wider partners to try to reduce the use of antipsychotic drugs for dementia by two thirds, and although they suggested there was much yet to do, there was a compelling case for more person- and community-centred approaches to public health and healthcare. The report advocated engaging and involving the wider community to support people with dementia so that they feel part of their community and participate in community life; actions might include practical help, group activities, and volunteering opportunities. It was also seen as important to combat social exclusion, especially of marginalised communities, by giving people a voice and to empower individuals and communities to take control over their lives.

As an influential factor, the Marmot Review (Marmot, 2010) highlighted the social determinants of health inequity and although it did not refer overtly to social prescribing, it recommended the creation and development of sustainable communities, and strengthening the role and the impact of ill health prevention; key areas that social prescribing seeks to address. Scaled-up versions of individual social prescribing initiatives could be used to counter the social determinants of health inequity, in offering purposeful activities that build resilience in the face of mental and physical ill health, encourage social interaction, self-esteem and confidence, and develop individual and community resources.

The Foresight Report on Mental Capital (2008) found that positive mental health and wellbeing were associated with social and economic benefits (e.g. education, productivity, social connectivity, and reduced crime rates) and identified two themes: The vulnerability of mental resources and mental wellbeing to future challenges, and the potential of these resources to adapt, meet challenges and to thrive. Mental wellbeing was defined as 'a dynamic state, in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community' Foresight (2008, p. 10). Mental wellbeing was linked to 'mental capital', involving cognitive and emotional resources including cognitive ability, flexibility and learning efficiency, and 'emotional intelligence' comprising social skills and resilience to stressors. Key factors such as purposeful activity, health, social support, and self-esteem were seen to build individual and community resilience by exploiting mental wellbeing and mental capital.

A greater UK emphasis on mental health and wellbeing has seen significant shifts in government policy including identifying mental wellbeing and the pursuit of happiness as clear and measurable goals; rolling out a National Wellbeing Programme led by Public Health England to foster mutual support, self-care and recovery implemented by local Health and Wellbeing Boards; prioritising investment in the mental health of young people; ensuring that adults with mental illness receive the parity of care expected for physical illness; and promoting holistic approaches (CentreForum Mental Health Commission, 2014). Social prescribing is recognised as a way of meeting these policy goals, because it engages with social causes of mental and physical ill-health. Although referral to social prescribing schemes by health practitioners can be delivered through a range of models, all are heavily reliant upon the availability of appropriate community structures, such as third sector agencies and community groups (Public Health England, 2015).

To increase the provision and implementation of social prescribing, ideally, it is important for existing and planned schemes to conduct thorough evaluation of the health and wellbeing benefits at both individual and community level, and extrapolate the research findings to the health of the nation. One needs to recognise, however, for Arts on Prescription as well as many other social prescribing programmes, funding has often not been made available for 'state of the art' evaluation. It is perhaps easier to recognise that for physical health reasons, such as obesity and diabetes, prescription for exercise would be high on the agenda and yet, despite the reported expansion of primary focuses care referral to exercise schemes throughout the leisure industry, Dugdill, Graham and McNair (2005, p. 1390), for example, found 'sparse evidence underpinning their implementation'. The current review, therefore, on social prescribing schemes published in peer-reviewed journals and reports, such as those written by local government, third sector organisations or universities, that utilise robust evaluation methods to provide evidence of the efficacy of these programmes.

Method

Search strategy

Using a systematised literature review format (Grant & Booth, 2009), the following data sources were used: Medline/Ovid, Embase, PsycINFO, Cochrane Library/Wiley, ISI Web of Science, EMBASE, SPORTDiscus, EBSCOhost, BioMed Central, NHS economic evaluation database, Health Technology Assessment database, Science Citation Index trial registries. Searches were conducted using a combination of text words and indexed terms involving generic terminology (e.g. 'social prescribing', 'community referral', 'referral schemes') and specific types of scheme (e.g. 'Arts on Prescription', 'Books on Prescription' 'Education on Prescription'). Searches were conducted on words related to search terms (e.g. 'prescribing',

'referral', 'consultation' and 'primary care'). Synonyms and reference lists from previous reviews and meta-analyses were consulted.

The bulk of social prescribing schemes within the data sources reported on exercise provision (i.e. 'exercise on prescription' (EoP) or 'exercise referral' (ER)). National Institute for Health and Care Excellence guidelines (NICE, 2014) advised that the criteria for exercise referral should involve assessment by a primary care or allied health professional to determine that a person is sedentary or inactive, and that they are not meeting UK physical activity guidelines, such as 'Start Active, Stay Active' (Department of Health, 2011). No similar criteria were found for other forms of social prescribing scheme such as arts, cultural and educational interventions, except for the definitions given earlier published in project reports. Hand searches were carried out for additional information on social prescribing schemes such as from secondary sources (e.g. reviews and meta-analyses), grey literature (e.g. conference proceedings and government papers), and websites (e.g. for local authorities and third sector organisations) from 2000 to 2015.

Inclusion and exclusion criteria

The review included articles reporting evaluated UK social prescribing schemes written in the English language. Research focused on published articles in peer-reviewed journals or high quality government, third sector or university reports of UK studies containing analysis of primary research material. The review included articles with either or both quantitative and qualitative methodologies, and participants with mental and/or physical health issues. It excluded articles reporting non-evaluated UK social prescribing schemes and non-UK schemes or those not written in the English language. Furthermore, studies were included if the data analysis was of responses from patients/clients but excluded if the studies primarily obtained data from other participants in the study, such as general and other health practitioners, facilitators or observers. Published protocols for trials not yet conducted or not yet published were omitted.

Results

Eight-six articles and reports of social prescribing schemes were identified including five studies of pilot schemes; of these more than half (53%) had no published evaluation, whereas just under half (47%) contained evaluation of primary research material. Of the articles and reports with evaluation (n=40), 17 (42%) employed quantitative methods which included eight (20%) randomised controlled trials (RCTs); 16 (40%) employed qualitative methods; and seven (18%) employed mixed methods (a combination of quantitative and qualitative evaluation) (Figure 1).

