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## **Social prescribing evidence map: summary report**



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# 1 Purpose

The Public Health Wales Observatory Evidence Service has produced this evidence map and narrative summary to enable the Primary and Community Care Development and Innovation Hub to share evidence related to the effectiveness and practice of social prescribing in support of colleagues looking to implement these interventions within primary and community care settings across Wales.

## 2 Key messages

This evidence map looks at social prescribing and explored the question *How, why and in what circumstances might targeted, non-clinical interventions, services or programmes benefit the health and well-being of individuals and families with social, emotional or practical needs?*

Evidence mapping identified two types of evidence. These were research evidence assessing the effectiveness of interventions and evidence from experience: the lessons learned from the experience of designing and implementing intervention programmes.

Based on the needs that were targeted, two main types of non-clinical programmes or interventions were identified:

- Schemes targeting psychosocial needs, including link worker programmes (schemes linking people to a facilitator who assessed them and referred them on to sources of support in the community), community arts programmes, a horticultural programme and referral to welfare rights advice. The research evidence base for these programmes is largely characterised by before-and-after evaluations without comparison groups. This means that the evidence base is insufficient to robustly answer questions about their effectiveness. However, the evaluations of these programmes contain much evidence on the experience of designing and implementing programmes.
- Exercise referral schemes and commercial weight loss programmes intended for those who are sedentary and/or overweight or obese. The research evidence base for these interventions is characterised by evaluations using a control group. It should be possible to answer questions about the effectiveness of these programmes, although these evaluations contain little evidence on the experience of designing and implementing programmes.

## **Key messages about the design and implementation of interventions, services and programmes**

- Evidence from the experience of those setting up programmes suggests that the time required to establish social prescribing schemes is often underestimated.
- Where social prescribing is new to primary care staff and their patients, evidence from experience suggests that it is important to engage with both groups. Primary care staff need to understand the services and interventions available and what they can offer. Patients need to understand why they are being referred and what benefits are anticipated.
- Many evaluations note the need to establish a clear referral pathway, with documentation that supports assessment of eligibility and evaluation. Evidence from experience suggests that the social prescribing referral process should integrate with existing referral processes and be simple to use. Feedback to referrers on the outcome of this was seen to encourage appropriate referral.
- Many evaluations report difficulties in collecting outcome data. Evidence from experience suggests that evaluation and data collection to support this should be considered when programmes are set up. A particular issue was the expectation that community and voluntary organisations would collect outcome data. This may require them to set up processes to do this and may be particularly difficult when community and voluntary organisations do not receive specific funding to take part in social prescribing schemes.
- Evidence from experience suggests that a link worker model where post-holders are employees rather than volunteers might be the better option for a flexible service able to support patient need. Resources are necessary to recruit, train and support link workers. Experience from link work and other programmes where staff are not experienced in working with people with mental health problems suggests additional training will be required to ensure this client group is provided with the support needed to fully engage with interventions.
- Those involved in social prescribing initiatives in Wales should be encouraged to maintain a lesson log to help facilitate onward dissemination of learning no matter what is ultimately achieved.

## **Key messages about the research evidence base**

- Many evaluations report that a substantial proportion of those referred do not take up or do not engage with or complete the intervention offered. Research could be undertaken to identify barriers and facilitators influencing uptake and adherence, actions to mitigate these barriers, and suggest how interventions might be targeted more effectively.
- Models for link worker schemes varied. Some were based in general practice (GP) premises and were seen as members of the primary care team, while others were based within voluntary organisations or saw clients in their own homes. Research could help to identify the best model to encourage appropriate referrals and investigate whether the model used has an impact on uptake of and engagement with interventions delivered.
- Research could consider the extent to which link workers are the active ingredient in social prescribing, in some schemes, the link worker role is intensive, involving in-depth assessment of clients. In some examples, this includes motivational interviewing and goal setting. Some link workers make appointments on behalf of clients with the services to which they refer, and may accompany participants to appointments or activities. Some are in regular contact with participants and offer ongoing support. The extent to which the link worker-participant relationship is in itself a psychosocial intervention could be explored.
- This evidence mapping exercise was informed by a theory of change which postulates that social prescribing interventions lead to a reduction in demand for primary and community care, which would in turn increase the long-term sustainability of the system. The evidence map suggests that there is insufficient evidence, in terms of both its likely quality and the outcomes reported, to be able to answer this question. Under these circumstances, with the goal of improving population health and well-being, appropriate attention should also be directed towards alternatives to social prescribing initiatives where the evidence base for intervention may be more robust, and the return on investment proposition more certain.

## **3 Background and context**

### **3.1 Purpose of this document**

The Public Health Wales Observatory Evidence Service has produced this evidence map and narrative summary to enable the Primary and

Community Care Development and Innovation Hub to share evidence related to the effectiveness and practice of social prescribing in support of colleagues looking to implement these interventions within primary and community care settings across Wales.

