

# National roll-out of social prescribing in England's primary care system: a longitudinal observational study using Clinical Practice Research Datalink data



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## Summary

**Background** Social prescribing is growing rapidly in England and across the world. However, it remains unclear who it is reaching and how effectively it is being implemented. This study aimed to assess longitudinal trends in social prescribing in England's primary care system, including growth trajectories and target alignment, sociodemographic profiles of referred patients, and predictors of service refusal over time.

**Methods** This nationwide, longitudinal observational study analysed primary care records from 1.2 million patients from 1736 general practitioner (GP) practices in the Clinical Practice Research Datalink in England. We estimated social prescribing trends between 2019 and 2023 using growth curve modelling on social prescribing numbers at the practice level. Descriptive analyses were used to show changes in sociodemographic profiles of social prescribing patients over time. To assess sociodemographic disparities in service refusal (defined as having a medical code of social prescribing declined), we used multilevel logistic regression models stratified by year, accounting for nested data structure where patients were nested within practices.

**Findings** As of the end of 2023, an estimated 9.4 million GP consultations in England have involved social prescribing codes, and 5.5 million consultations have specifically led to social prescribing referrals. In 2023 alone, an estimated 1.3 million patients were referred to social prescribing. 60% of patients offered social prescribing were female and 23% were from ethnic minority groups. Representation from patients living in more deprived areas increased from 23% to 42% between 2017 and 2023. Service refusal declined from 22% to 12% between 2019 and 2023. Age, sex, and ethnicity were associated with service refusal across multiple years. Notably, in 2023, all age groups had higher odds of refusal compared with the youngest age group. Female patients had 21% (95% CI 0.77–0.82) lower odds of refusal than males, and patients from White ethnic backgrounds had 32% (1.26–1.39) higher odds of refusal than ethnic minority patients.

**Interpretation** Social prescribing has expanded rapidly in England, far exceeding initial targets of 900 000 patients by 2023–24, suggesting broad service acceptability. Progress is being made in reaching specific target groups, such as more deprived communities. However, there are still disparities in accessibility and uptake, calling for targeted strategies to address underlying inequalities.

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## Introduction

Social prescribing is an innovative approach to health care that connects patients to non-clinical services in their local community to support their health and wellbeing.<sup>1</sup> These non-clinical services include a wide range of activities such as exercise, volunteering, arts and culture, counselling, befriending, training courses, housing support, benefits, and employment advice.<sup>2</sup> Social prescribing can be implemented through various models, tailored to the specific needs of communities and health-care systems.<sup>3</sup> In England, the predominant model is the general practitioner (GP)–link worker model where a health-care professional in primary care (usually a GP) refers patients to a link worker (or other similar professionals) who then

works with the patient to develop a personalised care plan that connects them to community support and interventions.<sup>2</sup> The importance of social prescribing lies in its potential to address the social, emotional, and practical needs of patients that are often inter-related to medical needs but are not covered by clinical treatments, and which form an estimated 20% of GP consultations.<sup>4</sup> As such, social prescribing provides a more holistic approach to patient care that complements existing clinical interventions, bridging crucial service gaps. Social prescribing also has the potential to alleviate pressure on primary care by diverting these non-clinical consultations to community services. As part of a population health management strategy, social prescribing could reduce

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### Research in context

#### Evidence before this study

We systematically searched PubMed, PsycINFO, Cochrane Library, Web of Science, and OpenGrey for studies (including grey literature) published in English between Jan 1, 1980, and March 31, 2025, using search terms such as “social prescribing”, “non-medical referral/intervention”, “non-clinical referral/intervention”, “community referral”, and “referral scheme”. Previous evidence on rates and patterns of referrals was limited to small-scale evaluations, cross-sectional data, or regional analyses, with few nationally representative longitudinal studies examining implementation trends or equity. Systematic reviews highlighted gaps in understanding disparities in service access and uptake. Although the National Health Service (NHS) Long Term Plan (2019) set ambitious targets for social prescribing, to the best of our knowledge, no studies have quantified progress towards these goals since the national roll-out.

#### Added value of this study

Using primary care medical records from the Clinical Practice Research Datalink, this study provides the first longitudinal,

national analysis of social prescribing implementation across 1.2 million patients in England. We show that social prescribing referrals exceeded the NHS targets of 900 000 patients by 27–52% in 2023 alone, with at least 1.1–1.4 million patients receiving referrals. The analysis reveals significant progress in reaching deprived populations (representation increased from 23% to 42% between 2017 and 2023) but identifies persistent disparities in service uptake across age, sex, and ethnicity.