[INSERT FIGURE 1 ABOUT HERE]

The division across social prescribing schemes of the 40 evaluated studies comprised 14 (35%) for Exercise Referral; nine (22.5%) for Arts on Prescription; three (7.5%) for Supported Referral, two (5%) for Sign Posting; one (2.5%) for each of Education on Prescription, Health Living Initiatives, and Time Banks, with nine (22.5%) for Social Prescribing in general containing a range of local offers (Table 1).

[INSERT TABLE 1 ABOUT HERE]

Sample size varied considerably across evaluated schemes; smallest sample 10; largest sample 6541 (mean = 2003; median = 96; range = 6531) with larger sample sizes for mixed methods (mean=1903; median=220; range=6492) and quantitative studies (mean = 1291; median = 460; range = 6393) than qualitative studies (mean = 135; median = 17; range = 1390). The sample sizes reviewed here are from studies (n=35) where patient numbers were published and are from patients who provided data, not necessarily numbers initially referred to schemes; furthermore, additional data from healthcare practitioners or facilitators has been omitted from the above to solely represent service-user participation,

Of the 17 studies that conducted quantitative evaluation, 14 studies employed one to four standardised measurement scales comprising:

- *Anxiety*: Generalized Anxiety Disorder Assessment: (GAD-7: Spitzer, Kroenke, Williams & Lowe, 2006);
- *Cost effectiveness*: Quality Adjusted Life Year (QALY: Drummond et al., 2009); EuroQol-5D (EQ-5D: Szende, Oppe & Devlin, 2007);
- *Depression*: Patient Health Questionnaire: (PHQ-9: Spitzer, Williams & Kroenke, 2001)
- *Functional status (health and wellbeing)*: Dartmouth CO-OP/WONCA Functional Health Assessment (Nelson et al., 1987); General Health Status (SF-36);
- *Hospital admissions*: Hospital Episode Statistics (HES: Department of Health, 1998; 2004);
- *Mental health*: General Health Questionnaire (GHQ: Sterling, 2011)
- *Mental wellbeing*: 14-item Warwick Edinburgh Mental Wellbeing Scale (WEBWMS: Tennant et al., 2007); 7-item Short Warwick Edinburgh Mental Wellbeing Scale (SWEWMS: Stewart-Brown, et al., 2011);
- *Physical activity*: Timed Up and Go test (TUG: Podsiadlo & Richardson, 1991); Physical Activity Recall (PAR) and 7-day Physical Activity Recall scale (7-d PAR: Sallis & Saelens, 2000); Physical Activity Questionnaire (PAQ: Kriska & Caspersen, 1997);

- *Psychological wellbeing*: Hospital Anxiety and Depression Scale (HADS: Zigmond & Snaith, 1983);
- *Quality of life*: Delighted-Terrible Faces (DTFS: Andrews & Withey, 1976);
- *Social isolation*: Social Isolation (SI: Hughes, Waite, Hawkley & Cacioppo, 2004); and
- *Social support*: Duke-UNC Functional Social Support Questionnaire (Broadhead, Gehlbach, Van de Gruy & Kaplan, 1988).

The eight RCTs were split between Exercise Referral with six studies, and Arts on Prescription and Supported referral with one study each. Nine of the quantitative studies, though only four of the RCTs, reported the use of statistical tests including parametric and non-parametric tests of difference (e.g. paired-samples t-test, Mann-Whitney test, linear and multiple regression) and tests of association (e.g. chi squared test). These studies included Exercise Referral schemes that, in some cases, used inferential statistics to compare physiological measures such as systolic and diastolic blood pressure, body mass index (BMI), and cholesterol. Two studies, not included in above, developed their own measures, testing correlation of items (Pearson and Spearman Correlation) and internal consistency (Cronbach's alpha).

Of the social prescribing schemes that employed qualitative and mixed methods studies, the largest number was for Arts on Prescription. Data collection across schemes consisted mainly of interviews (in-depth, semi-structured and follow-up), though focus groups; questionnaires (postal or phone); and surveys were also employed. Although the review focused on studies of patient data, some studies included interviews with GPs, other health practitioners and facilitators who also provided diary entries. Most methods of analysis comprised thematic analysis, with one study of Time Banks (Boyle, Clark & Burns, 2006) carrying out interpretative phenomenological analysis.

Referral pathways

Historically, UK social prescribing schemes were based on exercise or self-help books and involved general practice referral. More recently, referral has widened to other health professionals within primary care such as practice nurses or physiotherapists and beyond, including pharmacists, reducing the burden on general practitioners. Social prescribing occurs directly through clinician referral, or indirectly through a link worker (referral agent or navigator) acting as a bridge between primary care and community resources (Figure 2). Providing general practices with link workers who have knowledge of local organisations can improve patient access to community and voluntary sector resources which can be boosted by personal support.

[INSERT FIGURE 2 ABOUT HERE]

In addition to grant-funding, two other funding pathways have been advocated: i) directly commissioned from service providers, possibly in conjunction with local authorities; ii) directly funded by patients given personal budgets to buy services to manage long-term conditions, or from their own funds. As NHS patient services are commissioned by Clinical Commissioning Groups it is essential that social prescribing is factored into UK Department of Health policy, so that schemes are incorporated into NHS commissioning processes (Public Health England, 2015).

