

Original Article

Equal, equitable or exacerbating inequalities: patterns and predictors of social prescribing referrals in 160 128 UK patients

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Background

Social prescribing is growing rapidly globally as a way to tackle social determinants of health. However, whom it is reaching and how effectively it is being implemented remains unclear.

Aims

To gain a comprehensive picture of social prescribing in the UK, from referral routes, reasons, to contacts with link workers and prescribed interventions.

Method

This study undertook the first analyses of a large database of administrative data from over 160 000 individuals referred to social prescribing across the UK. Data were analysed using descriptive analyses and regression modelling, including logistic regression for binary outcomes and negative binomial regression for count variables.

Results

Mental health was the most common referral reason and mental health interventions were the most common interventions prescribed. Between 72% and 85% of social prescribing referrals were from medical routes (primary or secondary healthcare). Although these referrals demonstrated equality in reaching across sociodemographic groups, individuals from more deprived areas, younger adults, men, and ethnic minority groups were reached more equitably via non-medical routes (e.g. self-referral, school, charity). Despite 90% of referrals leading to contact with a link worker, only 38% resulted in any intervention

being received. A shortage of provision of community activities – especially ones relevant to mental health, practical support and social relationships – was evident. There was also substantial heterogeneity in how social prescribing is implemented across UK nations.

Conclusions

Mental health is the leading reason for social prescribing referrals, demonstrating its relevance to psychiatrists. But there are inequalities in referrals. Non-medical referral routes could play an important role in addressing inequality in accessing social prescribing and therefore should be prioritised. Additionally, more financial and infrastructural resource and strategic planning are needed to address low intervention rates. Further investment into large-scale data platforms and staff training are needed to continue monitoring the development and distribution of social prescribing.

Keywords

Social prescribing; inequalities; mental health; well-being; social determinants.

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Background

Social determinants of health (SDOH), including income, education, employment, housing, childhood experience, social support, have long been demonstrated to play an important role in determining health outcomes.^{1–3} SDOH are estimated to account for 47% of health outcomes compared with just the 16% attributed to clinical care.¹ Social prescribing is proposed as a way to address SDOH and improve health and well-being outcomes.⁴ Although social prescribing has been advocated and practised since 1980s, not until the past decade has it been widely recognised and implemented across the UK.⁵ Social prescribing involves linking patients with non-medical forms of support in their local communities, such as physical activity, social support, mental health support, financial advice, housing support and so forth.⁶ The predominant social prescribing model involves a healthcare professional referring patients on to a link worker, community connector, community navigator or health trainer, who then works with the patient to develop a personalised care plan that connects them to community support and interventions.⁴

Evidence of mixed quality suggests that social prescribing helps with a wide range of problems, including supporting mental health, well-being and health behaviours.^{7–10} Preliminary evidence also suggests that social prescribing either reduces healthcare demand and costs or moves healthcare demand to primary care services rather than more expensive tertiary care,

and demonstrates a favourable return on investment.¹¹ Given its potential, NHS England has committed to tripling the number of link workers by 2036/37.¹² However, despite the promises of social prescribing, national evaluations remain scant. Instead, evidence on social prescribing is often limited to small-scale local evaluations and homogenous patient groups.^{13–16} Reviews into the use of social prescribing suggest that referrals are not equitable, with those who are under 16 years of age, male and those from ethnic minority backgrounds being less likely to be offered social prescribing.¹⁴ There are even concerns that social prescribing is not effective for addressing social inequalities – it cannot address upstream determinants of inequalities and could even be provided disproportionately more to individuals who are less disadvantaged.^{17–19}

To try and better understand the national picture of social prescribing, studies have begun to explore patterns of social prescribing in electronic patient health records. For example, the Social Prescribing Observatory has analysed administrative data on social prescribing referrals from over 1800 general practices in England, showing a rapid increase in referrals since 2020, especially during the COVID-19 pandemic.²⁰ Significant variation in rates of referrals across England has been identified, but with no substantial variation in referral rates by gender, ethnicity or neighbourhood deprivation.²⁰ Although findings such as this are of great importance, there are limitations.

First, social prescribing is not limited to general practitioner (GP) referrals, with referrals also made in secondary care,²¹ through voluntary and community sector organisations (VCSOs), via statutory services (e.g. education, social care), self-referral and more.²² Currently, the demographics of social prescribing referrals via non-medical pathways are largely unknown. Moreover, given that certain demographics, particularly people from ethnic minority backgrounds, are less likely to report positive experiences accessing GP services²³ and young people report not wanting to access GP support for their mental health,²⁴ it is important to establish if such groups are accessing social prescribing via these alternative pathways.

Second, there is very limited information available in SNOMED codes used by GP practices, and these can include inconsistent coding, alongside poor recording of wider determinants of health leading to conclusions that they cannot be used to assess equity of referrals.^{20,25} Indeed, little is known about if social prescribing referrals lead to any contact with link workers and actual interventions, why people are referred to social prescribing, what interventions are prescribed, and what aspects lead to a successful, engaged social prescribing referral.

Third, national social prescribing research has largely relied on data in England. How social prescribing is implemented in other devolved countries in the UK is unknown.

Aims

The growth in cloud-based referral-management platforms that allow multistakeholder data input about social prescribing pathways and integrate with primary care, secondary care and social care systems is presenting new opportunities for understanding how social prescribing is working and who it is reaching.²⁶ However, data from these platforms have not been properly capitalised on. Therefore, the present study was initiated to address the knowledge gaps outlined above by using administrative data from one such social prescribing platform: Access Elemental.

We aimed to explore demographic characteristics of people who were referred to social prescribing, referral reasons, number of contacts with link workers and interventions being provided. We also aimed to explore whether these rates differed between medical and non-medical referral pathways and whether there were any early indications of differences in social prescribing models across UK countries. Overall, these analyses aimed to provide a more comprehensive understanding of social prescribing roll-out across the UK, in particular for psychiatrists, with important implications for future policy, service and workforce planning.

Method

Data

Data were administrative records obtained from Access Elemental,²⁷ a digital social prescribing platform used by health and social care professionals, community development workers and other service providers to keep track of social prescribing activities and their impact from the point of referral. As a paid service, Elemental is the most widely adopted social prescribing platform in the UK to date. It serves a population of over 20 million people across England, Scotland, Wales and Northern Ireland, and is used by over 37 740 health and care professionals and 4405 social prescribers. To date, Elemental has recorded over 2.1 million contacts between patients and social prescribing teams, including over 438 000 referrals.

