Understanding Loneliness: a Systematic Review of the Impact of Social Prescribing Initiatives on Loneliness

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Introduction

Addressing loneliness has been part of the public health agenda in countries like the UK and Canada since before the COVID-19 pandemic. Linked to numerous physical and mental health conditions, adverse effects of loneliness have been observed in educational, workplace and wider community settings. Loneliness is also linked to increases in health and social care usage[1] due to increased mortality, blood pressure, depression, and anxiety, and decreased mobility and quality of life.[2,3]

Loneliness is a subjective, unwelcome feeling of lack or loss of companionship that occurs when there is a mismatch between the quantity and quality of social relationships that a person has, and those that that person wants.[4,5] Though often associated with isolation, loneliness is distinct in that it is a feeling, while *isolation* is an objective measure of the number and quality of contacts that one has[6]. Thus, it is possible to be lonely while surrounded by others, or to have very few social contacts but not feel lonely. Loneliness can also perpetuate itself, disrupting social interaction and integration and reducing one's healthy relationships.

The need to address loneliness has become all the more urgent since the onset of COVID-19, as individuals and organisations have sought to maintain social connection amidst restrictions on physical interaction. Social care and public health agencies have distributed digital tablets, created online forums, and hosted virtual events in attempts to help keep people connected. To help inform efforts to address this need, we present this systematic review of evaluations of interventions designed to tackle loneliness.

Specifically, we focus on interventions known as *social prescribing*. Concurrent with increased awareness about loneliness and its threat to public health, practitioners, policy makers, and researchers around the world have been calling for a fundamental change in healthcare systems to implement person-centred, holistic care. This social model of health has

been adopted in various forms in Canada[7], the UK[8], and the US[9], and social prescribing programmes are a part of it.

The example of the United Kingdom (UK) can help illustrate the believed linkages between loneliness and social prescribing. In 2018, the UK Government published the Loneliness Strategy. Since then it has devoted significant resources to combatting loneliness and improving individual and community wellbeing, including engaging with numerous charities, to demonstrate its commitment to tackle loneliness and promote social connections.[10] In 2019, the UK Government launched Universal Personalised Care (UPC), a system designed around 6 key pillars meant to give individuals choice and control over their mental and physical health. UPC was intended to help the UK health system enhance value for money and improve overall health and wellbeing, including through the reduction of loneliness.[11]

The fourth UPC pillar is centred on social prescribing. Social prescribing programmes employ link workers (also called community connectors, community navigators, and/or village agents) to guide participants to co-develop personalised solutions for their own health. As an asset-based, collaborative approach, social prescribing programmes are designed to identify needs and resources, promote and develop individual and community capacities, and ameliorate symptoms and consequences of poor health.[12] With the UPC launch, the UK Government committed to reaching more than 900,000 people via social prescribing by 2023/24. Through this commitment it was intended to also reduce loneliness and improve public health.[13]

In the UK, there are four sectors associated with social prescribing interventions. First, some general practitioner (GP) practices within the health sector are actively engaging link workers to accept referrals and work individually with people and families. Second, organisations in the voluntary and community service (VCS) sector individually with people and families and supply an array of innovative and engaging activities for them to access for

support and connection. This sector both employs link workers directly, and also supplies many of the services that other link workers recommend.

Third, social care services offer complementary support to vulnerable and elderly people and families by developing the market for social prescribing, by commissioning and funding community activities, and by supplying social prescribing via local authorities and/or councils. And finally, Departments of Public Health provide social prescribing services as they seek to enhance the health of the population as a whole, providing evidence on the position and quality of public health and filling gaps in the availability of services. One person might therefore encounter social prescribing via any one of these sectors, or via an integrated care system that combines these sectors to offer a holistic approach to care and wellbeing.

The variety of ways in which social prescribing (SP) can be offered means there can also be a variety of aims and goals between programmes. Many SP services run out of GPs, for example, are interested in how SP can improve health and reduce the burden on the health care system; these programmes are overseen by the National Health Service in the UK. Those SP services run by local councils might be overseen by Departments of Public Health, Social Services, or Public Safety; their key goals could be improved public health or security. SP programmes implemented by the VCS tend to be focused on individual wellbeing.