### **3.2 Definition of social prescribing**

Social prescribing is a way of linking individuals to sources of non-clinical, community-based support. There is no agreed definition encompassing what is prescribed, to whom, by whom, how or why. The umbrella term social prescribing is not universally preferred, as it may unhelpfully medicalise the act of linking people to community assets. It is used in this document only as a common point of reference.

### **3.3 Role of evidence mapping**

Evidence mapping enables systematic and comprehensive identification, organisation and summarising of evidence on a broad topic, but does not include critical appraisal of the identified sources. Evidence maps are useful for exploring broad questions and identifying gaps in evidence.

## **4 Method**

Full details of the method used to produce this report are included in the accompanying [technical document](#); this includes how sources were identified and selected (inclusion criteria) and how the information of interest was extracted.

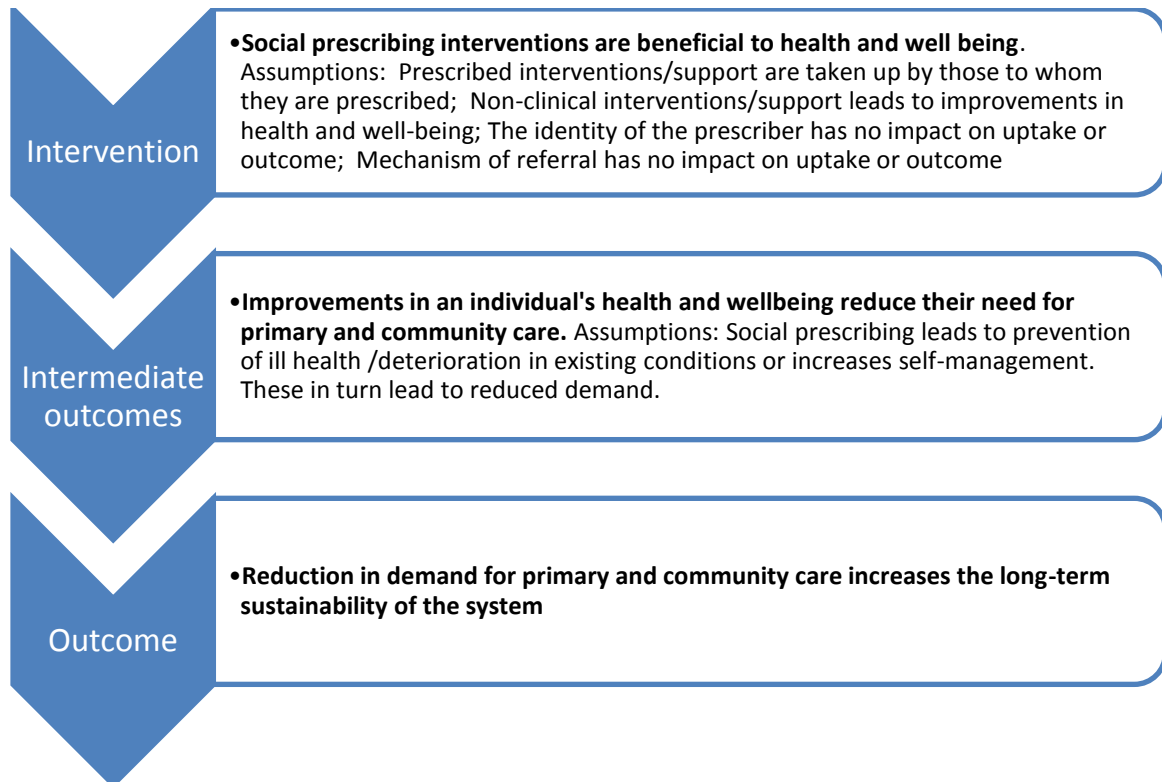
Because social prescribing is a complex intervention which may involve a series of actions, the effectiveness of which may be context-dependent i.e. specifically influenced by the way in which they are delivered. A theory of change was developed to describe how and why social prescribing might impact the sustainability of primary and community care. This theory of change was used to develop the questions and inclusion criteria that were used for evidence mapping.

### **4.1 Articulating a theory of change**

Social prescribing activities provide access to support and/or interventions that are considered (either directly or indirectly) beneficial to health and well-being, and could lead to reduced demand on primary and community care in Wales. Reduction in demand on primary care and community care contributes to system sustainability. While it is recognised that service impacts are not the only outcomes of interest, they appear to be an important driver of interest in social prescribing. Evidence mapping was

used to identify whether evidence was available to test the assumptions made within a bespoke theory of change (Fig. 1).