Outcomes

Key outcomes of the reviewed studies revealed multiple benefits reported by participants and referrers directly engaged in social prescribing:

- Increases in self-esteem and confidence, sense of control and empowerment;
- Improvements in psychological or mental wellbeing, and positive mood;
- Reduction in anxiety and/or depression, and negative mood;
- Improvements in physical health and lifestyle;
- Reduction in visits to general practitioners, referring health professionals and primary or secondary care services;
- Provision to general practitioners of a range of options to complement medical care for a more holistic approach;
- Increases in sociability, communication skills and social connections;
- Reduction in social isolation and loneliness, support for hard-to-reach people;
- Improvements in motivation and meaning in life providing hope and optimism; and
- Acquisition of learning, new interests and skills.

Discussion

The review evidenced various methods of evaluating a range of social prescribing schemes to provide proof of patient and referrer benefits. More than half of the articles and reports reviewed did not employ any quantitative methods, with most quantitative evaluations occurring in studies of Exercise Referral. Over half of the Arts on Prescription studies used qualitative analysis of interview material and under half employed measures such as WEBWMS; only one of these carried out inferential statistic tests and the remainder used descriptive statistics such as percentage change. Considering some of the limitations of quantitative questionnaires, which were not developed in arts and health contexts,

qualitative methods may often be more suitable for understanding *how* Arts and Prescription works and *what kind* of impacts it has on wellbeing. There have been no reported evaluations for Books on Prescription using either quantitative or qualitative methodologies during the 15-year span of this review. These findings were in keeping with Kilgarriff-Foster & O’Cathain’s (2015, p. 11) scoping review that noted stakeholders perceived social prescribing as feasible and acceptable in improving wellbeing and reducing the use of health services yet there was ‘limited quantitative evidence of its effectiveness’.

Typically, Arts on Prescription schemes analysed smaller sample sizes (< 80) tending to carry out qualitative analyses where smaller samples are generally acceptable. Stickley and Hui (2012a, p. 574) found that Arts on Prescription participants experienced social, psychological, and occupational benefits, although reported that these could not be easily separated, and ‘whilst there is an increasing evidence base for the usefulness of community arts delivery, the published evidence in peer-reviewed literature of the effectiveness of delivery of Arts on Prescription’ is limited. This needs to be taken in context, however. Arts on Prescription, unlike Exercise Referral, has been offered on a much smaller scale in the UK and in other countries. Funding for exercise and sports programmes has historically far exceeded arts funding, which arguably, may not have allowed for the development of organised and sustainable Arts on Prescription programmes until recently.

For Books on Prescription, the review found no UK publications looking specifically at participant outcomes, though a study of dementia risk (Verghese et al., 2003) compared the relative effectiveness of different activities including reading, that was second to dancing, and Mindlab International (2009) found that reading was a beneficial form of relaxation though did not test Books on Prescription service-users. Education on Prescription. Healthy Living, and Time Bank schemes also lacked evidence of their efficacy with just one evaluated study for each. It is possible though that some of these programmes were included in the general appraisal of eight studies of social prescribing in specific geographic locations (e.g. Bradford, Keynsham, Rotherham, Sefton, Salford and Stockport).

Of the 40 studies reviewed, 35 included details of sample size though only six reported effect sizes or indicated whether power calculations had been carried out. Whilst seven studies reported large sample sizes (1000+) (Crone, Johnston, Gidlow, Henry & James, 2008; Dayson, Bashir & Pearson, 2013; Loughren, Baker & Crone, 2014; James, Mills, Crone, Johnston, Morris & Gidlow, 2009; Milton, 2008; Munro, Nicholl, Brazier, Davey & Cochrane, 2004; Murphy, et al., 2012) most were based on sample sizes of 10 to 50 which could impact the significance of the findings. Many studies with a qualitative approach did not report data from baseline or programme start so it is difficult to gauge their impact on participants.

One issue with studies using validated quantitative scales particularly with self-report, is

whether scales have been completed correctly; WEBWMS (Tennant et al., 2007) for example, requires that for scoring to be accurate, all questions are completed using a five-point scale. Although the authors of the present review disagree, White & Salamon (2010) noted a mid-programme Arts on Prescription change from 14-item to 7-item WEMWBS and wrote that this invalidated the measures due to lack of consistency. Lovell and Bockler (2007) used HADS with participants with mild-to-moderate health issues but were unable to carry out statistical analysis due to insufficient data; some of the forms were incorrect or incomplete in the way they were completed.

Despite the plethora of 17 measurement scales across 14 studies, only half employed statistical tests. Those not using inferential statistics comprised five studies comparing means and percentages but failing to indicate significant differences, and two studies conducting no analyses because of inaccurate self-report or mid-programme scale change. Yorkshire and Humber AgeUK (2011), for example used WEMWBS to compare pre-post means but conducted no inferential statistics so were unable to determine whether reported differences were statistically significant. Determining statistical significance is important because it allows the findings to be generalised to wider populations.

With the exception of eight RCTs (Duda, et al., 2014; Grant, et al., 2000; Harrison, Roberts & Elton, 2005; Isaacs et al., 2017; Lamb, Bartlett & Ashley, 2002; Munro, Nicholl, Brazier, Davey & Cochrane, 2004; Murphy, et al., 2012; Potter, 2013), the review found a lack of control groups, such as wait-list, life-as-usual or information-only comparators, to contrast with intervention group findings. The use of control groups can incur higher costs and require greater expertise in analysis though can provide robust evidence as to efficacy of schemes. Many studies compared measures at baseline with those at programme-end though cross-programme comparisons are difficult because of differing intervention durations (six weeks to 18 months) and the various measures employed. It is also likely that a typical 10-12-week intervention with no follow-up measures may not reliably demonstrate longer-term benefits.

It is not surprising that the review found more evaluated studies of Exercise Referral than other interventions as Pavey et al. (2011) reported over 600 UK schemes. NICE (2006) determined, however, that evidence to support their use as interventions was insufficient. NICE (2014) noted the main issue with Exercise Referral was the paucity of evidence as to whether increases in physical activity were sustained beyond the initial intervention and, also the cost of running subsidised schemes. Other authors (e.g. Mental Health Foundation, 2005) found that reasons for participant attrition included limited choice of activities and sessions not subsidised beyond the initial intervention. Harrison et al.'s (2005) RCT of Exercise Referral with sedentary adults compared a local authority scheme with a written

information-only intervention and found a significant increase in physical activity after 6 months but after 12 months the small increase was non-significant.