Although Elemental does not comprise a random sample of sites or patients in the UK, it does have good geographical coverage in

England (45% of integrated care boards), Wales (57% of Welsh university health boards) and Northern Ireland (80% of health and social care trusts), alongside smaller representation in Scotland (13% of Scottish health and social care partnerships). Further, because of the existence of multiple IT systems in primary care in the UK, it is typical for research involving primary care to only involve a proportion of the whole population.²⁸

Elemental collects detailed information tracking individuals' social prescribing journeys, including referral source, referral reason, appointment with link worker, prescribed interventions and so forth. They also collect core demographic information, such as gender, age, ethnicity (optional). Elemental data are available since January 2017, and this study used data up until November 2022. In this time, there were 201 037 social prescribing cases from 169 818 unique individuals as some individuals had more than one case (<14%). In total, 94.3% of individuals provided valid postcodes ($N = 160\,128$), allowing for data linkage with publicly available geographic information (see Supplementary Figure 1, available at <https://doi.org/10.1192/bjp.2024.141>). Supplementary Figure 2 shows the distribution of social prescribing service users across local authorities in the UK. Supplementary Figure 3 shows the number of social prescribing service users over time in the UK and across different countries. Most cases (88%) occurred between 2020 and 2022 in the UK, after the formal launch of the scheme as part of the NHS England Long-Term Plan.²⁹ The research project was approved by the UCL Research Ethics Committee (12467/006).

Measurement

Referrals sources were used as binary medical versus non-medical referrals. Medical referrals were mainly from GP practices, but also secondary care staff such as occupational therapists, physiotherapists, discharge teams and hospital-based social workers. Non-medical referrals could come from educational establishments, local authorities, VSCOs, housing associations, self-referral and so forth.

Referral reasons were coded in >600 categories and we grouped them into seven domains:

- mental health and well-being;
- physical health and well-being;
- social relationships (e.g. loneliness and social isolation);
- lifestyle (e.g. exercise, diet, drinking, smoking);
- employment, education and skills;
- practical support (e.g. housing, finance, legal); and
- other reasons (see Supplementary Table 1).

The grouping was done by two of the authors independently and any disagreement was discussed and resolved by consensus. These domains were non-mutually exclusive, allowing people to have more than one referral reasons.

Once people were referred to social prescribing, they were connected to a social prescribing link worker or a professional in a similar role (see Supplementary Figure 4). We were interested in how many contacts with a link worker were made related to each social prescribing case, referred as the number of contacts.

Contacts with link workers might or might not lead to individuals being connected with suitable community resources, referred to as interventions in the present study. The intervention variable concerns if any prescription was issued by the link worker and what activities it entailed, without addressing service attendance or engagement. To be consistent with referral reasons, interventions (>400 categories) were also grouped into seven non-mutually exclusive domains (Supplementary Table 1):

- (a) mental health and well-being;
- (b) physical health and well-being;
- (c) social relationships;
- (d) lifestyle;
- (e) employment, education and skills;
- (f) practical support; and
- (g) other support.

Sociodemographic covariates included gender (female, male, other), age (0–17, 18–29, 30–39, 40–49, 50–59, 60–69, 70–79, ≥80 years), urbanicity (urban, rural) and Index of Multiple Deprivation (deciles: 1, most deprived to 10, least deprived). Both urbanicity and area of deprivation were derived via postcode linkage to urban rural classification and Index of Multiple Deprivation at lower layer super output area in each country. Although ethnicity was available, as an optional measure it had a high missing rate (>83%), which was excluded from most analyses.

Statistical analysis

Descriptive analyses were undertaken to compare the sociodemographic profiles of people referred to social prescribing services across UK countries, the percentages of different referral reasons, types of interventions received, and to what extent interventions matched to referral reasons. Regression analyses were conducted to assess variables that were associated with social prescribing services stratified by country, excluding Northern Ireland because of a large proportion of missing data (82.9%) on referral route (Supplementary Table 2). Referral route and interventions received were analysed using logistic regression models. The number of contacts with link workers was modelled using negative binomial regression to account for overdispersion. All models controlled for sociodemographic covariates. For individuals with more than one social prescribing case, the most recent record was used in regression analyses. Missing data were excluded in descriptive analyses but imputed in regression models by using multivariate imputation by chained equations, including all covariates (imputed datasets = 30). All analyses were conducted in Stata V18.

Results

Demographic profiles

Among 160 128 unique individuals referred to social prescribing, 141 011 people (88.1%) lived in England, 9613 (6.0%) in Wales, 2374 (1.5%) in Scotland and 7130 (4.5%) in Northern Ireland. This proportion was largely similar to national statistics, with a slight overrepresentation of people from England (Supplementary Table 3).

There was an overrepresentation of females being referred to social prescribing in all countries, especially in Northern Ireland where 72.8% were females (Fig. 1(a), Supplementary Table 4). Most service users (78.0–87.2%) were aged 18–69 years in each country (Fig. 1(b)). However, Wales (5.2%) and Northern Ireland (11.5%) had a higher percentage of people aged under 18 years. Scotland had a higher percentage of people in their 60s (32.7%). Only 5.6% of social prescribing service users lived in rural areas in England, much lower than the rural population estimate of 17.1% (Fig. 1(c)). However, this percentage was substantially higher in Wales (24.1% v. 20% rural population estimate), Scotland (27.2% v. 17% rural population estimate) and Northern Ireland (35.5% v. 36% rural population estimate). Social prescribing service users were more likely to live in deprived areas (Fig. 1(d)). In the general population, roughly 10% of people live in each deprivation decile in each country. In England, 45.9% of people referred to social prescribing lived in the top three most deprived areas, 45.8% in

Wales and 63.8% in Northern Ireland. However, in Scotland, service users were more evenly distributed across deprivation deciles, except for the top two least deprived deciles.

Referral routes

Most social prescribing cases were referred from medical routes in England (85.3%), Wales (72.3%) and Scotland (84.8%). The percentage was much lower in Northern Ireland (22.8%), possibly because of a high missing rate (82.9%, see Supplementary Table 2). Supplementary Table 5 compares sociodemographic profiles of people referred from medical and non-medical routes. Notably, social prescribing service users referred via medical routes were more evenly distributed across ethnic groups, and deprivation deciles; whereas those from non-medical routes were more balanced across gender and urbanicity groups.