**Fig. 1:** The theory of change used in developing this social prescribing evidence map.



## 4.2 Questions for evidence mapping

The primary question for the map is:

*How, why and in what circumstances might targeted, non-clinical interventions, services or programmes benefit the health and well-being of individuals and families with social, emotional or practical needs?*

The secondary questions are:

*What outcomes or intended benefits are reported as being of interest to social prescribing models?*

*Which groups of beneficiaries are identified as suitable for targeting using a social prescribing approach?*

*What intervention types are promoted within the context of social prescribing and do these have any shared characteristics?*



## 5 Results

Sixty-two sources met the inclusion criteria for the evidence map. The detail of the flow of sources through the mapping process is contained within the [technical report](#).

The included sources describe six types of social prescribing initiative (Table 1). These are link worker programmes (schemes linking people to a facilitator who assessed them and referred them on to community support); community arts programmes; a horticultural programme; exercise referral schemes; commercial weight loss programmes and referral to welfare rights advice. Although schemes were allocated to a single best-fit programme type for the purposes of this mapping, there was some overlap.

**Table 1: Type of social prescribing initiative and number of sources found**

Type of scheme/programme	Number of sources
Referral to link worker/ signposting	15
Community arts programmes	8
Horticultural programme	1
Exercise referral schemes	33
Commercial weight loss programmes	4
Welfare rights advice	1

### 5.1 Referral to link worker

#### 5.1.1 Overview

Fifteen of the included sources looked at link worker and/or signposting programmes. Most of the evaluations did not include a comparison group. A summary of source types is included in Table 2.

**Table 2: Referral to link worker number and type of source**

Source type	Number
Systematic scoping review (3 RCTs, 1 cohort study, 3 evaluations)	1
Randomised controlled trial (RCT)	2
Non-randomised controlled study	1
Project evaluation/ uncontrolled before-and-after study	10
Uncontrolled – social return on investment	1

#### 5.1.2 Intervention and model characteristics

Link worker programmes were those where, usually, participants were referred from health and social services, or self-referred, to a facilitator who assessed their needs and signposted them on to a broad range of community-based resources and interventions. Broadly, the purpose of

these schemes was to improve health and well-being by facilitating contact with other people, groups or community organisations.

A range of models were described, both in respect of the link worker role and the services to which participants were signposted. The majority of link workers were employed by voluntary agencies<sup>1, 2, 5, 7-10, 13</sup>; only one example used link workers who were volunteers<sup>10</sup>. Problems were highlighted around the use of volunteers: these were a lack of flexibility in relation to working hours and the roles that volunteers were prepared to undertake<sup>10</sup>.

Link workers had a range of roles, they assessed those referred and liaised with GP practices and voluntary providers<sup>1-15</sup>. Assessment was often in-depth, considering the participants' needs and aspirations<sup>6-13</sup> and sometimes involved goal setting<sup>6, 9, 13</sup>. Link workers provided follow-up support after initial assessment. They encouraged participants to make contact with the organisations and groups to which they were signposted, made appointments for them, and in some schemes accompanied them to these meetings<sup>1, 2, 4, 5, 9, 11-13</sup>. Some made regular home visits to participants<sup>1</sup>.

In some examples, link workers were located in primary care premises<sup>4</sup>. In another they were part of multi-agency Integrated Case Management Teams<sup>7, 8</sup>. In one example social prescribing clinics were held by the link worker in the GP surgery<sup>6</sup>. Link workers were also located within voluntary sector agencies<sup>5, 6, 9</sup>. Some sources noted the need for resources to recruit, train and provide ongoing support for link workers<sup>1, 5, 10</sup>. Some schemes were only funded to support the link worker function<sup>6</sup>. Others had funding for link workers and to commission services from the voluntary and community sector<sup>1, 5, 7-10, 12-15</sup>.

Few sources gave details on the mechanism of referral. Participants were referred to a range of community and voluntary organisations (e.g. British Legion, Crisis, Multiple Sclerosis Society, Age UK)<sup>2, 5</sup> and a range of services (e.g. befriending, transport, handyman)<sup>5</sup>. Referrals were also made to volunteering opportunities, physical activities, specialist employment and legal services<sup>6</sup> as well as housing support, financial and debt management support and services offering support for relationship and family problems<sup>11</sup>.

### **5.1.3 Intended and actual beneficiaries**

Schemes targeted and may benefit those with long-term conditions, including mental health problems<sup>1, 5, 7, 8, 10, 11, 14</sup>; the elderly<sup>1, 9</sup>; those who are socially isolated<sup>1, 5, 9</sup>; those with high levels of primary care use<sup>1, 11</sup>; those considered to have psychosocial problems<sup>2, 4, 10</sup> (including bereavement, stress, difficulty with psychological adjustment to illness);

those with drug and alcohol problems<sup>2, 14</sup>; those from deprived neighbourhoods<sup>3</sup>; carers<sup>9, 11, 15</sup>; those with housing problems<sup>10</sup>; those with financial problems<sup>10, 11</sup> and those who are unemployed<sup>11</sup>.