#### Implications of all the available evidence

The rapid expansion of social prescribing reflects its growing integration into primary care. However, persistent sociodemographic disparities highlight the need for targeted interventions to ensure equitable service access and uptake. Policy makers should standardise referral protocols and allocate resources to underserved areas. Future research should rigorously track the implementation of social prescribing and evaluate its long-term health outcomes and cost-effectiveness to fulfil its potentials as a key component of universal personalised care.

health inequalities by improving service accessibility in deprived communities and actively engaging marginalised populations.<sup>5</sup>

In 2019, social prescribing became an established part of the health-care system in England with the publication of the National Health Service (NHS) Long Term Plan.<sup>6</sup> This plan led to a roll-out of link workers across England with funding announced for 1000 link workers in 2019. In 2022, it became a formal mandate for every primary care network (a group of neighbouring GP practices<sup>6</sup>) to provide social prescribing as part of its service,<sup>7</sup> and in 2023, the NHS Long Term Workforce Plan included a rising commitment to fund 9000 link workers by 2036–37.<sup>8</sup> However, there are concerns that social prescribing might not effectively address health inequalities and could even exacerbate them by disproportionately benefiting less disadvantaged individuals.<sup>9,10</sup> Analysis of the roll-out of link workers within Primary Care Networks has reported that the NHS did not meet its target of employing 1000 link workers by 2020–21 and found inequalities geographically, with areas that recorded the greatest need for additional support recording the lowest levels of link worker employment across England.<sup>11</sup> However, analysis of data from a large cloud-based social prescribing referral-management platform from over 160 000 patients who had received social prescribing referrals suggested the number of referrals in more deprived areas might be higher than in less deprived areas.<sup>2</sup> This finding is echoed in self-reports of social prescribing referrals from older adults in national cohort data, which also showed that those receiving benefits and with lower wealth were

more likely to report having received a referral.<sup>12</sup> Nonetheless, there are currently no large-scale analyses of how many people have been offered social prescribing through the GP-link worker model and how equitable these referrals have been over time. NHS England set the target of referring over 900 000 patients to social prescribing by 2023–24, but whether this goal has been met is undetermined.<sup>6</sup>

Drawing data from national primary care records, the aims of the present study were to depict how social prescribing activity in primary care has developed over the past 15 years in England, estimating the number of referrals to date compared with national targets, estimating social prescribing frequency year on year, and tracking trajectories of growth; to explore the sociodemographic profiles of adult patients referred to social prescribing and their trends over time; and to map uptake versus refusal of social prescribing and identify patterns and trends in predictors of social prescribing service refusal. These aims are crucial to understanding the growth and future potential of social prescribing at a key moment in future planning for the NHS in England.

## Methods

### Study design and participants

Data were from the Clinical Practice Research Datalink (CPRD), a research data service that collects anonymised patient data routinely from a network of over 2000 GP practices across the UK. CPRD contains rich data on demographics, diagnoses and symptoms, prescriptions, tests, and referrals from more than 60 million patients

over more than 35 years since 1989, including more than 18 million currently registered patients. This longitudinal observational study focused on England using data from CPRD Aurum, which covers over 20% of GP practices and has been shown to be representative of the English population in terms of geographical area, deprivation, urbanicity, age, and sex.<sup>13,14</sup>

To map rates and trends in social prescribing activity (aim one), data were analysed aggregately using all data with a medical code related to social prescribing. Although our primary analyses focused on social prescribing, as a point of comparison, we also ran analyses using medical codes relating to other common non-clinical interventions that are similar or closely related to social prescribing, as detailed below, to understand how changes in social prescribing compare with changes in these other interventions over time.

To map sociodemographic profiles of people referred to social prescribing (aim two) and patterns and predictors of service refusal (aim three), we used patient-level data. To be included in these analyses, patients had to be aged 18 years or older, permanently registered with a GP practice, and have a minimum follow-up of 12 months for data quality control purposes.

Data extraction was carried out in November, 2024 and was restricted to 2009–23, starting from 10 years before the publication of the NHS Long Term Plan and excluding incomplete data in 2024. In total, this search provided an analytical sample of around 1.2 million patients from 1736 GP practices for the analysis for research aim one, 0.9 million patients for research aim two, and 0.7 million patients for research aim three.