All sociodemographic factors were related to referral routes, but estimated associations differed across countries (Fig. 2, Supplementary Table 6). Key country differences are summarised in Table 1.

Referral reasons

The most common referral reasons were related to mental health and well-being (33.5%), followed by practical support (26.1%) and social relationship (22.5%); whereas employment- or education/skills- (10.3%) and physical health- (16.4%) related reasons were relatively less common (Fig. 3(a)).

Most social prescribing cases (69.7%) reported reasons from a single domain only. About a third reported reasons from more than one domain. As shown in Fig. 3(b), 60.3% of cases referred for mental health reasons also had reasons from other domains, 52.3% practical support, 63.4% social support and 50.7% physical health. Supplementary Figure 5 shows differences across countries. Physical health was among the most common reason in Wales, Scotland and Northern Ireland. Lifestyle-related reasons were also common in Scotland and Northern Ireland.

Contacts with link workers

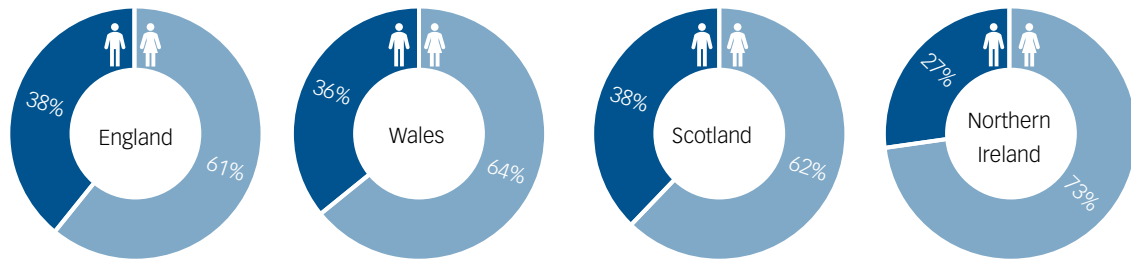
After being referred, each case would be assigned to a link worker who typically initiated contacts. Approximately 90% of social prescribing cases had at least one contact with a link worker. Among cases without any recorded contact with a link worker, 53.1% were active cases who might yet be contacted. On average, there were 4.2 contacts per case (s.d. = 6.8, median 2). Among all the contacts, 11.5% were unsuccessful, 31.6% having reached clients with specific outcomes (e.g. appointment arranged, referral made, sign-posted, declined service), and 56.9% unclear (e.g. contact made, email/message left). Most of contacts (81.2%) were made via phone, video, email or letter, only 6.3% face to face, and another 12.6% unspecified. The contacts typically lasted for 0–15 min (59.4%), but some were longer (Supplementary Figure 6).

People referred from a medical route had a higher number of contacts across all countries (Supplementary Figure 7 and Table 7). Gender, age, urbanity and area deprivation were also associated with the number of contacts, but some heterogeneities were founded across countries (Table 1).

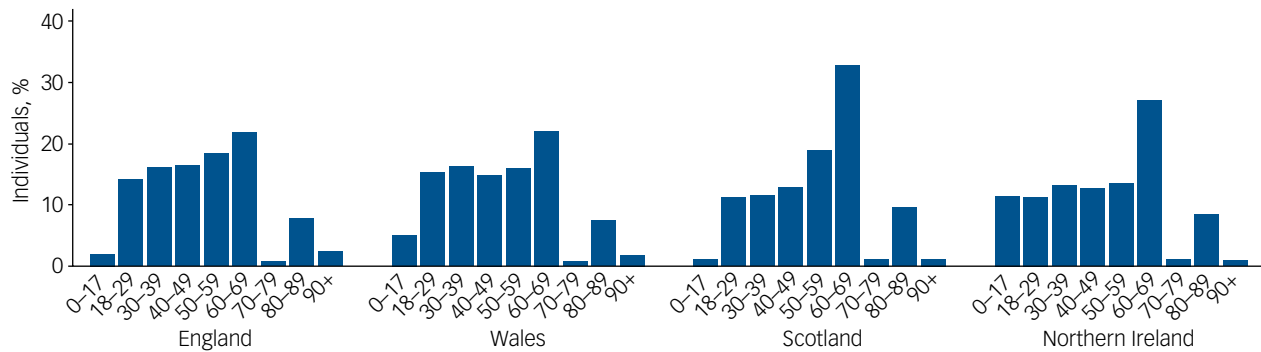
Interventions

Among 201 037 cases, 38.3% ($n = 76\,992$) had at least one intervention prescribed. Intervention prescription rates were 35.4% in England, 33.0% in Wales, but much higher in Scotland (51.9%) and Northern Ireland (74.9%). Referral routes, number of contacts, referral reasons, age and urbanity were associated with the odds of having an intervention prescribed (Supplementary Figure 8 and