#### **5.1.4 Anticipated and demonstrated outcomes and benefits**

Many benefits were anticipated for participants engaging with link worker-facilitated social prescribing schemes. These included strengthening of an individual's social networks<sup>1, 13</sup>; reduction in the use of health care<sup>1, 4, 9, 10, 12</sup>; an improvement in psychosocial problems<sup>1, 4</sup>; uptake of employment<sup>1, 13</sup>; an increase in healthy behaviours and use of preventative services<sup>1, 3, 13</sup>; improvements in mental well-being<sup>3, 4, 9, 11, 13, 15</sup>; improvements in clinical outcomes<sup>12</sup>; improvements in quality of life<sup>12</sup> and improvements in self-management of long-term conditions<sup>15</sup>.

Reported benefits included reductions in social isolation and feelings of loneliness<sup>1, 2, 13</sup>; improvements in mental well-being<sup>3, 4, 9, 13, 15</sup>; increase in healthy behaviours<sup>3</sup> and improvements in quality of life<sup>12</sup>. No impact was reported for clinical outcomes<sup>12</sup>. The impact of schemes on health service use was inconsistent<sup>1, 4, 6-8, 12, 13</sup> and not all evaluations were changes in health care use was an outcome reported on this<sup>9, 10</sup>. Anticipated benefits for which no outcomes were reported were employment and improvements in self-management of long-term conditions<sup>1, 13, 15</sup>.

## **5.2 Community arts programmes**

### **5.2.1 Overview**

Eight evaluations were included in the map although none included a comparison group.

### **5.2.2 Intervention and model characteristics**

The sources evaluating arts programmes describe similar elements. Generally, these were creative activities, for example drawing and painting<sup>19, 20</sup> although programmes involving horticulture, creative writing and photography were also included<sup>18</sup>. Some schemes involved trips to galleries, museums and other cultural events<sup>22</sup>.

Some programmes involved referral to a coordinator<sup>16, 22</sup>. Referrals were made by a range of individuals and agencies: most involved GP referral<sup>16-20, 22</sup> but some allowed self-referral<sup>17, 21-23</sup>. Other sources of referral included secondary care<sup>17</sup>; mental health teams<sup>18, 22</sup>; the probation service<sup>18</sup>; Job Centre advisors<sup>18, 22, 23</sup>; domestic violence advisors<sup>18</sup>; the Improving Access to Psychological Therapies Programme<sup>19</sup> and voluntary services<sup>18, 21</sup>.

Commissioning and funding varied across programmes. One programme had been commissioned by a local voluntary agency<sup>16</sup>; some were part of a United Kingdom Government commissioned programme<sup>17, 22</sup>; some programmes were commissioned by a local authorities<sup>18, 19</sup>; two by primary care trusts<sup>18, 23</sup>; one scheme in Scotland was a joint local authority/ National Health Service commission<sup>21</sup>. Most programmes seem to have been provided at no cost to participants. One programme could be accessed using an enablement fund that allowed participants to choose which services they wanted to use<sup>18</sup>.

Programmes varied in length: most lasted 10 to 12 weeks<sup>16, 18-20</sup> and others up to six months<sup>18, 22</sup>. Some programmes were delivered in GP surgeries<sup>19, 20</sup>. Those who delivered the programmes included artists<sup>20, 23</sup>, arts facilitators<sup>16, 22</sup> and social enterprises<sup>19</sup>.

### **5.2.3 Intended and actual beneficiaries**

Arts programmes were targeted at three groups. Those who experienced social isolation (usually as a result of health problems)<sup>16, 18</sup>; people with mental illness (whether mild, moderate or severe)<sup>17-22</sup> and one scheme focused on new parents, carers and people with long-term conditions.

### **5.2.4 Anticipated and demonstrated outcomes and benefits**

Intended benefits of arts programmes included increased self-confidence; reduced social isolation; establishment of new friendships, belonging and group cohesion<sup>16, 20</sup>; improvements in mental well-being<sup>16-22</sup>; social inclusion and empowerment<sup>17</sup>; a reduction in reliance on medication for depression and anxiety, and on GP contact time<sup>22</sup> and improvement in social, literacy and planning skills with the aim of increasing employment prospects<sup>22</sup>. Reported benefits were improvements in mental well-being<sup>16, 17, 19-21, 23</sup>.

## **5.3 Horticultural programme**

One service evaluation of a horticultural programme was included, in which outcomes were measured using a before-and-after approach with no comparison group<sup>24</sup>. The programme delivered a range of horticultural activities, with the opportunity to gain a City and Guilds qualification. No information on how the programme was funded, delivered or how referrals were made is included in the report.