The diversity of goals of SP programmes, combined with the recent surge in social prescribing in the UK and person-centred care around the world, raises questions regarding the effectiveness and impact of these models on mental and physical wellbeing in general, and on loneliness in particular. As a collaborative effort between public, private, and third sector organizations, social prescribing is well-suited to provide person-centred healthcare and improve public health outcomes. Yet we need more information about social prescribing outcomes if we are to understand the extent to which they affect loneliness.[14,15,11] This systematic review therefore focuses on interventions designed to reduce loneliness, detailing

methods used to differentiate and define individuals' health conditions and needs, as well as the impact of the social prescribing interventions employed to reach lonely individuals.

We analyse research into social prescribing schemes in the UK and internationally over two decades. In contrast to previous reviews[16,17], we follow 2019 NHS England and Drinkwater et al recommendations[13,8] to evaluate outcomes of social prescribing-type programmes by assessing the impact of a programme at three levels: the person; the health and social care systems; and the community. These three levels of measurement capture a range of potential impacts and help us understand the effects of social prescribing as an approach to engage and empower individuals and communities to co-design health plans, reduce loneliness, and promote public health.

As we detail below, our work yields evidence on the use of social prescribing initiatives to address loneliness in the UK, but does not end up including evaluations of initiatives from other countries, despite the fact that we did not restrict our search geographically. We offer two potential explanations for this outcome. First, the use of social prescribing to address loneliness is still a novel concept; social prescribing programmes are often evaluated in terms of other aims and the UK is the only context that measures outcomes in terms of loneliness.

Second, we focus on the term 'social prescribing' for our search to isolate an increase in the literature on social prescribing across the globe (see Box 1). As a result, our findings do not include research on other similar programmes, such as Local Area Coordination, Community Navigation, or Village Agents, unless they also include the 'social prescribing' moniker. To the extent that this alterative terminology is more commonly used in other contexts, these programmes highlight parts of the world or health systems excluded from our search.

Methods

We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and Pettigrew and Roberts advice in conducting our review.[18,19] Our protocol has not been registered on the PROSPERO register of systematic reviews, but is available from the authors upon request.

Design and Sample

Research Strategy

We conducted a comprehensive search in social science and public health repositories to identify existing studies on the effect of social prescribing on loneliness. Through EBSCOHost, we searched nine bibliographic databases (CINAHL Complete, eBook Collection, E-Journals, MEDLINE with Full Text, Open Dissertations, PsycARTICLES, PsycINFO), as well as the UK National Institute for Health and Care Excellence (NICE) and Web of Science Core Collection, for research published in the English language from 1 January 2000 to 30 November 2019. EBSCOHost and Web of Science Core Collection include many peer-reviewed, high-quality scholarly journals published worldwide (including open access journals) as well as conference proceedings and books. NICE provides access to numerous social science and medical journals such as *The BMJ*, as well as links to work published by think tanks, non-profit organizations, community health groups, and the government.[20] We searched for combinations of social prescribing, evaluation, and potential impact (Supplementary Box 1).

As mentioned above, the UK commonly uses the term 'social prescribing' to characterise an asset-based model of service delivery. Models such as Local Area Co-ordinators, community navigators, or Village Agents are also based on the social model of health to connect people to their communities and universal services, often through voluntary sector services. We chose to focus on the term 'social prescribing' to recognise and investigate the rise of literature and programming across the globe using this term.

Box 1. **Search strategy used in the systematic review of social prescribing programmes on loneliness**

(social prescri* AND lonel*) AND (interven* OR evaluat* OR program*)

(social prescri* AND connect*) AND (interven* OR evaluat* OR program*)

(social prescri* AND well-being) AND (interven* OR evaluat* OR program*)

(social prescri* AND wellbeing) AND (interven* OR evaluat* OR program*)

(social prescri* AND well being) AND (interven* OR evaluat* OR program*)

(social prescri* AND isolat*) AND (interven* OR evaluat* OR program*)

Inclusion Criteria and Data Collection

Two researchers screened the identified abstracts. Studies were eligible for inclusion if they included a programme or initiative designed to offer person-centred care. We included both peer-reviewed and grey literature reporting studies evaluating the impact of one or more interventions on one or more level of analysis: the person, the health and care system, or the community. When doubt or disagreement occurred on whether an article met the inclusion criteria, the article was moved to the next stage of screening. After initial screening, we appraised the studies to determine whether the programmes were designed to address loneliness either as a sole characteristic or as one of several. We excluded systematic reviews, studies that did not include an evaluation of an intervention, and instructional materials that gave advice on how to conduct social prescribing programmes.