Ethical approval for this study was obtained from the Independent Scientific Advisory Committee of CPRD (protocol number 24\_004142). Individual patient consent is exempted because the data that CPRD receive from GP practices are pseudonymised at source, but CPRD complies with both the type 1 opt-outs and national data opt-out policies. Patients or the public were not involved in the design, conduct, reporting, or dissemination plans of our research.

## Procedures

Consultations related to social prescribing were identified using code lists (table 1), which included any discussion related to social prescribing. For research aim one, we also considered medical codes related to other non-clinical interventions (eg, community navigator, health coach, health trainer, and health and wellbeing worker or coach) to provide context for assessing social prescribing (table 1). For research aims two and three, we focused on social prescribing codes.

For research aim two, sociodemographic covariates included age groups derived from calendar year and year of birth (age 18–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, 70–79 years, and ≥80 years), sex (male or female), ethnicity (White or minority

Read code terms	
<b>Social prescribing</b>	
Referral to social prescribing service*	Referral to social prescribing service†
Social prescribing offered	Social prescribing offered
Seen by social prescribing link worker*	Social prescribing declined†
Signposting to social prescribing service	Social prescribing for mental health
Review of social prescribing plan	NA
Social prescribing declined†	NA
Social prescribing case closed	NA
Social prescribing plan completed	NA
Social prescribing for mental health	NA
Not suitable for social prescribing	NA
Referral to social prescribing service from another agency*	NA
<b>Community navigator</b>	
Seen by community navigator*	Seen by community navigator*
Referral to community navigator*	Referral to community navigator*
<b>Health coach</b>	
Health coach-initiated encounter*	Health coach-initiated encounter*
Referred for health coaching*	Referred for health coaching*
Seen by health coach*	Patient-initiated health coach encounter*
Patient-initiated health coach encounter*	Seen by health coach*
Referral for health coaching*	NA
<b>Health trainer</b>	
Referral to health trainer declined†	Referral to health trainer declined†
Referral to health trainer*	Referral to health trainer*
Seen by health trainer*	Seen by health trainer*
Signposting to health trainer	Signposting to health trainer
<b>Health and wellbeing worker or coach</b>	
Seen by health and wellbeing coach*	NA
Signposting to health and wellbeing worker	NA

SNOMED CT is a clinical terminology coding system that health professionals use to recode patient data. England started to implement SNOMED CT in a phased approach from 2018 to replace read codes. NA=not applicable. SNOMED CT=Systematized Nomenclature of Medicine Clinical Terms. \*Terms used to identify uptake of social prescribing when a social prescribing referral to link worker or other similar professionals was made by a primary care health-care professional. †Terms used to identify refusal of social prescribing.

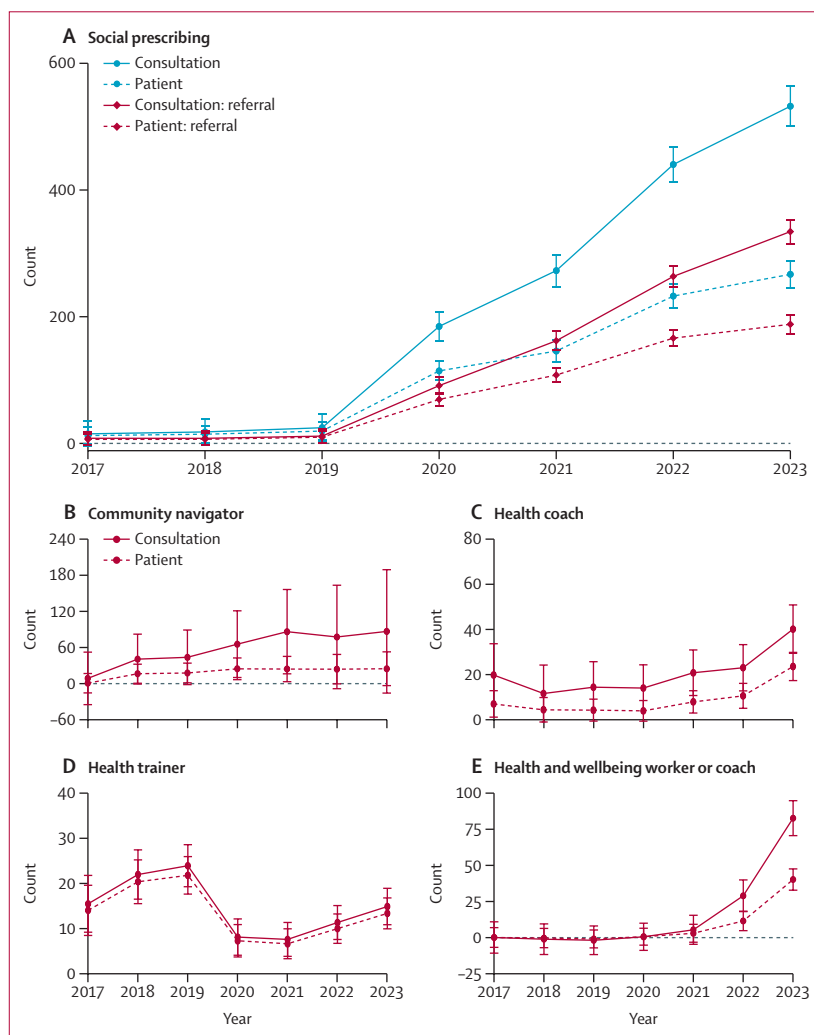
**Table 1: SNOMED CT terms versus real code lists for social prescribing and other non-clinical interventions**