The intended beneficiaries were adults with direct experience of mental distress, but no information on who received the programme was provided. Anticipated benefits were improvements in mental well-being and physical health; reduction in the stigma associated with mental ill health; improvement in social networks and social inclusion; development

of new skills; facilitation of access to a range of volunteering, training and employment opportunities and support with a range of social, welfare and health issues.

## 5.4 Exercise referral schemes

### 5.4.1 Overview

Exercise referral schemes accounted for the largest proportion of included sources (33 sources; 53% of total). Most evaluations listed in Table 3 used a comparison group.

**Table 3: Exercise referral programmes number and type of source**

Source type	Number
Systematic review and meta-analysis	1
Systematic review and economic evaluation	1
Systematic review	8
Non-systematic literature review	1
Randomised controlled trial	5
Randomised controlled trial with economic evaluation	4
Non-randomised controlled trial	1
Evaluation, uncontrolled before-and-after study	8
Longitudinal study	1
Survey	2
Mixed methods	1

### 5.4.2 Intervention and model characteristics

Referral was generally from primary care to an exercise facilitator who conducted an assessment, developed a tailored programme and supervised this<sup>26, 28, 33, 36, 40, 42, 45, 51</sup>. Referrals were either face-to-face after GP consultation, or those identified from the GP practice list were sent a letter inviting them to attend. Exercise facilitators were usually trained exercise specialists, although there was some variation in their role. Some used motivational interviewing<sup>36, 48, 52, 54</sup>, with some schemes describing a more intensive role for the facilitators<sup>36</sup>, and some including written materials<sup>26</sup>. The majority of schemes offered gym and pool-based activities<sup>25-27, 42-45, 53, 54</sup>. Schemes also included guided walks<sup>27, 28, 40, 42, 54</sup>, home-based activities<sup>27, 32, 54</sup> and sessions delivered within participants own homes<sup>27, 54</sup>.

### 5.4.3 Intended and actual beneficiaries

Most programmes targeted those who were sedentary and had one or more risk factors for coronary heart disease (CHD)<sup>26, 28, 34-36, 39-41, 43, 44, 51-54</sup>. Those with musculoskeletal problems<sup>25</sup> or other long-term conditions<sup>27, 31, 32, 40, 43, 44, 53</sup> (including chronic obstructive pulmonary disease (COPD),

diabetes, stroke and neurological problems) were also targeted, as were (less commonly) those with mental health problems<sup>29, 55</sup>. Two schemes were intended for those who were overweight or obese<sup>48, 49, 51</sup>.

#### **5.4.4 Anticipated and demonstrated outcomes and benefits**

Exercise referral schemes anticipated and demonstrated increases in physical activity and physical fitness and improvements in CHD risk factors. Other outcomes demonstrated included improvements in quality of life<sup>27, 43, 44, 54</sup>; changes in use of healthcare<sup>28</sup> and changes in mental well-being<sup>29, 31, 32, 36, 43, 44</sup>. An unexpected outcome reported for older people and women was benefit obtained from the social aspects of group classes<sup>56</sup>.

### **5.5 Commercial weight loss programmes**

#### **5.5.1 Overview**

Four studies evaluating commercial weight loss programmes were included. These were one RCT, one RCT with economic evaluation and two evaluations with no comparison group.

#### **5.5.2 Intervention and model characteristics**

Participants were offered free access to either Weight Watchers<sup>®</sup><sup>58-60</sup> or Slimming World<sup>®</sup> interventions<sup>61</sup>. They were referred to the programme by either their GP or practice nurse.

#### **5.5.3 Intended and actual beneficiaries**

The Weight Watchers<sup>®</sup> programme targeted adults with a body mass index (BMI) of 27 to 35 and Slimming World<sup>®</sup> those with a BMI over 30.

#### **5.5.4 Anticipated and demonstrated outcomes and benefits**

The anticipated outcome for the Weight Watchers<sup>®</sup> programme was weight loss<sup>58, 59</sup>. Other outcomes reported were changes in BMI, waist circumference and fat mass, changes in bio-markers of cardiovascular disease risk, blood pressure and in anti-hypertensive drug prescriptions<sup>58, 59</sup>. The anticipated outcomes for the Slimming World<sup>®</sup> programme were uptake, adherence and weight loss, factors associated with participation and the cost of the scheme when compared with NHS options<sup>61</sup>.

### **5.6 Referral to welfare rights advice**

One evaluation looked at the impact of referral from primary care to a Citizens Advice Bureau (CAB) outreach programme for advice about welfare rights<sup>62</sup>. The intended beneficiaries were not reported but the evaluation focused on the perceived impact of referrals on the CAB and its staff workload; the frequency of mental health issues amongst those referred and the impact of referrals to the CAB on appointments (GP, nurse and other appointments); referrals (to mental health services, with reasons) and prescribing (antidepressants and hypnotics/anxiolytics). The evaluation authors reported that almost half those referred to CAB had mental health issues<sup>62</sup>.