Even if not conducting an RCT, it is important to set up social prescribing schemes with methods of evaluation in place; mixed methods are ideal in that quantitative scales can be used to compare measures at baseline with progress or stability over time, and qualitative measures can capture the lived experience of participants during and after the intervention. The extent and thoroughness of any evaluation will depend on the importance of evidencing outcomes, expectations of funders and available resources. There is definitely not a 'one size fits all' approach to evaluation and as this review has evidenced, it is essential to discuss with those who commission social prescribing programmes what they expect from the intervention.

An exemplary UK health and wellbeing intervention that social prescribing schemes might emanate was 'Well London' (Phillips, Bottomley, Schmidt, Tobi, Lais, Yu, et al., 2014). Phase 1 of the community engagement intervention combined a cluster RCT with qualitative research within a mixed methods approach. The programme compared populations from 20 geographic target sites with 20 matched control sites from London's census-defined poorest areas. Projects focused on physical activity, healthy eating, mental wellbeing, local environment, arts and culture, with a view to building community capacity and cohesion. A random sample of 4000 adults were surveyed before and after the intervention across sites. Primary outcomes were effects on healthy eating, physical activity and mental wellbeing. Secondary outcomes were a range of other eating, activity, wellbeing and social cohesion measures. The quantitative approach was complemented with qualitative interviews with intervention and control group residents. Although no statistically significant difference was found for primary outcomes, two secondary outcomes were significant; compared with controls, the intervention group ate more healthily and thought that people pulled together more to improve the local area.

It is important that social prescribing schemes take into account lessons learnt through evaluation of programme outcomes. Well London Phase 2 evolved from Phase 1 where target sites were located within natural neighbourhoods rather than census defined, and communities shaped local project delivery. Phase 2 has started to explore how the intervention could be scaled-up to reach larger audiences. Scaling up service provision to a system-wide healthcare intervention is another important aspect of social prescribing, particularly for initiatives that are successful at a modest level and can acquire sufficient investment.

Deciding on outcome measures will vary depending on the reasons for referral, type of social prescription, the needs of participants and the resources available for evaluation. Outcomes currently measured and assessed include subjective wellbeing, quality of life,

behaviour change, physiological changes, health service and medication usage. The NHS Confederation (2014) advocated that service providers should monitor outcomes from interventions, consider using externally sourced evaluations and different approaches, and measure social impact using social return on investment (SROI). Rather than use a single method to assess outcomes, whenever resources allow, it is preferable to gather converging evidence using mixed methods (quantitative and qualitative approaches). It is also important to embed feedback from all key stakeholders in evaluation including referrers, providers and participants.

Conclusions

Social prescribing, including arts on prescription, is an innovative approach to public health, as it advocates the use of voluntary and third sector organisations and creates referral pathways so that primary care patients with non-clinical needs can be directed to these sources of community intervention. As a part of social prescribing, arts on prescription programmes offer a wide range of opportunities to people across all age groups, different ability levels, and various physical and mental health needs. South, Higgins, Woodall and White (2008, p. 310) recognised the importance of the voluntary sector in contributing to individual and community health but found that 'links between primary health care services and the voluntary and community sector are often underdeveloped'. As general practitioners and other healthcare professionals may not be aware of the diversity of local scheme or have the time to do this, 'link workers' or 'navigators' with local knowledge linked to or based primary health care settings, are typically employed. Social prescribing therefore has the potential to improve the health and wellbeing of patients presenting with psychosocial needs by accessing resources and social support from outside of primary care.

While some patients are helped by referral to mental health practitioners, others might benefit from social prescribing schemes offered as an adjunct to IAPT provision or other services, or while waiting to receive these. It is also important to look for other sources of provision within the community to offer non-clinical interventions linked to a range of mainstream health interventions. Within arts and health, participatory arts programmes (Mental Health Foundation, 2011) and museums and galleries (Camic & Chatterjee, 2013), for example, as community resources are well-placed to promote health and wellbeing activities in non-traditional audiences as are other cultural, arts, environmental, exercise and socially-oriented programmes. Social prescribing is a process where social care organisations, local councils and other community organisations that work directly with people can become involved with their needs. Through identifying local programmes, expanded community resources can be developed to address many social, health and

wellbeing issues. This review demonstrates that robust evaluation is vital; whilst some social prescribing schemes have been well evidenced, other schemes, such as Books on Prescription require a better evidence base.

NICE (2008) made recommendations that community referral should evaluate the effects of social prescribing on longer-term health outcomes; benefit from lessons learnt in engaging with communities to improve their health; and determine the amount of time and funding needed to evidence sustained health improvements. The review indicates that these recommendations have only been partially met though the Healthy London Partnership (2017) report on social prescribing provides a framework for monitoring and evaluating schemes with a focus on cost-effectiveness and other outcomes (personal, health and wellbeing, quality of life and service activity).

To reduce future health costs a stronger focus on collaborative commissioning of services and interventions is needed which would involve the strategic promotion of mental wellbeing, mental capital, creativity, and resilience as outcomes. Within in the context of the arts, this would open opportunities for artists and arts organisations to either partner with others or develop on their own, Arts on Prescription referrals in local communities. It is important to make connections with a far wider range of stakeholders than previous traditional health models where partners might include community services, such as business, education, and leisure sectors, in addition to local third sector and voluntary agencies. In tandem, robust evaluation of such schemes are needed which integrate the views of all key stakeholders including patients, referrers, commissioners, and providers, to ensure that as schemes are developed that they meet primary healthcare objectives as well as delivering the wider quality-of-life outcomes characteristic of non-clinical interventions.