ethnic), area deprivation in deciles measured by the index of multiple deprivation (IMD) based on patient postcode, area urbanicity (rural or urban) based on the Rural Urban Classification from the 2011 census, and region of primary care practices (North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, East of England, London, South East, and South West).

For research aim three, we were interested in medical codes indicating whether social prescribing referrals

were declined or accepted. Service refusal was defined as social prescribing declined, and service uptake was defined as referral to social prescribing services (from other agency) or seen by social prescribing link worker. If refusal and uptake codes co-occurred, it was coded as refusal. We considered other codes if they were used in conjunction with social prescribing codes in the same consultation (eg, social prescribing offered and referral to community navigator coded as uptake; table 1). For these analyses, we excluded any codes without any clear indication of uptake (eg, social prescribing offered, signposting to social prescribing service, and social prescribing for mental health). Service refusal and uptake was measured at the patient level. If a patient had multiple consultations in a given year, the most recent consultation was used.

See Online for appendix



**Figure 1: Average growth trajectories of numbers of consultations and patients across GP practices in England, 2017–23**

Based on growth curve models with discrete time on the numbers of consultations and patients for social prescribing and other non-clinical interventions. Consultation includes all relevant social prescribing codes; referral uses only referral codes. GP=general practitioner.

## Statistical analysis

For research aim one, data were first analysed descriptively showing the number of GP consultations related to social prescribing and other non-clinical interventions by year between 2009 and 2023. We then fitted a series of unconditional growth curve models, using GP practices as the unit of analysis. This step was to examine the average growth trajectories of social prescribing and other similar non-clinical interventions, as well as their variations across GP practices. The time variable, year, was initially used as a discrete variable represented by dummy variables, allowing the shape of trajectories to be freely estimated. Subsequently, linear growth models were applied when appropriate to balance model parsimony and mitigate overfitting risks. Based on estimates of an average practice, we calculated national estimates by multiplying results by the total number of GP practices in England in each year.<sup>15</sup> Growth curve analyses were restricted to 2017–23 due to small sample sizes in earlier years.

For research aim two, we carried out descriptive analyses showing the sociodemographic profiles of patients with a social prescribing code by year in the period of 2017–23.

For research aim three, we used multilevel logistic regression models to examine how sociodemographic factors (age, sex, ethnicity, deprivation, urbanicity, and region) were associated with service refusal, accounting for the nested data structure (patients within practices), which were stratified by year. These analyses were restricted to period of 2019–23 due to small sample sizes in earlier years.

Missing data were minimal for most sociodemographic covariates except for area deprivation and urbanicity (approximately 20%), which were obtained via postcode linkage. We used complete case analysis for descriptive analyses (aim two), but multiple imputation with chained equations (multiple imputation=20), was carried out for regression analyses (aim three) under the assumption that data were missing at random. Further, we conducted sensitivity analyses using delta adjustment to assess the robustness of the results under different scenarios in which data were not missing at random. All analyses were conducted in Stata version 18.

## Role of the funding source

The funders of the study had no role in study design, data collection, data analysis, data interpretation, or writing of the report.

## Results

Social prescribing was implemented sparingly in England before 2019; it began to increase rapidly and steadily after the national roll-out in 2019, even during the COVID-19 pandemic (appendix p 7). This pattern marked a clear change from before 2019, when there had only been small increases in similar non-clinical interventions, although it is notable that community

navigator and health coaching had begun rising from 2015 (appendix p 7). Other than a slight decline in health trainers, these other non-clinical services have continued to grow, suggesting that social prescribing did not simply replace existing non-clinical services.