Data Synthesis

The researchers independently assessed the full text of potentially eligible studies and extracted details of the studies into a database. The data collected were: country and area of the programme or intervention; aim of the programme; type of programme (signposting, light, medium, or holistic)[21]; whether programme was implemented via general practitioners (GPs),

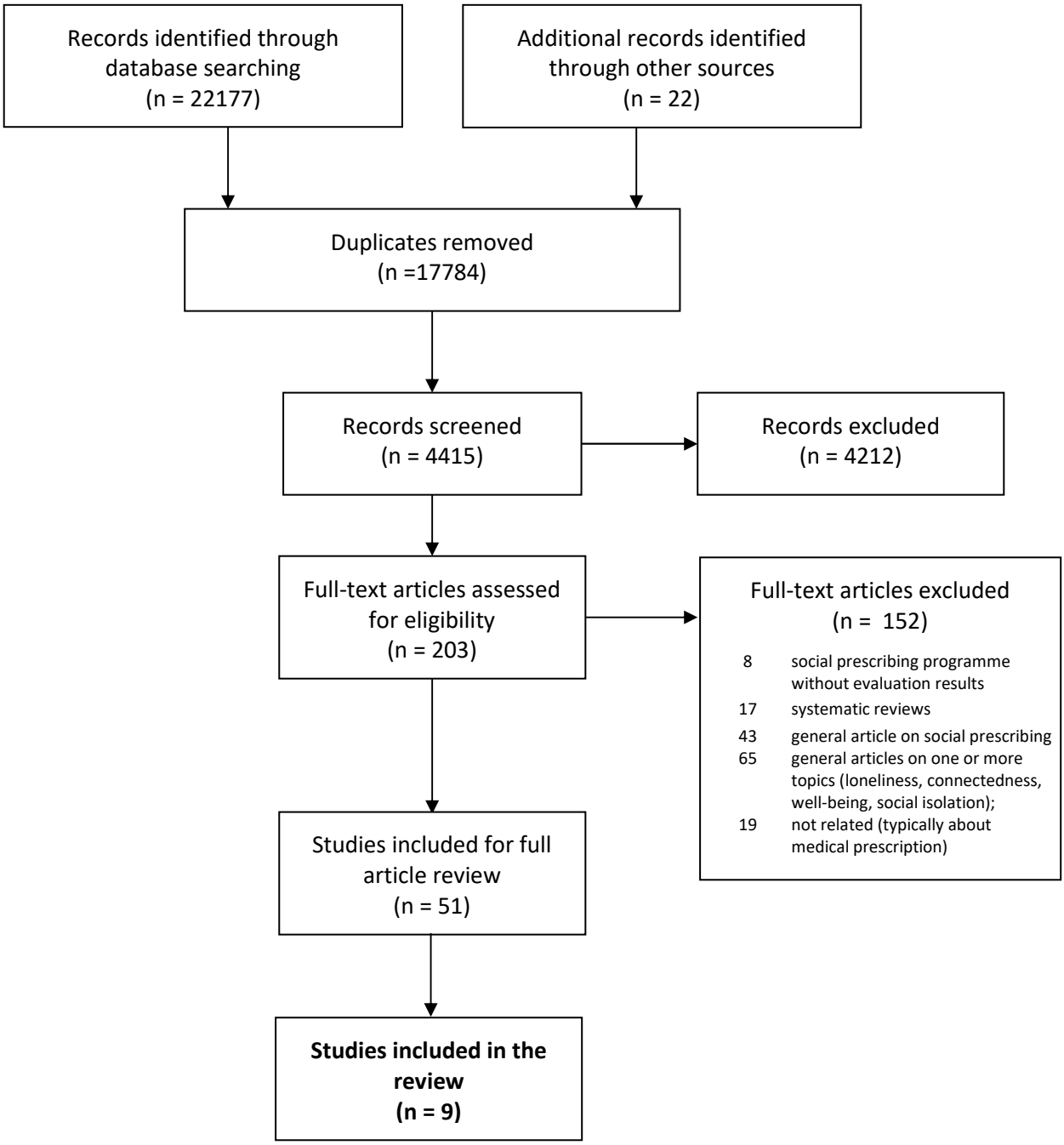
the voluntary sector, social care workers, or an integrated care system; study time frame and data collection period; study type and sampling method; description of study population (age, gender, location, health characteristics); sample size; analytical method; evaluation design (randomised, control group present, pre/post testing); and outcome/impact reported on the person, the health and social care system, and/or the community. The outcome of interest for the review was loneliness.