References

- AgeUK (2011). *Social Prescribing: A model for partnership working between primary care and the voluntary sector*. Yorkshire and the Humber: Age Concern Support Services.
- Andrews, F.M. & Withey, S.B. (1976). *Social Indicators of Wellbeing*. New York: Plenum Press.
- APPG/WE (2014). *Wellbeing in four policy areas: Report by the All-Party Parliamentary Group on Wellbeing Economics*. London: New Economics Foundation.
- Australian Government (2013). *National arts and health framework*. Retrieved from: <https://www.arts.gov.au/national-arts-and-health-framework>
- Biddle, S.J.H., & Mutrie, N. (2001). *Psychology of physical activity: Determinants, wellbeing and interventions*. London: Routledge.
- Boyle, D., Clark, S. & Burns, S. (2006). *Hidden work: Co-production by people outside paid*

- employment*. York: Joseph Rowntree Foundation.
- Brewster, L. & Sen, B. (2011). Quality signposting: The role of online information prescription in providing patient information. *Health Information and Libraries Journal*, 28, 59–67
doi:10.1111/j.1471-1842.2010.00912.x
- Broadhead, W.E., Gehlbach, S.H., Van de Gruy, F. & Kaplan, H. (1988). The Duke-UNC Functional Social Support Questionnaire: Measurement of social support in family medicine patients. *Medical Care*, 26, 709–723.
- Callaghan, P. (2004). Exercise: A neglected intervention in mental health care? *Journal of Psychiatric and Mental Health Nursing*, 11, 476–483. doi:10.1111/j.1365-2850.2004.00751.x
- Callard, F. & Friedli, L. (2005) Imagine East Greenwich: Evaluating the impact of the arts on health and wellbeing. *Journal of Public Mental Health*, 4, 29–41.
doi:10.1108/17465729200500029
- Camic, P.M., Chatterjee, H.J. (2013). Museums and art galleries as partners for public health interventions. *Perspectives in Public Health*, 133, 66–71. doi:10.1177/1757913912468523.
- CentreForum Mental Health Commission. (2014). *The pursuit of happiness: A new ambition for our mental health*. Retrieved from <http://www.centreforum.org/assets/pubs/the-pursuit-of-happiness.pdf>
- Chatterjee, H.J. & Noble, G. (2013). *Museums, Health and Wellbeing*. Farnham, UK: Routledge.
- Clatworthy, J., Hinds, J., Camic, P.M. (2013). Gardening as a mental health intervention: A review. *Mental Health Review Journal*, 18, 214–225. doi:10.1108/MHRJ-02-2013-0007
- Clift S., Camic, P.M., Chapman, B. Clayton, G., Daykin, N., Eades, G., Parkinson, C., Secker, H., Stickley, T. & White, M. (2009). The state of arts and health in England. *Arts & Health: An International Journal of Research, Policy and Practice*, 1, 6-35.
DOI: 10.1080/17533010802528017
- Cock, D., Adams, I.C., Ibbetson, A.B. & Baugh, P. (2006). REFERQUAL: A pilot study of a new service quality assessment instrument in the GPO exercise referral scheme setting. *BMC Health Services Research*, 6, 61–66. doi:10.1186/1472-6963-6-61
- Coid, D.R., Williams, B. & Crombie, I.K. (2003). Partnerships with health and private voluntary sector organizations: What are the issues for health authorities and boards? *Public Health* 117, 317–22. doi:10.1016/S0033-3506(03)00073-8
- Countryside Recreation Network (2005). *A Countryside for Health and Wellbeing: The physical and mental health benefits of green exercise*. Sheffield: Countryside Recreation Network, Sheffield Hallam University.
- Crone, D., Johnston, L.H., Gidlow, C., Henley, C., & James, D.V. (2008). Uptake and participation in physical activity referral schemes in the UK: An investigation of patients

- referred with mental health problems. *Issues in Mental Health Nursing*, 29, 1088–1097. doi:10.1080/01612840802319837
- Crone, D., O'Connell E.E., James, D.V.B., Tyson, P.J., Clark-Stone, F., Simon, O., et al. (2013). 'Art Lift' intervention to improve mental wellbeing: An observational study from UK general practice. *International Journal of Mental Health Nursing*, 22, 279–286. doi:10.1111/j.1447-0349.2012.00862.x
- Dayson, C. & Bashir, N. (2014). *The Social and Economic Impact of the Rotherham Social Prescribing Pilot: Main evaluation report*. Sheffield: Sheffield Hallam University, Centre for Regional Economic and Social Research.
- Deci, E.L. & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum Press.
- Department of Health. (2004). *Hospital Episode Statistics*. London: Stationery Office. Retrieved from <http://www.dh.gov.uk/publicationsandstatistics/statistics/hospitalepisodestatistics/fs/en>
- Department of Health, Physical Activity, Health Improvement and Protection. (2011). *Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers*. United Kingdom: Chief Medical Officers of England, Scotland, Wales and Northern Ireland.
- Department of Health Statistics Section SD2 HES. (1998). *HES The Book*. London: Stationery Office.
- Dinan, S., Lenihan, P, Tenn, T. & Iliffe, S. (2006). Is the promotion of physical activity in vulnerable older people feasible and effective in general practice? *British Journal of General Practice*, 56, 791–793.
- Drummond, M. Brixner, D. Gold, M. et al. (2009). *Toward a consensus on the QALY Value Health*, 12, S31-5. doi:10.1111/j.1524-4733.2009.00522.x
- Duda, J.L., Williams, G.C., Ntoumanis, N., Daley, A., Eves, F.F., Mutrie, N., et al. (2014). Effects of a standard provision versus an autonomy supportive exercise referral programme on physical activity, quality of life and wellbeing indicators: a cluster randomised controlled trial. *International Journal of Behavioural Nutrition & Physical Activity*, 11, 1–28. doi:10.1186/1479-5868-11-10
- Dugdill, L., Graham, R.C., & McNair, F. (2005). Exercise referral: the public health panacea for physical activity promotion? A critical perspective of exercise referral schemes; their development and evaluation. *Ergonomics*, 48, 1390–1410. doi:10.1080/00140130500101544
- Edmunds, J., Ntoumanis, N., & Duda, J.L. (2007). Adherence and wellbeing in overweight and obese patients referred to an exercise on prescription scheme: A self-determination theory perspective. *Psychology of Sport & Exercise*, 8, 722–740.