Results from growth curve models with flexible trajectories suggested the rise in social prescribing was approximately linear in England since 2019 (figure 1). After fitting a linear model, we estimated an annual increase by roughly 126 (95% CI 116–137) consultations or 61 (54–68) patients per GP practice between 2019 and 2023 (appendix p 2). In 2023 alone, there were an estimated 544 (508–579) consultations and 278 (254–302) patients related to social prescribing per practice (appendix p 2). If extrapolated to represent all GP practices in England, we estimated that roughly 1.8 (1.6–1.9) million patients had social prescribing codes, based on the total number of 6311 GP practices in England in 2023.<sup>16</sup> If restricting to patients with uptake codes only (referrals), the estimates were 1.3 (1.1–1.4) million patients. To extrapolate across years, this figure equates to an estimated 9.4 (8.8–10.0) million consultations including any discussions of social prescribing from 2019 to the end of 2023, 5.5 (5.2–5.9) million of which had social prescribing codes specifically indicating that referrals took place (table 2).

Growth trajectories for comparison activities (figure 1) were largely consistent with the descriptive analysis (appendix p 7) and were much smaller in numbers compared with social prescribing.

In total, we identified around 0.9 million adult patients with social prescribing codes between 2017 and

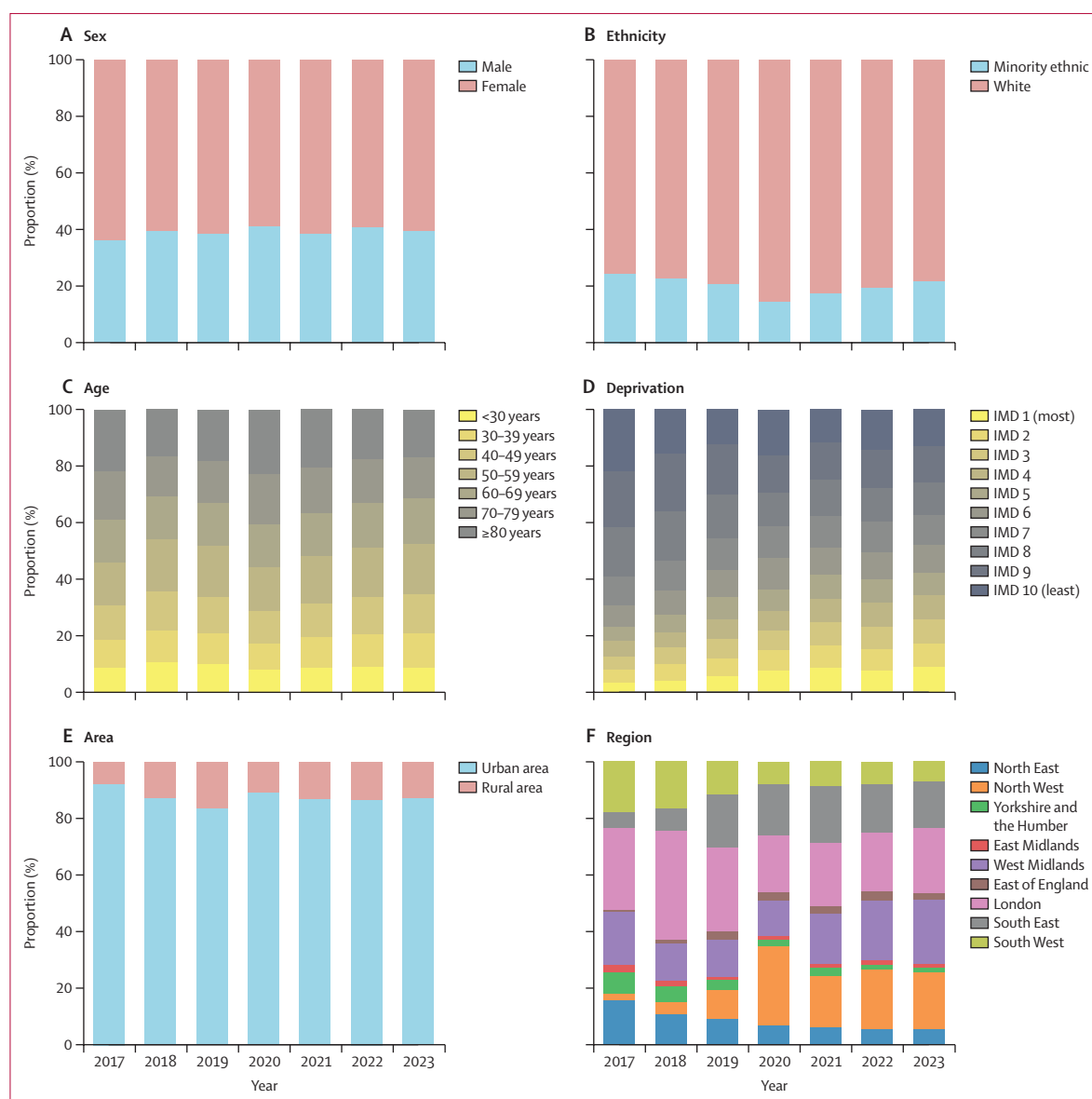
2023. Sample sizes varied across years and sociodemographic variables, ranging from 11 260 to 720 410 patients (appendix pp 2–3). Since 2017, female individuals have been over-represented in social prescribing consultations, consistently accounting for around two-thirds of patients (figure 2; appendix p 2). Patients from minority ethnic backgrounds accounted for around 1 in 5 (150 055/692 131) consultations in 2023, showing a gradual increase since 2020 (figure 3; appendix p 2). There was a slight but steady increase in the percentage of younger adults with social prescribing codes since 2020 (figure 3; appendix p 2). Notably, patients from areas ranked in the top five most deprived deciles also had increased access to social prescribing, accounting for only 23% of referrals (2587/11 260) in 2017 but 42% (241 173/568 535) in 2023 (figure 3; appendix p 2). Only around 13% of referrals (72 654/568 535) were for individuals from rural areas in 2023, which has been stable since 2020 (figure 3; appendix p 2). Substantial changes in regional profiles were observed. For example, the percentage share of patients from London, the North East, Yorkshire and the Humber, and the South West decreased from 2017 to 2023 as increasing numbers of patients from the West Midlands and North West accessed the service, now accounting for 23% (163 198/720 410) (West Midlands) and 20% (145 102/720 410) (North West) of all social prescribing patients (figure 3; appendix p 3). However, it is important to note that caution should be taken comparing across regions, as the distribution of GP practices within CPRD was not equal across geographical regions. The observed changes were also unlikely to be driven by national sociodemographic