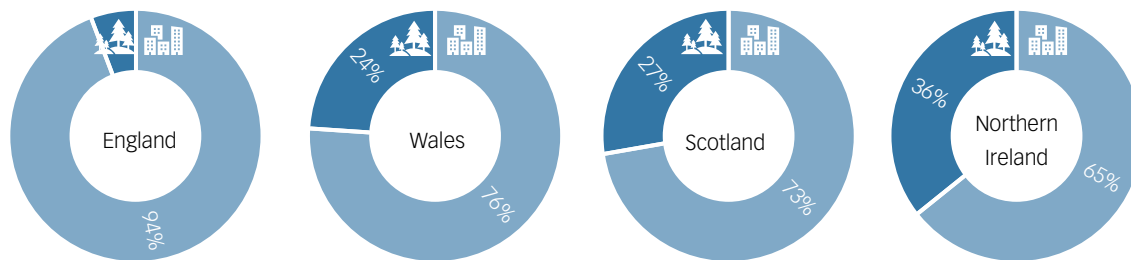
(a) Gender



(b) Age groups



(c) Urbanicity



(d) Index of Multiple Deprivation deciles

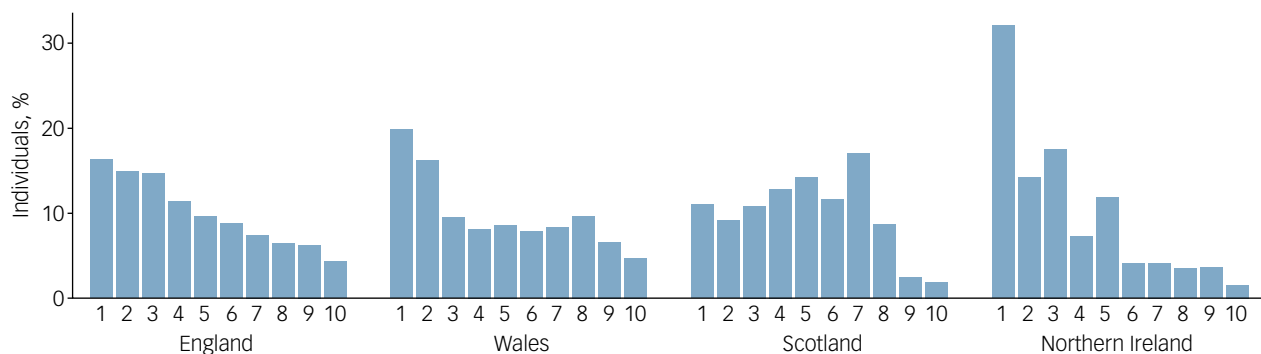


Fig. 1 Sociodemographic characteristics of unique individuals by country. (a) Gender; (b) age groups; (c) urbanicity; (d) Index of Multiple Deprivation.

Table 8). But there were notably differences across countries (Table 1). For example, urban residents were more likely to have an intervention in England, but less likely in Wales and Scotland than rural residents.

For social prescribing cases with at least one intervention ($n = 76\,971$), there were 165 595 prescribed interventions (2.2 per

case). Most of these interventions (91.7%) were recorded as free to access. Only 6.3% had out-of-pocket costs and another 1.9% were subsidised (Supplementary Table 9). England and Wales were similar in that >95% of interventions were free. But only 50.3% of interventions were free in Scotland and 78.7% in Northern Ireland (Supplementary Table 9).

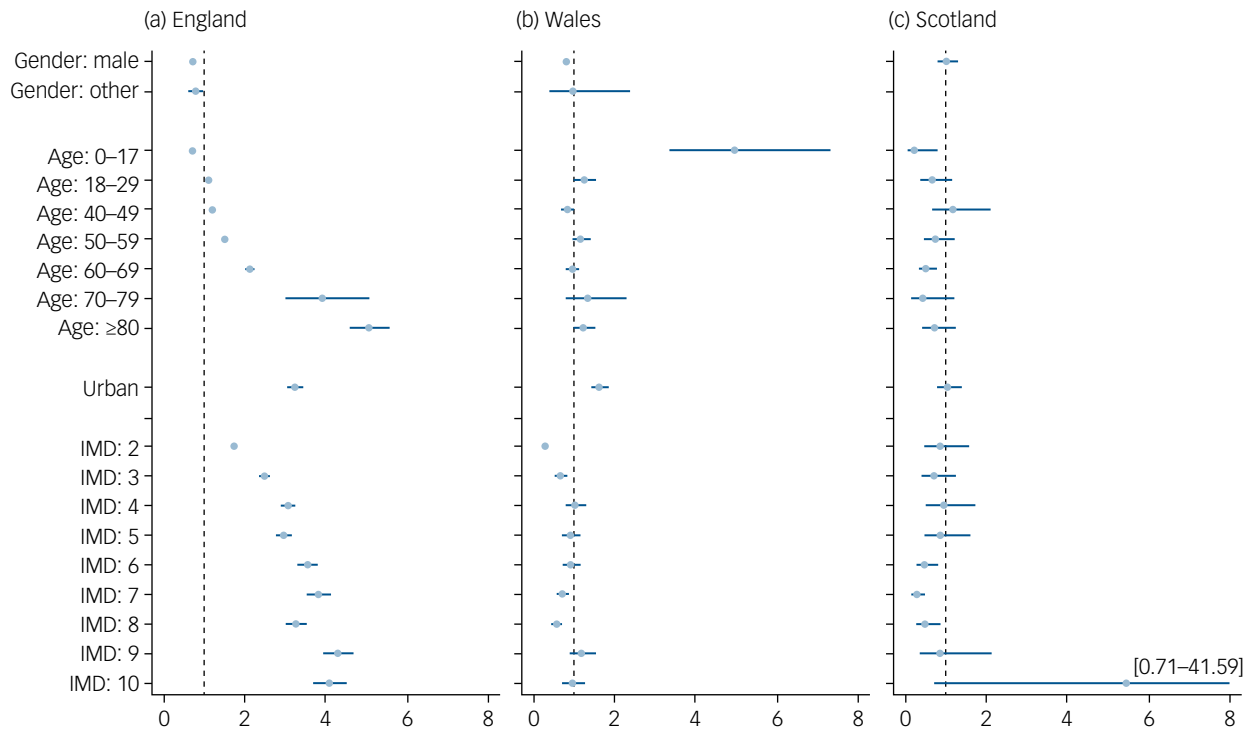


Fig. 2 Odds ratios and 95% confidence intervals from the logistic regression model on being referred via medical routes by country. (a) England; (b) Wales and (c) Scotland. IMD, Index of Multiple Deprivation.

Most prescribed interventions (82.9%) had information on service domains, with 62.9% of these interventions falling under one service domain and 37.1% with more than one domain. As shown in Fig. 4(a), around 43.8% of social prescribing cases had an intervention related to mental health and well-being, followed by social relationships (36.3%), lifestyle (28.7%), employment, education and skills (25.4%), practical support (24.6%), physical health and well-being (19.0%) and other support (12.7%). Linking back to referral reasons, Fig. 4(b) shows the percentage of cases with an intervention prescribed by referral reasons in the UK. In total, 69.3% of cases who were referred because of mental health reasons had no intervention, 67.6% for physical health, 71.0% for social relationship, 65.9% for lifestyle, 70.5% for practical reasons, 72.8% for other reasons. The percentage of cases with no intervention was much lower for those referred for employment-related reasons (37.1%). Among cases who did have an intervention, those who were referred for lifestyle-related reasons were more likely to have an intervention matched to these reasons (81.7%), followed by employment (76.1%), mental health (70.3%), practical support (60.5%) and social relationships (60.1%) reasons. Cases for physical health (32.7%) or other reasons (14.9%) were less likely to have a matched intervention, but the patterns differed across countries (Supplementary Figure 9). For instance, 35.9% of cases who were referred because of lifestyle reasons had no intervention in Scotland, compared with 20.8% in Northern Ireland. Moreover, only 18.6% of cases with social reasons had no intervention in Northern Ireland.