doi:10.1016/j.psychsport.2006.07.006

- Feinstein, L., Hammond, C., Woods, L., Preston, J. & Bynner, J. (2003). *The Contribution of Adult Learning to Health and Social Capital*. London, UK: Centre for Research on the Wider Benefits of Learning.
- Flannery, O., Loughren, E., Baker, C., & Crone, D. (2014). *Exercise on Prescription Evaluation Report for South Gloucestershire*. Cheltenham: University of Gloucestershire, UK.
- Foresight Mental Capital and Wellbeing Project (2008). *Mental Capital and Wellbeing: Making the most of ourselves in the 21st century, final project report*. London: The Government Office for Science.
- Friedli, L., Jackson, C., Abernethy, H. & Stansfield, J. (2009). *Social prescribing for mental health: a guide to commissioning and delivery*. Stockport: Care Services Improvement Partnership North West Development Centre.
- Gidlow, C., Johnston, L.H., Crone, D., Morris, C., Smith, A., Foster, C., et al. (2007). Sociodemographic patterning of referral, uptake and attendance in Physical Activity Referral Schemes. *Journal of Public Health*, 29, 107–113. doi:10.1093/pubmed/fdm002
- Grant, M.J. & Boothe, A. (2009). A typology of reviews: An analysis of 15 review types and associated methodologies. *Health Information and Libraries Journal*, 26, 91–108. doi:10.1111/j.1471-1842.2009.00848.x
- Grant, C., Goodenough, T., Harvey, I. & Hine, C. (2000). A randomised trial and economic evaluation of a referrals facilitator between primary care and the voluntary sector. *British Medical Journal*, 320, 419–432. doi:10.1136/bmj.320.7232.419
- Gusi, N., Reyes, M.C., Gonzalez-Guerrero, J.L., Herrera, E., & Garcia, J.M. (2008). Cost utility of a walking programme for moderately depressed, obese, or overweight elderly women in primary care: a randomised controlled trial. *BMC Public Health*, 8, 231–231. doi:10.1186/1471-2458-8-231
- Hacking, S., Secker, J., Spandler, H., Kent, L. & Shenton, J. (2008). Evaluating the impact of participatory art projects for people with mental health needs. *Health & Social Care in the Community*, 16, 638–648. doi:10.1111/j.1365-2524.2008.00789.x
- Harrison, R.A., Roberts, C., & Elton, P.J. (2005). Does primary care referral to an exercise programme increase physical activity 1 year later? A randomized controlled trial. *Journal of Public Health*, 27, 25–32.
- Healthy London Partnership (2017). *Steps Towards Implementing Self-care: A focus on social prescribing for commissioners*. London: NHS: Healthy London Partnership. Retrieved from <https://www.myhealth.london.nhs.uk/healthy-london-partnership>
- Hillman, C.H., Erickson, K.I. & Kramer, A.F. (2008). Science and Society: Be smart, exercise your heart: Exercise effects on brain and cognition. *Nature Reviews Neuroscience*, 9, 58–

65. doi:10.1038/nrn2298
- Hughes, M.E., Waite, L.J. Hawkey, L.C. & Cacioppo, J.T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research in Aging*, 26, 655–672. doi:10.1177/0164027504268574
- Husk, K., Blockley, K., Lovell, R., Bethel, A., Bloomfield, D., Warber, s. *et al.* (2016). What approaches to social prescribing work, for whom, and in what circumstances? A protocol for a realist review. *Systematic Reviews*, 5, 1–7. doi:0.1186/s13643-016-0269-6
- Huxley, P.H. (1997). *Arts on prescription: An evaluation*. Stockport, UK: Stockport Healthcare NHS Trust.
- Isaacs, A.J., Critchley, J.A., Tai, S.S., Buckingham, K., Westley, D., Harridge, SD. R. & Gottlieb, J. M. (2007). Exercise Evaluation Randomised Trial (EXERT): A randomised trial comparing GP referral for leisure centre-based exercise, community-based walking and advice only. *Health Technology Assessment*, 11, iii.
- James, D., Mills, H., Crone, D., Johnston, L.H., Morris, C., & Gidlow, C.J. (2009). Factors associated with physical activity referral completion and health outcomes. *Journal of Sports Sciences*, 27, 1007–1017. doi:10.1080/02640410903214248
- Jolly, K., Daley, A., Adab, P., Lewis, A., Denley, J., Beach, J., & Aveyard, P. (2010). A randomised controlled trial to compare a range of commercial or primary care led weight reduction programmes with a minimal intervention control for weight loss in obesity: The Lighten Up trial. *BMC Public Health*, 10, 439. doi: 10.1186/1471-2458-10-439
- Kilgarriff-Foster, A. & O'Cathain, A. (2015). Exploring the components and impact of social prescribing. *Journal of Public Mental Health*, 14,127–34. doi:10.1108/JPMH-06-2014-0027
- Kriska, A.M. & Caspersen, C.J. (1997). A collection of physical activity questionnaires for health-related research. *Medicine & Science in Sports & Exercise*, 29, S1-S205.
- Lamb, S., Bartlett, H., & Ashley, A. (2002). Can lay-led walking programmes increase physical activity in middle aged adults? A randomised controlled trial. *Journal of Epidemiology & Community Health*, 56, 246–252. doi: doi.org/10.1136/jech.56.4.246
- Lewisham Clinical Commissioning Group. (2014). *Public sector equality duty annual report April 2013–January 2014*. Retrieved from <http://www.lewishamccg.nhs.uk/about-us/how-we-work/Equality%20and%20diversity%20docs/Lewisham%20CCG%20PSED%20Annual%20Report%202014.pdf>
- Lovell, E. & Bockler, J. (2007). *Creative Alternatives: Project Report Nov 2006–Aug 2007*. Sefton: Sefton MBC's Leisure Services Department (Arts Development), Sefton Health Improvement Support Service, and Sefton PCT.
- Marmot, M. (2010). *Fair Society, Healthy Lives: Strategic review of health inequalities in*