## **5.7 Intervention design and implementation lessons**

A number of link worker sources identified the need to engage with referrers and patients, given that referral to non-clinical support was a new experience for both<sup>3, 6, 9, 11, 12, 14</sup>. Feedback to referrers on those referred was said to promote referral and increase referral appropriateness<sup>3, 10</sup>. The need for the referral system to integrate with existing systems was identified and the process should be simple<sup>3, 9, 10</sup>. The need for a clear referral pathway with documentation that supported assessment of eligibility was also noted by one of the arts programme evaluations<sup>23</sup>.

A number of evaluations of link workers schemes reported that the time required to set up the scheme had been underestimated<sup>9</sup>. This was also recognised for community arts schemes<sup>19</sup>.

Some problems collecting data to support evaluation were reported from link worker schemes, particularly where this required voluntary and community organisation collaborators who may not have been funded to collect performance information<sup>6, 9, 13, 15</sup>. The importance of assessing intended outcomes as an element of project evaluation and the need for controlled studies with sample sizes sufficient to show an effect was noted by one of the evaluations of a community arts programme<sup>17</sup>. Another community arts programme evaluation reported the need to ensure that there was consistent collection of evaluation data<sup>23</sup>.

The design lessons from the evaluation of the horticultural programme were related to its evaluation<sup>24</sup>. These included: the need for a more coordinated approach that involves all health and social service professionals referring into and delivering programmes; the importance of using a common set of validated assessment tools at referral and key points in programmes to collect useful quantitative information; greater clarity on the place of social prescribing activity within clinical care; the need to link evaluation with medical records and biometric data; the need for project funds to include research funding to support robust evaluation of projects and paying more attention to costs and benefits of projects<sup>24</sup>.

Many of the community arts programmes were for people with long-term mental health problems. These programmes were delivered by people inexperienced in working with this group. The need for them to have appropriate training and support to enable provision of appropriate support to participants was identified by several evaluations<sup>20-22</sup>.

## **6 Discussion**

### **6.1 Overview of evidence characteristics**

Evidence mapping describes the quantity, design and characteristics of research in broad topic areas. It has been used because the questions asked are broad. Mapping allows systematic and comprehensive identification, organisation and summary of evidence and is also useful for identifying gaps in evidence. Because it does not involve critical appraisal it is not possible for conclusions to be drawn about the effectiveness of interventions. Mapping does allow an assessment of whether the available evidence base is sufficient to answer questions, however the number of sources alone is not an indicator of the weight of evidence for any topic.

Based on the client needs that the included sources sought to address, two main types of programmes were identified. The first of these involve schemes targeting psychosocial needs and included link worker programmes (schemes linking people to a facilitator who assessed them and referred them on to community support); community arts programmes; a horticultural programme and referral to welfare rights advice. The second type of scheme involved exercise referral and commercial weight loss programmes intended for those who are sedentary and/or overweight or obese.

Generally, evaluations of programmes targeting psychosocial needs were published as grey (non-commercial) literature, although a small number of evaluations in peer-reviewed publications were found. These evaluations predominantly use a before-and-after design, with no comparison group, so the extent to which they can be used to assess the effectiveness of interventions is limited. However, they do include a considerable amount of evidence on the experience gained through implementing programmes.

Evaluations of exercise referral and commercial weight loss programmes were exclusively from the peer-reviewed literature and typically used a control group so can be used to assess relative effectiveness. However, these sources do not usually include evidence on the experience of implementing programmes.



Most of the included sources did use validated outcome measures, particularly for measures of physical and mental well-being, but in the absence of a comparison group reported improvements in these measures cannot be attributed to the intervention with any confidence.

## **6.2 Testing assumptions within the theory of change**

A theory of change (Fig. 1) was developed to describe how and why social prescribing might have an impact on the sustainability of primary and community care. The first set of assumptions relate to the intervention itself (see section 4.1).

### **6.2.1 Uptake**

The first assumption is that prescribed interventions or support is taken up by those to whom they are prescribed.

Many evaluations suggest that uptake and adherence may be a problem across both programme types. Some of the evaluations report very low uptake and adherence rates<sup>1, 6, 11, 20, 26, 27, 29, 32-34</sup>. Reasons for low uptake and adherence of programmes targeting psychosocial needs have not been explored quantitatively. Evidence from experience and from interviews with both scheme providers and those referred suggests that reasons for low uptake include: long waiting times for assessment<sup>11</sup>; transport problems; literacy; concerns about confidentiality and disclosure in voluntary groups; and the availability, accessibility and appropriateness of the resources that participants were referred to<sup>1, 6</sup>. Barriers to attendance for those on low incomes were reported to be child care and travel costs<sup>22</sup>.