Discussion

Main findings

This study is the first UK-wide study, to the best of our knowledge, on social prescribing referrals in the UK, with fine details on service users' sociodemographic profiles, referral routes, reasons, contacts

with link workers and actual interventions and their costs. Although relying on data from just one data management system, it provides importance evidence to triangulate with previous research using GP records and smaller-scale evaluations by providing (a) simultaneous data on both medical and non-medical referral routes, allowing the first direct comparison of population characteristics, (b) detail not just on whether a referral was made but the process by which the referral pathway was carried out and (c) a large sample size with data over several years.

Most notably, it highlights that mental health is the leading cause of referrals across the UK. It also systematically investigates the large-scale differences between medical and non-medical social prescribing pathways across the UK and provides early data on differences across the devolved countries in the UK. Understanding of the status-quo of social prescribing in the UK is crucial for identifying its future directions and supporting the roll-out of social prescribing as a public health intervention around the world.

Interpretation of the findings

As expected, the medical pathway is the dominant referral route in the UK. The seemingly exception of Northern Ireland is likely to be driven by missing data. The medical pathway has its merits. Everyone in the UK is entitled to free healthcare, and most people (if not all) are registered with a GP. This may explain why social prescribing service users were more evenly distributed across deprivation deciles and there was a higher percentage of people from ethnic minority backgrounds among people from the medical route compared to non-medical routes. This is consistent with previous findings of no ethnic or area deprivation difference in social prescribing when focusing on primary care data.²⁰ In this vein, the medical pathway prevails in promoting equality in these aspects. However, when it comes to actual service utilisation, there are notable sociodemographic differences. For example, there is less use of primary healthcare services among young

Table 1 Summary of key differences across countries from regression analyses

	England	Wales	Scotland
Referral routes (Fig. 2, Supplementary Table 6)	<p>Males were less likely to be referred via medical routes.</p> <p>People from older age groups (≥ 40 years) had higher odds of being referred via medical routes (versus aged 30–39 years).</p> <p>Urban residents had higher odds of being referred via medical routes.</p> <p>People from less deprived areas were more likely to be from medical routes.</p>	<p>Males were less likely to be referred via medical routes.</p> <p>Children and young adults (0–29 years) were more likely to be referred via medical routes (versus aged 30–39 years).</p> <p>Urban residents had higher odds of being from medical routes.</p> <p>People from less deprived areas were less likely to be from medical routes.</p>	<p>No difference by gender.</p> <p>Children under 18 years and older adults in their 60 s were less likely to be referred via medical routes (versus aged 30–39 years).</p> <p>No difference by urbanicity.</p> <p>People from less deprived areas were less likely to be from medical routes.</p>
Contacts with link workers (Supplementary Figure 7, Supplementary Table 7)	<p>Males had fewer contacts.</p> <p>Urban residents had fewer contacts.</p> <p>Older adults aged ≥ 60 years had fewer contacts.</p> <p>People from less deprived areas had more contacts.</p>	<p>Males had fewer contacts.</p> <p>Urban residents had fewer contacts.</p> <p>Older adults aged ≥ 80 years had fewer contacts.</p> <p>People from less deprived areas had more contacts, but no difference between the most and least deprived deciles.</p>	<p>Males had more contacts.</p> <p>No difference by urbanicity.</p> <p>Older adults in their 60 s and those aged ≥ 80 years had more contacts.</p> <p>People from less deprived areas had more contacts, but no difference between the most and least deprived deciles.</p>
Interventions (Supplementary Figure 8, Supplementary Table 8)	<p>Those from medical routes were less likely to have an intervention.</p> <p>People with employment-related reasons had higher odds of having an intervention; whereas those with lifestyle or practical reasons had lower odds.</p> <p>Male were less likely to have an intervention.</p> <p>Children under 18 years were less likely to have an intervention. People aged 40–69 years were more likely to have an intervention.</p> <p>Urban residents had higher odds of having an intervention.</p> <p>People from less deprived areas were less likely to have an intervention.</p>	<p>Those from medical routes were more likely to have an intervention.</p> <p>People with employment and practical reasons had higher odds of having an intervention, lower odds for lifestyle reasons.</p> <p>No difference by gender.</p> <p>Children under 18 were more likely to have an intervention. No difference between those aged 40–69 years and 30–39 years.</p> <p>Urban residents were less likely to have an intervention.</p> <p>People from less deprived areas were more likely to have an intervention, except for the top three least deprived deciles.</p>	<p>Those from medical routes were less likely to have an intervention.</p> <p>People with lifestyle reasons had higher odds of having an intervention, but no difference by employment or practical reasons.</p> <p>No difference by gender.</p> <p>Children under 18 were more likely to have an intervention. No difference between those aged 40–69 years and 30–39 years.</p> <p>Urban residents were less likely to have an intervention.</p> <p>Limited difference by area deprivation.</p>

people and men,^{30,31} which may limit their chances of being referred to social prescribing through primary care. In addition to equality, we need to consider equity. People from deprived areas generally have higher risks of health problems and more complex needs, potentially requiring extra support and resources to achieve an equal outcome.^{32,33} Our findings suggest that the non-medical pathway complements the medical pathway by reaching the under-represented in healthcare and those who are in greater need of support (e.g. those from more deprived areas). The two pathways should work hand in hand to maximise the overall impact and efficiency of social prescribing.

Referral, regardless of route, is only an early step in the life cycle of an social prescribing case. A key question is whether a referral leads to any intervention. Our analyses revealed that 9 in 10 referred social prescribing cases had at least one contact with a link worker, showing a successful initial transition. However, only 38.3% of cases were subsequently referred to an intervention. What is unclear is whether this low level of intervention engagement was voluntary (i.e. patients finding sessions of talking and a supportive relationship sufficient for their needs) or because of other issues such as a link worker not being able to reach the individual, referral being declined, or a lack of appropriate resources or suitable interventions in the local community (especially considering that over 90% of

prescribed interventions are free of charge so depend on such provision being available). However, several factors suggest that it is not entirely voluntary.

First, referral to an intervention is not even. People living in urban areas are more likely to be referred to an intervention than rural residents, suggesting that a lack of provision may be an issue. Additionally, although mental health, practical support and social relationship are the most common referral reasons, the percentage of people having a matched intervention for each of these reasons is only around 20%, compared with 47.9% for employment – provision of free employment support that has long been a priority in the UK, suggesting that when free interventions are readily available, intervention rate could be higher.³⁴ Therefore, urgent work is needed on either building further community infrastructure in domains outside employment to enable free services to be available, or providing further ringfenced funding for link workers to utilise in underresourced intervention domains. Additionally, more behavioural research is recommended to identify what the barriers to accessing interventions are and how they can be addressed.