- England post-2010*. London: The Marmot Review.
- Mental Health Foundation (2005). *Up and running? Exercise therapy and the treatment of mild or moderate depression in primary care*. Retrieved from https://www.mentalhealth.org.uk/sites/default/files/up_running_report.pdf
- Mental Health Foundation (2011). *An evidence review of the impact of participatory arts on older people*. Edinburgh: author.
- Milton, K. (2008). *Evaluation of the Eastern and Coastal Kent Exercise Referral Scheme: Final Evaluation Report*. Loughborough: Loughborough University.
- Mind (2013). *Making Sense of Ecotherapy*. London: Mind.
- Mindlab International, Sussex University. (2009). *Galaxy Commissioned Stress Research*. Brighton, UK: Sussex University.
- Morton, K.L., Biddle, S.J.H., & Beauchamp, M.R. (2008). Changes in self-determination during an exercise referral scheme. *Public Health*, 122, 1257–1260. doi:10.1016/j.puhe.2007.11.006
- Mossabir, R., Morris, R., Kennedy, A., Blickem, C. & Rogers, A. (2015). A scoping review to understand the effectiveness of linking schemes from healthcare providers to community resources to improve the health and wellbeing of people with long-term conditions. *Health & Social Care in the Community*, 23, 467–84. doi:10.1111/hsc.12176
- Munro, J.F., Nicholl, J.P., Brazier, J.E., Davey, R., & Cochrane, T. (2004). Cost effectiveness of a community based exercise programme in over 65 year olds: Cluster randomised trial. *Journal of Epidemiology and Community Health*, 58, 1004. doi:10.1136/jech.2003.014225
- Murphy, S.M., Edwards, R.T., Williams, N., Raisanen, L., Moore, G., Linck, P., et al. (2012) An evaluation of the effectiveness and cost effectiveness of the National Exercise Referral Scheme in Wales, UK: A randomised controlled trial of a public health policy initiative. *Journal of Epidemiology & Community Health*, 66, 745–753. doi:10.1136/jech-2011-200689
- National Endowment for Science, Technology and the Arts (NESTA) (2013). *More than Medicine: New service for people powered health*. London: NESTA Innovation Unit.
- National Health Service Confederation (2014). Comparing apples with oranges? How to make better use of evidence from the voluntary and community sector to improve health outcomes. *NHS Confederation Briefing*, 273, 1–11.
- National Institute for Adult Continuing Education. (2003). *Mental Health and Social Exclusion– Social Exclusion Consultation Document: A commentary and response from the National Institute for Adult Continuing Education*. Nottingham: National Institute for Adult Continuing Education.
- National Institute for Health and Care Excellence. (2006) Four commonly used methods to increase physical activity: Brief interventions in primary care, exercise referral schemes,

- pedometers and community-based exercise programmes for walking and cycling. *NICE Public Health Guidance, 2*. London: NICE.
- National Institute for Health and Care Excellence (2014). Exercise referral schemes to promote physical activity. *NICE Public Health Guidance, 54*. London: NICE.
- National Institute for Health and Clinical Excellence. (2008). Community engagement and development. *NICE Guidelines (PH9)*, London: NICE.
- Nelson, E., Wasson, J., Kirk, J., Keller, A., Clark, D., Dietrich, A., *et al.* (1987). Assessment of function in routine clinical practice: Description of the CO-OP Chart method and preliminary findings. *Journal of Chronic Disfunction, 40*, 555–635. doi:10.1016/S0021-9681(87)80033-4
- New Economics Foundation (2009). *National Accounts of Wellbeing: Bringing real wealth onto the balance sheet*. London: New Economics Foundation.
- Older People and Dementia Team (2012). *Prime Minister's Challenge on Dementia: Delivering major improvements in dementia care and research by 2015*. London: Department of Health.
- Pavey, T.G., Taylor, A.H., Fox, K.R., Hillsdon, M., Anokye, N., Campbell, J.L., *et al.* (2011). Effect of exercise referral schemes in primary care on physical activity and improving health outcomes: Systematic review and meta-analysis. *BMJ: British Medical Journal, 343*, 1–14. doi:10.1136/bmj.d6462
- Pavey, T.G., Anokye, N., Taylor, A.H., Trueman, P., Moxham, T., Fox, K.R., *et al.* (2011). The clinical effectiveness and cost-effectiveness of exercise referral schemes: A systematic review and economic evaluation. *Health Technology Assessment, 15*, 1–254. doi:10.3310/hta15440
- Pavey, T.G., Taylor, A.H., Fox, K.R., Hillsdon, M., Anokye, N., Campbell, J.L., P., Foster, C., Green, C., Moxham, T., Mutrie, N., Searle, J., Trueman, P. & Taylor, R.S. (2011). Effect of exercise referral schemes on physical activity and improving health outcomes: *Systematic review and meta-analysis British Medical Journal, 343*, 1–14. doi:10.1136/bmj.d6462
- Phillips, G., Bottomley, C., Schmidt, E., Tobi, P., Lais, S., Yu, G., *et al.* (2014). Well London Phase 1: Results among adults of a cluster-randomised trial of a community engagement approach to improving health behaviours and mental wellbeing in deprived inner-city neighbourhoods. *Journal of Epidemiology Community Health. 68*, 606–614. doi:10.1136/jech-2013-202505
- Podsiadlo, D. & Richardson, S. (1991). The Timed Up & Go: A test of basic functional mobility for frail elderly persons. *Journal of the American Geriatrics Society. 39*, 142–8. doi:10.1111/j.1532-5415.1991.tb01616.x
- Potter, S. (2013). *Arts on Prescription 2010–12 Evaluation Report: Executive Summary*.