Results

Study Identification

Our search yielded 22199 references, of which 4415 were unique entries. Supplementary Table 1 illustrates our process. We excluded 4212 articles after screening titles and abstracts. Of the 203 references that potentially met the inclusion criteria, 152 were excluded for different reasons (Figure 1). Left with 51 studies, we excluded 42 because they were not designed to address loneliness. This process left 9 articles for review. Of these, 3 were designed to address loneliness as a sole characteristic, and 6 were designed to address loneliness in addition to social isolation, well-being and/or connectedness. Study results are highly heterogeneous, due to variability in sampling methods and the definition of loneliness. In view of this heterogeneity and the absence of confidence intervals, we do not attempt meta-analysis.

Figure 1. PRISMA flow diagram of the systematic review of social prescribing programmes designed to address loneliness across the globe



Study characteristics

Two publications are peer-reviewed articles and 7 are study reports. The 9 articles are based on 9 social prescribing initiatives conducted in the United Kingdom from 2014-2019. Eight of the studies include a total of 12359 study participants, plus at least 9000 in the ninth study that does not report exact numbers. Three of the studies include individuals aged 16 years or older[22,23], one has participants aged 29-85[15], 1 has participants aged 36-40[24], 1 has participants aged either under 30 or over 60, and 1 has participants aged over 65.[25] Two of the studies do not specify participants' ages.[26,27]

Six studies employ a pre/post design [15,22–26] and 3 report case studies with evidence taken at one point in time.[27–29] None of the studies consider a control group. Three studies conduct surveys only,[22,23,25] 2 conduct interviews only,[28,29] and 4 mix the two methods.[15,24,26,27] Five studies are conducted with social prescribing recipients only[22–25,29] while 4 also present information gathered from link workers, volunteers, and GPs who deliver the program.[15,26–28]

Four studies either do not distinguish between *loneliness*, *connectedness*, and *isolation*, or use the terms interchangeably.[25,23,24,28] Five studies define and justify how they measure loneliness.[30] Of these, 2 use the 8-item UCLA scale,[5,15,29] 1 uses the 3-item UCLA scale,[22,31] 1 uses the Adult Social Care and Public Health Outcome Framework,[25,32] and 1 uses the Hawthorne (2000) Friendship Scale.[24,33] Four either do not report how they assess loneliness[26–28] or do not report how their assessments were designed or chosen.[23]

Table 1. Systematic review of social prescribing programmes designed to implement loneliness across the globe, during 2000-2019 period

SP programme name **Location**	**Aim of SP initiative** **Sample characteristics** **SP programme participant characteristics**	**Date of SP program** **Evaluation research design, method** **Measures of loneliness**	**Impact**
Programme name: Dudley Community and Voluntary Services[23] **Location:** Dudley, UK	**Aim:** Connecting people, helping them find purpose in their lives. Reducing patient demand on GP and A&E. **N=** 2720 **Age:** 16 $^{+}$; 60% aged 64^{+}, 37% aged 24 – 63, with remaining 3% between 16-23. **Participants:** Patients that frequently attend their GP practice, are in top 2% at high risk of admission and any vulnerable person in need of non-clinical support as identified by their GP. Isolation was the highest reason for referral.	**Date:** September 2014 – August 2018 **Design and method:** Pre/post and case studies; surveys. **Measurement:** Isolation/Loneliness used interchangeably. Six indicators of social contact, no justification.	**Person:** Number of people feeling lonely and without enough contact reduced by 46 % (87-46). Number of people feeling un-lonely and with enough contact increased by 39 % (97-135). **System:** ***GP visits:*** Of the 43 GP practices, 6 months post-programme 8 practices had an increase of 63 additional consultations in total, 34 had a decrease of 2,125 in total, and 1 had no change. Most health care providers reported the key benefit of SP to be reduction in participants' isolation and loneliness. ***A&E*****:** 14% reduction in participants' attendance after 6 months,17% reduction after 12 months. ***Inpatient Admissions*** 14% reduction after 6 months, 15% reduction after 12 months. **Community:** Not assessed.
Programme name: Connecting Communities Programme[22] **Location:** 30 locations across the UK	**Aim:** To re-connect lonely or socially isolated people to their communities and provide emotional and practical support. To offer person-centred support to build self-confidence and resilience and help people forge social connections. **N=**over 9000 (no exact number). **Age:** 51% aged under 70. 82 % of the sample was classed as being lonely (UCLA scale) at the start of the program. **Participants:** Statutory health and care services such as the NHS (22%) and local authorities (19%), and others such as family and friends, private organisations, and self-referral.	**Date:** May 2017 – December 2018 **Design and Design and method:** Pre/post; surveys. **Measurement:** 3-item UCLA loneliness scale.	**Person:** 69% less lonely, 27% no change; 4% more lonely. Participants under 60 years old had more improvement in loneliness compared to those over 60. Greater impact on participants identified as being in a life transition (health issues, mobility limitations, new child, recent bereavement, divorce/ separation, retirement, children moving out) than on those not experiencing transition. **System:** Not assessed. **Community:** Not assessed.