Another finding that stands out is the heterogeneity of social prescribing across countries in the UK. Sociodemographic profiles of social prescribing service users differ across countries. For example, in Wales and Northern Ireland, there are higher

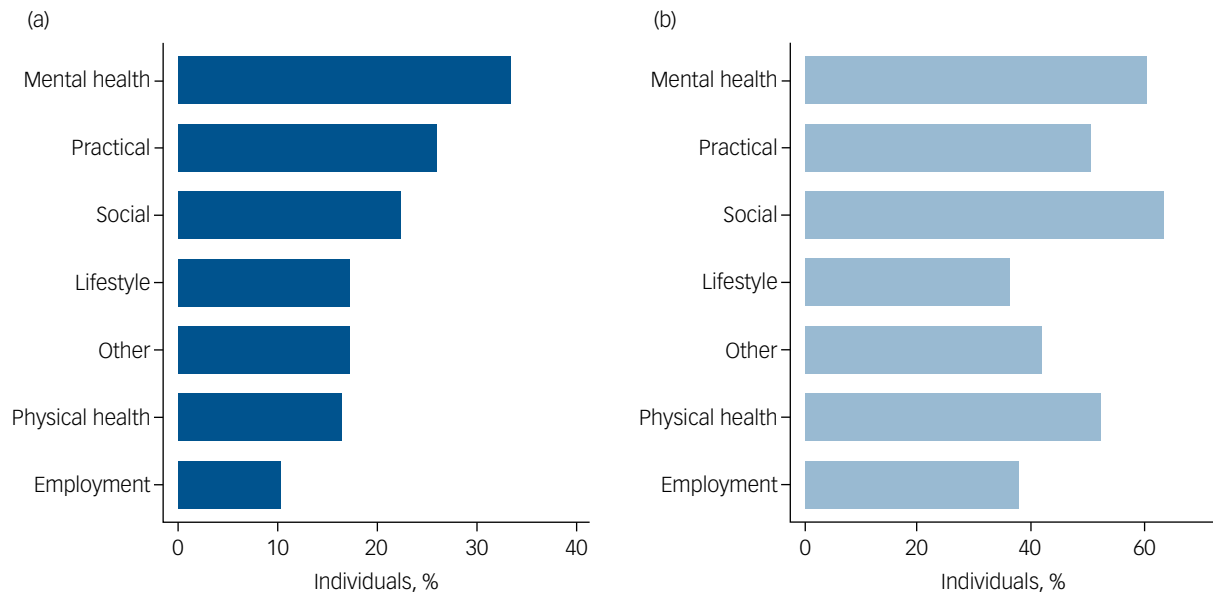


Fig. 3 Referral reasons (a) percentage of cases with referral reasons from each domain and (b) percentages of cases with reasons from one or more different domain for each domain.

percentages of children and young people under 18 years, as well as people from the most deprived decile being referred to social prescribing. This could reflect different approaches being adopted with respect to equality and equity in different countries, which is in line with our finding of differential associations of sociodemographic factors with referral routes, contacts with link workers and prescribed interventions across countries. Differences in service user compositions could also, to some extent, explain the country differences in the distribution of referral reasons. For example, over 50% of social prescribing cases are referred because of practical reasons in Wales, and lifestyle is the most common referral reason in Northern Ireland (one of the least common reasons in England and Wales). Intervention rates are notably

higher in Scotland and Northern Ireland, which could be related to reasons of referral and the availability of required services. Notably, England and Wales have a much lower percentage of interventions that are costed or subsidised than Scotland and Northern Ireland, providing further evidence that relying on free services because of a lack of funding could be a major obstacle to an efficient and effective service.

However, with regards to limitations, the country differences should be interpreted with caution as we are unable to assess the representativeness of the data. This is particularly concerning for Wales, Scotland and Northern Ireland where the sample sizes are small. Although Access Elemental is the largest digital platform for social prescribing across the UK, we cannot rule out the

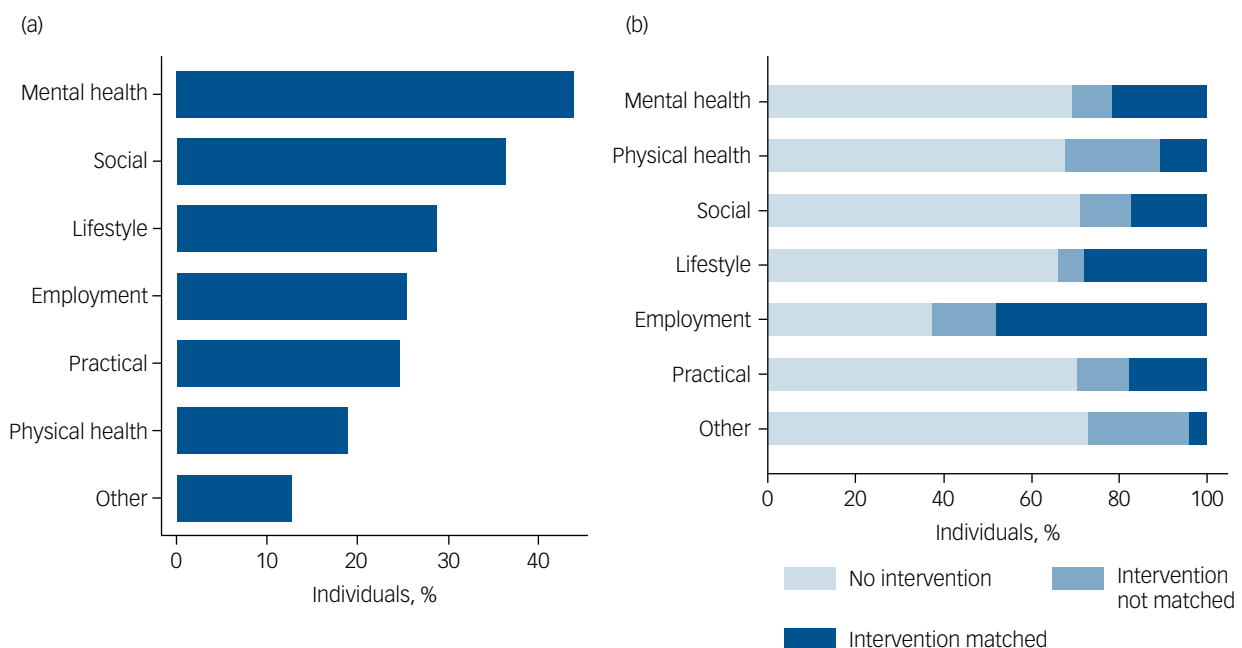


Fig. 4 Intervention domains (a) among cases with an intervention, percentage of cases belong to each domain and (b) percentages of cases receiving an intervention matched to referral reason in each referral reason domain.