Barriers to uptake of exercise referral schemes included: apprehensions about physical ability and body image; lack of social support; illness; pressure of time; transport problems; inconvenient opening hours; lack of supervision; an intimidating environment and congested facilities<sup>27, 34</sup>. Being female and increasing age were reported to be predictors of higher uptake<sup>30, 32</sup>; being male and increasing age were reported to be predictors of adherence<sup>30, 32</sup>.

The research on exercise referral schemes in Wales suggests that older patients and women were considered to have additional anxieties about entering the scheme<sup>53</sup>. Those referred with mental health issues also seemed to face additional barriers<sup>53</sup>. Adherence was poorer amongst those in receipt of mental health care, who were younger, or who reported lower levels of activity before referral<sup>53</sup>. People from more deprived areas were more likely to enter the programme and no more likely to drop out. Uptake was lower among non-car owners<sup>53</sup>. A greater emphasis on group activities targeting beneficiaries with common issues,

for example mental ill health or obesity, was suggested as a way of improving adherence<sup>56</sup>.

### **6.2.2 Improvement mechanism**

The second assumption in the theory of change is that non-clinical interventions/support leads to improvements in health and well-being.

The evaluations carried out for programmes targeting psychosocial problems suggest that these lead to self-reported improvements in health and well-being, but this does not necessarily translate into a reduction in the use of healthcare. Reported benefits from link worker schemes included reductions in social isolation and feelings of loneliness<sup>1, 2, 13</sup>; improvements in mental well-being<sup>3, 4, 9, 13, 15</sup>; increases in healthy behaviours<sup>3</sup>; and improvements in quality of life<sup>12</sup>. No impact was found for clinical outcomes, e.g. improvements in blood pressure or HbA1C<sup>a, 12</sup>. The reported benefits of community arts programmes were improvements in mental well-being<sup>16, 17, 19-21, 23</sup>.

Research evidence from exercise referral schemes suggests that these schemes lead to improvements in self-reported well-being and quality of life<sup>25, 27, 36, 39, 43-45, 49, 54, 56, 57</sup> and may have some benefits for pain and function<sup>25, 38, 49</sup>. Research evidence from weight loss programmes found that participants reported improvements in well-being, some of which were statistically significant well-being<sup>58, 59, 61</sup>.

### **6.2.3 Prescriber identity**

The next assumption in the theory of change is that the identity of the prescriber has no impact on uptake or outcome. None of the sources explored this; it seems to be an evidence gap.

### **6.2.4 Referral mechanism**

The final assumption with regard to the intervention is that the mechanism of referral has no impact on uptake or outcome. Uptake and adherence are an issue and there is some relevant material. Further exploration of the RCTs on exercise referral schemes might allow some conclusions to be drawn on whether the mechanism of referral has an impact on uptake or outcome. Some schemes report referral after a face-to-face discussion with a GP, others are identified from the GP database and sent a letter, while some schemes used both methods<sup>26-54</sup>. It might also be possible to explore the relative effectiveness of differing exercise facilitator roles, for example, whether the use of motivational interviewing improves adherence and has an impact on outcome.

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<sup>a</sup> Glycated haemoglobin a measure of mean plasma glucose concentration

Link workers had a range of roles (see 5.1.2). The extent to which the interface and relationship between link worker and participant is an active ingredient in the intervention, or an intervention in itself could be considered further. Aspects of the link worker role that could be explored include; the length and nature of the contact between participant and link worker; whether the assessment undertaken by the link worker involves motivational interviewing and goal setting and whether the link worker provides the participant with active support to access services, by making appointments and accompanying them to meetings. Any of these might influence the uptake of services and support and outcome but the sources included here do not explore this. This appears to be an evidence gap.

The second set of assumptions relate to intermediate outcomes (see section 4.1).

### **6.2.5 Prevention or self-management impacts**

Assumptions were made that social prescribing leads to prevention of ill health, prevents deterioration in existing conditions, or increases self-management capacity. One evaluation of a link worker programme anticipated an improvement in self-management of long-term conditions but no outcomes were reported<sup>15</sup>. Another link work programme assessed confidence to self management but no behavioural or health outcomes were reported<sup>12</sup>. One of the community arts programmes was a prevention programme intended to increase resilience by improving confidence and self esteem but no outcome data was reported<sup>23</sup>. For social prescribing interventions targeting mainly psychosocial problems this is an evidence gap.

The evaluations of exercise referral and weight loss programmes do not report outcomes beyond the end of the programme (maximum 12 months). Evidence that these prevent ill health or deterioration in existing conditions beyond the end of the intervention does not seem to have been collected. Impact on self- management was not considered as an outcome.