Programme name: Social Cure[15] **Location:** English East Midlands, UK	**Aim:** Determine which social factors are central to understanding social prescribing, how social prescribing is experienced across participants and those who deliver the program, provide evidence base for impact of social prescribing and the consequences for patient's health care use. **N= Study 1:** 19 participants; 7 GPs referring participants; 3 health coaches and 6 link workers working with participants. **N= Study 2:** 630 participants at a 4-month follow-up after initial referral assessment. **Age:** 29–85 years (average Age: 60.4). **Participants:** Referred by GP or self-referral. 37% (n=7) multiple/complex needs including loneliness. 53% (n=10) weight loss + multiple needs including loneliness. Social Cure received 1483 referrals and supported approximately 650 patients.	**Date:** November 2017–February 2019 **Design and method:** Pre/post; Study 1: semi-structured interviews; Study 2: longitudinal survey. Considers participants' gender, age, relationship status, employment status and education levels and pre and post-programme levels of loneliness, community belonging and health care usage to test the pathway between the programme designed to address loneliness and health care usage outcomes. **Measurement:** 8-item UCLA Loneliness Scale (ULS-8).	**Person:** Loneliness and social isolation are key threats to public health and can be addressed through social prescribing. Interviews revealed that being a part of a group (family, community, volunteering group) and feeling that one belongs to a community helps people feel less lonely. Participants report that having a positive relationship with link workers has helped them build self-confidence, which in turn has helped them address their experiences of loneliness. Group membership alone is not directly and significantly related to primary case usage. Sense of community belonging and should be considered when examining this pathway. **System:** ***GP visits:*** GPs, health coaches, and link workers recognise the limitations of the 'traditional medical model', and express concerns over addressing loneliness with medical provisions. GPs view social prescribing as best model to address loneliness and reduce its negative health impacts. **Community:** Primarily focuses on understanding how community resources can be used to reduce loneliness and health care usage, and less so on impact of the programme on community.
Programme name: Museum on Prescription[29] **Location:** London and Kent, UK	**Aim:** To support the wellbeing of socially isolated and lonely older people by assessing impact of participation in 12 Museum on Prescription programmes. **N=**20 **Age:** 65-94 **Participants:** Selected from a pool of 155 individuals who self-identified as lonely or socially isolated.	**Date**: Not specified. **Design and method:** Case Study; Interviews, theory building using grounded theory analysis and inductive approach. **Measurement:** R-UCLA Loneliness Scale (Russell et al., 1980).	**Person:** Participants report feeling less lonely, more able to develop meaningful connections and friendships, greater confidence, more mental stimulation and more feelings of happiness. **System:** Not directly assessed. Theoretical discussion supports prevention-based initiatives. Offers framework for considering individual characteristics and life experiences when developing community-based later-life social interventions. **Community:** Not directly assessed. Theoretical discussion suggests that opportunities to develop new connections, engage in new experiences, and become more socially engaged could inspire participants to make a positive change in their own communities.