possibilities that the country differences might be driven by different clienteles of Access Elemental in these countries compared with England. Indeed, despite being used across a diverse range of places in the UK, Elemental has a low coverage in Scotland (13%) and is not used in some areas e.g. Greater Glasgow and Clyde in Scotland, which have high levels of deprivation, accounting for the much lower representation we had in our data-set of people from the lowest two deciles of deprivation in Scotland. Given that all primary care data in the UK is non-representative given the multiple different data platforms in use both among GPs and for more specialist purposes like social prescribing, this challenge is not easily solved, but further work cross validating the findings presented here is encouraged if we are to fully understand cross-country differences in social prescribing.

In these analyses, although ethnicity is recorded in the data, the fact that it is 'optional' for data input means it is missing for most people, so we were unable to examine any social prescribing differences related to ethnicity. Additionally, there is limited information on people's medical conditions that may influence the social prescribing services that they receive. Continued efforts are needed to improve data quality and accessibility for a better understanding of social prescribing implementation and its impact.

Our study has the strength of using data from the most widely adopted social prescribing platform in the UK to date, serving a large and diverse population with detailed information about diverse referral routes. However, because of its nature, we were unable to compare our sample with those who have never been considered for social prescribing. Development of further large-scale rigorous evaluations of social prescribing as a service is needed.

Implications

Overall, this analysis shows that social prescribing needs to be understood more by psychiatrists given the central role of mental health. It has previously been argued that social prescribing is aligned with the principles of modern psychiatric care, emphasising what matters to the individual, prioritising belonging and community inclusion, supporting emotion processing and regulation, and facilitating behavioural adaptations.³⁵ Social prescribing is also timely, given existing challenges in psychiatry such as medication adherence, availability of traditional psychiatric services and shifts in thinking about the concept of recovery.³⁵ Psychiatrists are encouraged to consider the suitability of social prescribing as an additional clinical service they can refer or signpost their patients to alongside traditional psychiatric services. This can be carried out through existing link worker models using link workers available within primary care. However, novel programmes embedding social prescribing into psychiatric services such as in mental health service waiting lists in the UK and as part of shared decision-making in psychiatric hospitals in Australia to support discharge plans are underway, and further work is also encouraged.³⁶ Nonetheless, although the medical pathway in social prescribing is dominant across the UK, it has a number of challenges associated, including that it does not manage to reach certain demographic groups such as young people, men and people from more deprived areas as effectively. Consequently, there is a clear need for non-medical referral routes to be prioritised in the policy and delivery planning and funding of future social prescribing in the UK. Psychiatrists also have a role to play in supporting the development of non-clinical referral pathways for mental health, such as peer-support social prescribing pathways,³⁷ to ensure that they are developed in a way that is safe, feasible and appropriate to the mental health needs of those who will be using them.

Although social prescribing is an individual-focused intervention that does not address the structural factors that may have given rise to those inequalities in the first place, results from non-medical referrals suggest social prescribing could provide additional support to individuals experiencing inequalities.^{17,38} Additionally, despite a high number of social prescribing referrals taking place, only a third are leading to an intervention after link worker consultations, with rates of interventions being particularly low on medical referral pathways and certain types of interventions (such as those for physical health) being very limited. Challenges in funding for community resources may be key here, with most financial resource for social prescribing currently going to the pathway and affiliated staff rather than community resources. Additional financial resource for certain intervention domains for which there is not suitable free provision could help to redress this balance. Also, given our findings of heterogeneity in how social prescribing is being delivered across England and devolved nations, specific strategies for the development of social prescribing that meet the differing health and social needs in different countries are recommended moving forwards. Finally, in order to be able to continue monitoring the development and distribution of social prescribing in the UK, further investment into large-scale data platforms such as Access Elemental and staff training in good-quality data capture is vital.

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Supplementary material

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Data availability

Owing to the sensitive nature of the data, the research data cannot be shared publicly. Data access can be requested from the Access Elemental subject to ethical restrictions.

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Author contributions

D.F. and F.B. conceptualised the study and acquired the data. F.B. conducted the data analysis and designed the data visualisation. All authors (F.B., D.H., A.B. and D.F.) contributed to the interpretation of results and writing of the article and had final responsibility for the decision to submit for publication. D.F. and F.B. directly accessed and verified underlying data.

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Declaration of interest

None.