- Cambridge: Arts and Minds.
- Potter, S. (2015). *Arts on Prescription 2014–15 Evaluation Report*. Cambridge: Arts and Minds.
- Pretty, J., Griffin, M., Sellens, M. & Pretty, C. (2003). *Green Exercise: Complementary roles of nature, exercise, diet in physical and emotional wellbeing and implications for public health policy*. Retrieved from <http://www.outdoorfoundation.org/pdf/GreenExercise.pdf>
- Public Health England. (2015). *Guide to community-centred approaches for health and wellbeing: Briefing*. London, UK: Public Health England.
- Sallis, J.F. & Saelens, B.E. (2000). Assessment of physical activity by self-report: Status, limitations, and future directions. *Research Quarterly for Exercise and Sport*, 71, 1–14.
- Scottish Development Centre for Mental Health. (2007). *Developing social prescribing and community referrals for mental health in Scotland*. Retrieved from www.gov.scot/Resource/Doc/924/0054752.pdf
- Secretary of State for Health. (2006). *Our Health, Our Care, Our Say: A new direction for community services*. London: Department of Health, Crown Copyright.
- Seyfang, G. & Smith, K. (2002). *The time of our lives: Using time banking for neighbourhood renewal and community capacity building*. London: New Economics Foundation.
- South, J., Higgins, T.J., Woodall, J. & White, S.M. (2008). Can social prescribing provide the missing link? *Primary Health Care Research & Development*, 9, 310–318. doi:10.1017/S146342360800087X.
- Spitzer, R.L., Kroenke, K., Williams, J.B. & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166, 1092–1097. doi:10.1001/archinte.166.10.1092
- Sterling, M. (2011). General Health Questionnaire 28. *Journal of Physiotherapy*, 57, 2011–2059. doi:10.1016/S1836-9553(11)70060-1
- Stewart-Brown, S.L., Platt, S., Tennant, A., Maheswaran, H., Parkinson, J., Weich, S., et al. (2011). The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS): A valid and reliable tool for measuring mental wellbeing in diverse populations and projects. *Journal of Epidemiology and Community Health*, 65, A38–A39. doi:10.1136/jech.2011.143586.86
- Stickley, T. & Eades, M. (2013). Arts on prescription: A qualitative outcomes study. *Public Health*, 127, 727–734. doi:10.1016/j.puhe.2013.05.001
- Stickley, T. & Hui, A. (2012a). Social prescribing through arts on prescription in a UK city: Participants' perspectives (Part 1). *Public Health*, 126, 574–579. doi:10.1016/j.puhe.2012.04.002
- Stickley, T. & Hui, A. (2012b). Social prescribing through arts on prescription in a UK city: Social prescribing through arts on prescription in a UK city: Referrers' perspectives (Part 2). *Public Health*, 126, 580–586. doi:10.1016/j.puhe.2012.04.001

- Szende, A., Oppe, M. & Devlin, N. (2007). EQ-5D Value Sets. *EuroQol Group Monographs*, 2.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., et al. (2007). The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes* 5, 63–76. doi:10.1186/1477-7525-5-63
- Tobi, P., Estacio, E.V., Yu, G., Renton, A., & Foster, N. (2012a). Who stays, who drops out? Biosocial predictors of longer-term adherence in participants attending an exercise referral scheme in the UK. *BMC Public Health*, 12, 347–453. doi:10.1186/1471-2458-12-347
- Tyldesley, R. & Rigby, T. (2003). *The Arts on Prescription Postnatal Depression Support Service: An Evaluation of a Twelve-Week Pilot*. Stockport, UK: Stockport Primary Care
- National Institute for Health & Welfare (2014). *Arts and culture for well-being in Finland*. Retrieved from: <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/projects-and-programmes/arts-and-culture-for-well-being>
- Vaughan, S., Polit, D., Steel, M., Shum, D. & Morris, N. (2014). The effects of multimodal exercise on cognitive and physical functioning and brain-derived neurotrophic factor in older women: A randomised controlled trial. *Age and Ageing*, 43, 623–629. doi:10.1093/ageing/afu010
- Verghese, J, Lipton, RB, Katz, MJ, Hall, CB, Derby, CA, Kuslansky, G, et al. (2003). Leisure activities and the risk of dementia in the elderly. *New England Journal of Medicine*, 348, 2508–2516. doi:10.1056/NEJMoa022252
- Webber, J., Hinds, J. & Camic, P.M. (2015). The wellbeing of allotment gardeners: A mixed methodological study. *Ecopsychology*, 7, 20–28. doi:10.1089/eco.2014.0058
- White, M. & Salamon, E. (2010). *An interim evaluation of the 'Arts for Wellbeing' Social Prescribing Scheme in County Durham*. Durham: Durham University, Centre for Medical Humanities.
- Williams, N.H., Hendry, M., France, B., Lewis, R. & Wilkinson, C. (2007). Effectiveness of exercise referral schemes to promote physical activity in adults: Systematic review. *British Journal of General Practice*, 57, 979–986.
- Yerrell, P. (2008). *TCV Green Gym National Evaluation Report: Summary of findings*. Oxford: Oxford Brookes University.
- Zigmond, A.S. & Snaith, R.P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67, 361–370. doi:10.1111/j.16000447.1983.tb09716.x

ACKNOWLEDGEMENTS

To be added if accepted

CONFLICT OF INTEREST

None declared