Programme name: Not reported[26] **Location:** Unnamed local authority area, UK	**Aim:** Pilot was developed with an aim to discover sustainable and strategic approach to commissioning services that supported primary care objectives. The aim of the evaluation was to examine the changes in the health care use and changes in participant's well-being. **N1=** 108 (consists of 42 opted to participate in a "pump-priming" component 62 opted out of "pump-priming" portion **N2**=280 participants from pilot only assessed for their well-being. **Age:** not specified. **Participants:** Referred by GP.	**Date:** Not specified**.** **Design and method:** Pre/post; Surveys and interviews with 44 carer, commissioners, providers **Measurement:** Not provided.	**Person:** Quotations evidence a reduction in loneliness and social isolation. **System: *A&E*:** 20% reduction in number of visits in 12-month post-participation period. Participants in pump-primed service experience greater reduction in this service demand compared to those who opted out – an average difference of 0.22 attendances per participant. ***Inpatient admissions:*** 21% reduction in the number of admissions in 12-month post-participation period. Participants in pump-primed service experience greater reduction in inpatient service demand compared to those who opted out – an average difference of 0.10 attendances per participant. ***Outpatient appointments:*** 21% reduction in the number of admissions in 12-month post-participation period. Participants in pump-primed service experience greater reduction in outpatient service demand compared to those who opted out – an average difference of 0.31 attendances per participant. **Community:** Reports that unspecified number of participants became volunteers engaged in wider voluntary and community activity once pilot concluded.
Programme name: Doncaster Social Prescribing[25] **Location:** Doncaster, UK	**Aim:** To help with the effects of long term physical and mental health conditions. **N=**1054 **Age:** more than half of the sample 60 aged and over, around a quarter over 80, and the rest were 30 years and under. **Participants:** Referred by GP, community nurses and pharmacists.	**Date:** 08-2015—06-2016 **Design and method:** 254 participants completed an intake questionnaire and either 3 or 6-month follow-up (**n=215**). Pre and post-programme comparisons. **Measurement:** Adult Social Care and Public Health Outcome Framework (ASCOF/PHOF) is used to assess levels of social isolation and loneliness (used interchangeably).	**Person:** Participants feel less isolated or alone post-participation, "feeling like they had someone they could turn to". No direct evidence or discussion on the loneliness measure that was administered. 19% increase in people having "enough social contact". **System: *GP visits:*** 68% report reduction in GP appointments; 15% report increase; 17% no change. ***A&E:*** 7% report reduction in attendance; 1% report increase; 92% no change. ***Inpatient Admissions:*** 9% report reduction in stays; 3% increase; 90% no change. ***Social Care:*** 3% report reduction in contacts with social worker; 97% report no change (3% of sample reported having a contact with social services 3 months prior to start of the program). **Community:** A non-specified number of volunteers have found employment since being involved the project. 88% report greater awareness of the services and support available.

Programme name: Age UK's Cascade Training[27] **Location:** Across England, UK	**Aim:** To evaluate the effectiveness of the consultancy support, training, and training packs. To engage older people in activities to improve health and well-being, reduce the demand for health and social care, and help delivery organisations to train volunteers to engage hard-to-reach, older people. **N=** 5368 older people; 1382 volunteers; 75 delivery organisations **Age:** Not reported. **Participants:** Not reported.	**Date:** 2013-2015 **Design and method:** interviews, surveys, focus groups, documentary analysis, follow-up with organisations' data collection teams. **Measurement:** Not reported.	**Person:** Service delivery staff report positive impact of social prescribing on loneliness, recommended that training manuals include measures to address loneliness and social isolation. 95% of staff report ability to support more older people as a direct result of the program. 58% of volunteers report positive impact on their own mental health and well-being. **System:** Positive impact on care home services, improving residents' quality of life. **Community:** Delivery organisations report expanding services and creating new activities due to program. Programme brought together housing associations, sheltered housing and care home staff, health care providers, faith-based organisations, and local charities, which has a positive impact on community engagement. Participants report interest in helping others and sharing information, thereby expanding community capacity to respond to challenges.
Programme name: Social Prescribing Pilot[28] **Location:** Rotherham, UK	**Aim:** Assist GPs to meet the non-clinical needs of patients with complex long-term conditions. **N=**559; n=451 (6 months post-referral) n=108 (12 months post-referral). **Age:** 87 % aged 60-69; 75% 70 -79; 47% 80-89; 10 % aged 90 and over. **Participants:** GP-led Integrated Case Management Teams referring patients via GPs to Community and Voluntary Services	**Date:** 09-2012—04-2014 **Design and method:** Case studies; Interviews with participants (17) and with individuals delivering service (10). **Measurement:** none.	**Person:** Participants report feeling like they belong more to a community and that they have enjoyed more social contact, with researchers drawing conclusions on reduction in loneliness and isolation. **System: *GP* visits:** not reported. ***A&E:*** 38% of participants report a reduction in attendance 12 months post-referral, 25% report reduction 6 months post-referral. ***Inpatient Admissions****:* 40% reduction 12 months post-referral, 24% 6 months post-referral. ***Outpatient admissions:*** 47% reduction 12 months post-referral, 30% 6 months post-referral. Impact greater for participants referred to other funded services (48% reduction of inpatient admissions, 43% in A&E visits, 12 months post-referral). **Community:** Small organisations without previous access to NHS funding were able to access it for the first time, which enhanced their provision and improved their sustainability.
Programme name: Wellspring Wellbeing Programme[24] **Location:** Bristol, UK	**Aim:** To connect, be active, take notice, keep learning and give. **N=** 128 **Age:** 36-40 **Participants:** Referred by GP.	**Date:** 05-2012—04-2013 **Design and method:** Pre/post; Interviews and questionnaires. **Measurement:** Hawthorne (2000) Friendship Scale and Wellspring Wellbeing Questionnaire to assess loneliness and social isolation.	**Person:** Number of socially isolated (lonely) Friendship Scale measure decreased from 67.8% (n=59) to 33.4% (n=15) 3 months post-program. **System: *GP* visits:** 60% of participants reduced GP attendance rates 12 months post-intervention, 26% no change, 14% increase. **Community:** Not assessed.