References

- 1 Hood CM, Gennuso KP, Swain GR, Catlin BB. County health rankings: relationships between determinant factors and health outcomes. *Am J Prev Med* 2016; **50**: 129–35.
- 2 Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. *Annu Rev Public Health* 2011; **32**: 381–98.
- 3 Solar Irwin A. *A Conceptual Framework for Action on the Social Determinants of Health*. World Health Organization, 2010.
- 4 Drinkwater C, Wildman J, Moffatt S. Social prescribing. *BMJ* 2019; **364**: l1285.
- 5 Morse DF, Sandhu S, Mulligan K, Tierney S, Polley M, Giurca BC, et al. Global developments in social prescribing. *BMJ Glob Health* 2022; **7**: e008524.
- 6 Muhl C, Mulligan K, Bayoumi I, Ashcroft R, Godfrey C. Establishing internationally accepted conceptual and operational definitions of social prescribing through expert consensus: a Delphi study. *BMJ Open* 2023; **13**: e070184.
- 7 Bickerdike L, Booth A, Wilson PM, Farley K, Wright K. Social prescribing: less rhetoric and more reality. a systematic review of the evidence. *BMJ Open* 2017; **7**: e013384.
- 8 Chatterjee HJ, Camic PM, Lockyer B, Thomson LJM. Non-clinical community interventions: a systematised review of social prescribing schemes. *Art Health* 2017; **10**: 97–123.
- 9 Howarth M, Brettell A, Hardman M, Maden M. What is the evidence for the impact of gardens and gardening on health and well-being: a scoping review and evidence-based logic model to guide healthcare strategy decision making on the use of gardening approaches as a social prescription. *BMJ Open* 2020; **10**: e036923.
- 10 Nguyen PY, Astell-Burt T, Rahimi-Ardabili H, Feng X. Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: a systematic review. *Lancet Planet Health* 2023; **7**: e313–28.
- 11 Kimberlee R, Bertotti M, Dayson C, Asthana S, Polley M, Burns L, et al. *The Economic Impact of Social Prescribing*. National Academy for Social Prescribing, 2022 (<https://socialprescribingacademy.org.uk/media/carfrp2e/evidence-review-economic-impact.pdf>) [cited 18 Jul 2023].
- 12 NHS England. *NHS Long Term Workforce Plan*. NHS England, 2023 (<https://www.england.nhs.uk/long-read/accessible-nhs-long-term-workforce-plan/#:~:text=This%20Plan%20sets%20out%20modelling,over%20the%20next%20two%20years>) [cited 18 Jul 2023].
- 13 Elliott M, Davies M, Davies J, Wallace C. Exploring how and why social prescribing evaluations work: a realist review. *BMJ Open* 2022; **12**: e057009.
- 14 Cartwright L, Burns L, Akinyemi O, Carder-Gilbert H, Tierney S, Elston J, et al. *Who Is and Isn't Being Referred to Social Prescribing?* National Academy for Social Prescribing, 2022.
- 15 Mercer SW, Fitzpatrick B, Grant L, Chng NR, McConnachie A, Bakhshi A, et al. Effectiveness of community-links practitioners in areas of high socioeconomic deprivation. *Ann Fam Med* 2019; **17**: 518–25.
- 16 Kiely B, Croke A, O'Shea M, Boland F, O'Shea E, Connolly D, et al. Effect of social prescribing link workers on health outcomes and costs for adults in primary care and community settings: a systematic review. *BMJ Open* 2022; **12**: e062951.
- 17 Moscrop A. Social prescribing is no remedy for health inequalities. *BMJ* 2023; **381**: 715.
- 18 National Association of Link Workers (NALW). *URGENT: Act Now to Address Alarming Disparities in Social Prescribing Access!* NALW, 2023 (<https://www.nalw.org.uk/urgent-act-now-to-address-alarming-disparities-in-social-prescribing-access/>) [cited 4 Mar 2024].
- 19 Calderón-Larrañaga S, Milner Y, Clinch M, Greenhalgh T, Finer S. Tensions and opportunities in social prescribing. developing a framework to facilitate its implementation and evaluation in primary care: a realist review. *BJGP Open* 2021; **5**: 1–13.
- 20 Jani A, Liyanage H, Okusi C, Sherlock J, De Lusignan S. *Social Prescribing Observatory: A Learning Health System Approach for Using Data to Improve Practice*. University of Oxford, 2020.
- 21 Family Action. *Social Prescribing in Secondary Care Pilot Service Evaluation Report*. Family Action, 2018 (www.family-action.org.uk/what-we-do) [cited 18 Jul 2023].
- 22 Kimberlee R, Bertotti M, Dayson C, Elston J, Polley M, Burns L et al. *(Sustainable) Funding Models for Social Prescribing*. National Academy for Social Prescribing, 2022.
- 23 Fisher R, Fraser C. *Who Gets In? What Does the 2020 GP Patient Survey Tell Us About Access to General Practice?* The Health Foundation, 2020 (<https://www.health.org.uk/news-and-comment/charts-and-infographics/who-gets-in>) [accessed 18 Jul 2023].
- 24 Young Minds. *First Port of Call: The Role of GPs in Early Support for Young People's Mental Health*. Young Minds, 2021.
- 25 Khan K, Al-Izzi R, Montasem A, Gordon C, Brown H, Goldthorpe J. The feasibility of identifying health inequalities in social prescribing referrals and declines using primary care patient records. *NIHR Open Res* 2023; **3**: 1.
- 26 Elemental Software. *Social Prescribing and the Digital Landscape*. Access Elemental, 2018.
- 27 Access. *Access Elemental Social Prescribing Software*. Access, n.d. (<https://www.theaccessgroup.com/en-gb/our-brands/elemental/>) [cited 8 Aug 2023].
- 28 Wolf A, Dedman D, Campbell J, Booth H, Lunn D, Chapman J, et al. Data resource profile: clinical practice research datalink (CPRD) aumr. *Int J Epidemiol* 2019; **48**: 1740.
- 29 NHS England. *The NHS Long Term Plan*. NHS England, 2019 (www.longtermplan.nhs.uk) [cited 7 Feb 2024].
- 30 Mukhtar TK, Bankhead C, Stevens S, Perera R, Holt TA, Salisbury C, et al. Factors associated with consultation rates in general practice in England, 2013–2014: a cross-sectional study. *Br J Gen Pract* 2018; **68**: e370.
- 31 Wang Y, Hunt K, Nazareth I, Freemantle N, Petersen I. Do men consult less than women? An analysis of routinely collected UK general practice data. *BMJ Open* 2013; **3**: e003320.
- 32 Skapinakis P, Lewis G, Araya R, Jones K, Williams G. Mental health inequalities in Wales, UK: multi-level investigation of the effect of area deprivation. *Br J Psychiatry* 2005; **186**: 417–22.
- 33 Pearce JR, Richardson EA, Mitchell RJ, Shortt NK. Environmental justice and health: the implications of the socio-spatial distribution of multiple environmental deprivation for health inequalities in the United Kingdom. *Trans Instit Br Geograp* 2010; **35**: 522–39.
- 34 Finn D. Jobcentres and the delivery of employment services and benefits. In *Understanding Social Security* (eds J Millar, R Sainsbury): 217–34. Policy Press, 2018.
- 35 Zisman-Ilani Y, Hayes D, Fancourt D. Promoting social prescribing in psychiatry—using shared decision-making and peer support. *JAMA Psychiatry* 2023; **80**: 759.
- 36 Zisman-Ilani Y, Roe D, Elwyn G, Kupermintz H, Patya N, Peleg I, et al. Shared decision making for psychiatric rehabilitation services before discharge from psychiatric hospitals. *Health Commun* 2019; **34**: 631–7.
- 37 Zisman-Ilani Y, Byrne L. Shared decision making and peer support: new directions for research and practice. *Psychiatr Serv* 2022; **74**: 427–428.
- 38 Gibson K, Pollard TM, Moffatt S. Social prescribing and classed inequality: a journey of upward health mobility? *Soc Sci Med* 2021; **280**: 114037.