Evidence that exercise referral programmes have a short-term impact in preventing ill health and deterioration of existing conditions seems to be mixed and inconsistent. Included systematic reviews reported that at the end of the intervention: there was a small impact on functional capacity<sup>27</sup>; a small, short-term antidepressant effect, with no effect seen for interventions of more than 10 weeks and no long-term effect seen beyond the end of the exercise intervention<sup>29</sup> and no significant effect on anthropometric, physiological or biochemical outcomes<sup>33</sup>. One non-systematic review reported between-group changes over the six months that were only significant for anxiety<sup>35</sup>.

Primary studies on exercise referral programmes reported mixed results. These included: decreases in blood pressure, improvement in cardio-respiratory fitness and leg extensor power, with small reductions in total and in low-density lipoprotein cholesterol (although these differences were not found to be consistent over time)<sup>41</sup>; a significant impact on depression and anxiety outcomes<sup>43</sup>; no significant differences between intervention and control groups for physiological outcomes<sup>45</sup>; a significant reduction in modifiable CHD risk (using the CALM Heart CHD risk Assessment tool); a non-significant reduction in avoidance of blood pressure medication and a statistically significant reduction in systolic and diastolic blood pressure<sup>54</sup> and no impact on diastolic blood pressure<sup>55</sup>.

Evaluations of weight loss programmes reported that the Weight Watchers® group had greater improvements in insulin and ratio of total high-density lipoprotein cholesterol than controls, although there was no significant reduction in blood pressure or prescription of antihypertensive medication<sup>58, 59</sup>.

### **6.2.6 Healthcare demand impacts**

The impact of link work schemes on health service use was reported to be variable or inconsistent<sup>1, 12</sup>. There are reported reductions in the number of primary care appointments<sup>1, 4, 13</sup>; number of appointments with a psychosocial aspect<sup>1</sup>; proportion of patients' prescribed psychotropic medication<sup>1</sup> and use of secondary healthcare services<sup>7, 8</sup>. However, other studies report no impact on primary care attendance<sup>1</sup>. Paradoxically, increases in service use are also reported, for example, higher referrals to mental health services<sup>1</sup> and increases in primary care attendance<sup>6</sup>.

### **6.2.7 Design and implementation issues and lessons**

Many of the evaluations reported evidence from experience that could usefully inform the development of social prescribing initiatives. The issues and lessons identified during intervention design and implementation are captured in the full evidence map (see [technical document](#)) and summarised above according to type of initiative. Uncovering this learning underlines the value in reviewing grey literature sources in addition to commercial or academically published sources.

## **7 Conclusion**

Two main types of social prescribing initiative were identified. The first of these were those predominantly targeting psychosocial needs. Such initiatives included link worker programmes (schemes linking people to a facilitator who assessed them and referred them on to sources of support in the community), community arts programmes, a horticultural

programme and referral to welfare rights advice. The research evidence base for these programmes is largely characterised by before-and-after evaluations without comparison groups. This means that it is not possible to draw conclusions about effectiveness using the current evidence base. Evidence derived from experience designing and implementing these initiatives suggests these programmes may be useful in reducing the impact of loneliness and social isolation, and in improving participant mental well-being. However, caveats around interpreting this kind of evidence do not allow identification of groups or individuals who would benefit most, nor elucidate which interventions would yield the greatest benefit.

The second type of intervention includes exercise referral schemes and commercial weight loss programmes. These are primarily intended for those who are sedentary and/or overweight or obese. The evidence base for commercial weight loss programmes and exercise referral schemes is largely characterised by evaluations using a control group, so it is possible to answer questions about their short-term impact on measures such as weight, physical activity, physical health, quality of life and mental well-being. Uptake of referral and adherence to programmes is an issue for both exercise referral and weight loss programmes, but more so for exercise programmes. As the available evidence does not explore the reasons for this, it is not possible to know which groups may benefit the most from which type of exercise. For those considering implementation of a new social prescribing initiative in Wales, exercise referral programmes do offer the greatest quantity of reference material to inform intervention design, although this may not equate to a higher quality of evidence.

Evidence from the experience of those setting up programmes does provide some information that could inform the development of social prescribing programmes. Of particular note is the frequency of discrepancy between anticipated and demonstrated outcomes or benefits. This information could be particularly pertinent to the re-design of existing initiatives to ensure appropriate targeting and levels of resourcing. Sharing of learning can help others avoid potential pitfalls. Those involved in social prescribing initiatives in Wales should be encouraged, therefore, to maintain a lesson log to help facilitate onward dissemination of learning no matter what success is ultimately achieved.

The outcome postulated in the theory of change developed to inform this mapping exercise is that social prescribing interventions lead to a reduction in demand for primary and community care, which would in turn increase the long-term sustainability of the system. This evidence map suggests that there is insufficient evidence, in terms of both its likely quality and the outcomes reported, to be able to answer this question. Under these circumstances, with the goal of improving population health

and well-being, appropriate attention should also be directed towards alternatives to social prescribing initiatives, where the evidence base for intervention may be more robust, and the return on investment proposition more certain.

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