Impact on the individual

All 9 studies report positive impact on the individual social prescribing participant. Impact areas in addition to loneliness include health care service usage[15,23–29] and social care service usage.[34] Two studies report individuals expressing in interviews that they feel less lonely/more connected to others[28,29] and 2 report changes in loneliness scores across the participant sample.[22,23] The highest impact reported is 69% of individuals feeling less lonely (UCLA 3-question version).[22]

Two of the studies examine the extent to which age might impact social prescribing programme implementation and loneliness.[15,22] One of these studies reports greater improvements in loneliness for individuals under 60 years of age in comparison to those aged 60 and above.[22] One examines age as a contextual factor determining the pathway between a social prescribing programme and health care usage outcomes.[15]

Impact on the health and care system(s) and Community

Evaluation of the impact on health and care services is primarily focused on documenting numbers of GP visits, A&E visits, inpatient admissions, and outpatient admissions. Three studies report GP visit reduction ranging from 20%-68%.[23,24,25] Two studies report an increase in GP and A&E visits following programme implementation.[25,23] One study reports a 3% reduction in the number of contacts participants had with a social worker following programme implementation.[25]

One study links measures of community belonging to system and individual health measures. It shows that being a member of a group (family, community, volunteering) positively predicts one's sense of community belonging, which in turn predicts reduced loneliness and reduced health care usage.[15] This study also reports that GPs view social prescribing as the best model to address loneliness and its negative impact on health.[15]

The 9 studies diverge in how they assess impact on the community. One study reports greater participant awareness of available services and support.[25] Two report organisations expanding their service capacity.[28,27] One reports a greater sense of community connectedness.[15] Five studies do not address programme impact on the community.

Discussion

Nine studies in this systematic review gauge the effects of social prescribing on loneliness. Overall, social prescribing models designed to address loneliness have been largely viewed as helpful by both participants and service providers. Participants report feeling less lonely and more connected to others. Participants feel good about their relationship with a link worker and appreciate the service delivery model. GPs, volunteers and delivery service members view social prescribing as a valid model to deliver comprehensive, people-centred and integrated care, and some GPs view social prescribing as the best possible approach to successfully address loneliness. The positive impact appears as a large percentage of reductions in GP, A&E, inpatient and outpatient services following programme implementation. However, the variability and paucity of evidence and lack of control group comparisons make it difficult to draw conclusions regarding the impact of the social prescribing model on loneliness in particular, or on public health in general.

Quality of Impact Evidence

Largely insufficient supporting evidence makes it difficult to quantify the impact of these programmes and interventions. The 9 studies primarily rely on a pre/post study design, lack control group comparisons and neglect to consider the potential influence of other conditions on the outcomes of interest. Study participants are typically selected via GP referrals, a selection that is not systematic or explained. In addition, several studies do not provide a clear definition or a measure of loneliness and often use social isolation and loneliness interchangeably.

Despite programme participants reporting various health and social care needs, only one study examines social care outcomes.[25] Because these initiatives are designed to address loneliness, the lack of attention to social care usage should be troubling. Without knowing the extent to which social service usage is affected, it is impossible to know whether social prescribing is meeting individual needs, changing referral rates, or yielding cost savings. We therefore have little to learn from these studies regarding the relationship between loneliness and social care usage, and even less regarding how the social prescribing person-centred approach might affect that relationship.

Because social prescribing programmes are meant to deliver person-centred care, it is natural to be concerned with the impact of such programmes on individuals. Since person-centred care is intended to account for social relationships and overall community connectedness, however, the impact of social prescribing on communities should also be considered. It is therefore surprising how few of the existing studies examine the relationship between social prescribing programmes and the communities in which they operate.

The National Health Service (NHS) England has proposed a more systematic approach to capture community impact, which they assert should be done by assessing the capacity of community groups to manage social prescribing referrals.[13,8] Given that community connectedness has also been linked to economic productivity, crime rates, civic behaviour, and empowerment, these are also community attributes wherein social prescribing programme impact could be measured.[35]

Implications for research and/or practice

A significant contribution of the social prescribing approach to person-centred care is that it allows services users and providers to co-design a model of care tailored to individual needs. The relationship participants and social prescribers develop over time is a potentially useful way for individuals to become less lonely, reconnect with their community, and improve

their physical and mental wellbeing. The social prescribing model has the capacity to shift the focus from curative care to health promotion and disease prevention, and to thereby reduce pressure on health and care services.

Yet for social prescribing models to reach their full impact potential, the quality of evidence must improve. Studies should develop and file clear design protocols specifying pathways to impact and outcomes to be measured before programme implementation begins, accounting for potential intervening and contextual factors, and striving to achieve measures for comparative control groups. Employing good practices at both the implementation and evaluation stages will benefit participants in person-centred care systems as well as researchers who engage in the comparative study of public health.

Conclusion

Our study broadens current literature in two key respects. First, we are one of the first reviews to utilise NHS England and Drinkwater et al guidelines[13,8] to examine evidence of social prescribing impact on the individual, the community, and the health/care system. Second, we are the only review to our knowledge to assess evidence of social prescribing specifically as it addresses the 'loneliness epidemic'. Our findings show that that individuals and organisations view social prescribing initatives as useful and necessary to tackle loneliness. However, given the wide variation in social prescribing interventions and how/whether their impact is investigated, it is difficult to draw definite conclusions regarding the effectiveness of these initiatives on individuals, communities, and health/care systems in general.

Similar to previous social prescribing research, our review highlights a fundamental need for consensus on what constitutes good impact evidence with respect to social prescribing.[16,22,14,8] We demonstrate a gap between social prescribing design and social prescribing evaluation, and illuminate a lack of impact assessment in relation to social care. We also note a lack of consensus on what the impact of a person-centred approach such as

social prescribing should be. Social prescribing is presented as a person-centred, holistic, integrated approach to addressing individual needs, meaning impact on the whole person, including social service usage, should be studied.

Futhermore, we note a need for methodological and conceptutal clarity in relation to loneliness and related concepts such as social isolation. Being able to distinquish between these related phenomena is an essential first step for mapping out needs and services required to help lonely individuals, who are likely to feel alone even in a crowd. Improved impact evidence is needed to know best how to reach lonely individuals and address complex health and social needs that emerge as a result of loneliness. In particular, we note the need to study links between an individual's level of loneliness and one's health and social care usage, as well as the impact of these individual attributes on one's wider community.

We are compelled to point out that the COVID-19 pandemic has changed both the way person-centred care such as social prescribing is and can be delivered, and the ways in which such programmes fit into the larger health picture. In particular, much social prescribing in the UK is now being delivered via digital tablet, telephone, and email, with link workers connecting participants to social outlets virtually, helping to coordinate prescription delivery, and providing ways for people to connect to their communities while observing pandemic-related restrictions.[36] Importantly, social prescribing has also reportedly eased much of the burden GPs expected to encounter during pandemic management, as GPs have been able to refer patients to social prescribing services based on telephone consultations, without causing anyone to physically attend a GP appointment.[37] It thus appears that social prescribing is filling the role it was originally intended to have. Systematic and rigorous evaluations to this effect are long overdue.

Limitations

Our review includes the most recently available evidence on social prescribing. All of the studies were conducted from 2014-2019 in the UK. Although our search was not limited geographically or to this date range, our findings suggest that the 'social prescribing' nomenclature is not utilised regularly outside the UK, Canada, and a few select places, and/or that social prescribing programmes are rarely assessed in terms of their impact on loneliness. Our work also demonstrates that the UK initiative to deliver person-centred care via social prescribing can only be based on evidence from the past five years.

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Conflicts of Interest

There are no potential or perceived conflicts of interest pertaining to this work.

Ethics and Patient Consent

We confirm that Ethical Committee approval was sought where necessary and is acknowledged where relevant within the text of this manuscript.

We confirm that guidelines on patient consent have been met and any details of informed consent obtained are indicated within the text of this manuscript.

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