	Consultations in CPRD	Predicted consultations in England*	Patients in CPRD	Predicted patients in England†	Practice in CPRD	Practice in England†
<b>All social prescribing codes</b>						
2019	46 311	267 461 (143 723–391 199)	34 962	235 514 (152 005–319 023)	1666	6836
2020	315 333	1 093 958 (995 646–1 192 271)	195 277	630 711 (564 462–696 961)	1700	6616
2021	460 471	1 901 655 (1 780 867–2 022 443)	246 137	1 018 805 (937 608–1 100 001)	1683	6522
2022	737 616	2 683 114 (2 513 911–2 852 318)	389 527	1 394 150 (1 280 459–1 507 841)	1668	6422
2023	874 612	3 433 345 (3 208 050–3 658 639)	438 625	1 754 262 (1 602 863–1 905 661)	1620	6311
Total	2 434 343	9 379 533 (8 781 650–9 977 416)	NA	NA	NA	NA
<b>Uptake codes only</b>						
2019	22 668	74 048 (8349–139 747)	18 424	126 967 (69 560–184 374)	1666	6836
2020	155 929	611 744 (555 131–668 357)	118 512	420 318 (373 604–467 031)	1700	6616
2021	273 466	1 135 458 (1 058 034–1 212 883)	182 197	707 557 (648 063–767 051)	1683	6522
2022	441 452	1 642 291 (1 531 899–1 752 683)	278 257	985 424 (901 545–1 069 303)	1668	6422
2023	549 190	2 129 087 (1 982 855–2 275 318)	309 092	1 252 117 (1 140 641–1 363 593)	1620	6311
Total	1 442 705	5 541 636 (5 160 997–5 922 276)	NA	NA	NA	NA

Data shown are n or n (95% CI). Patient totals are not provided because the same patient might receive social prescribing across multiple years; summing annual counts would result in duplicate counting and artificially inflate the total number of patients. CPRD=Clinical Practice Research Datalink. NA=not applicable. \*Estimates based on linear growth curve model (2019–23) with random intercept and slope (appendix p 2). †Number of practices in December each year obtained from National Health Service digital, general practice workforce, Dec 31, 2024.

**Table 2: Sample counts, estimates, and predictions from linear growth curve model on social prescribing 2019–23**



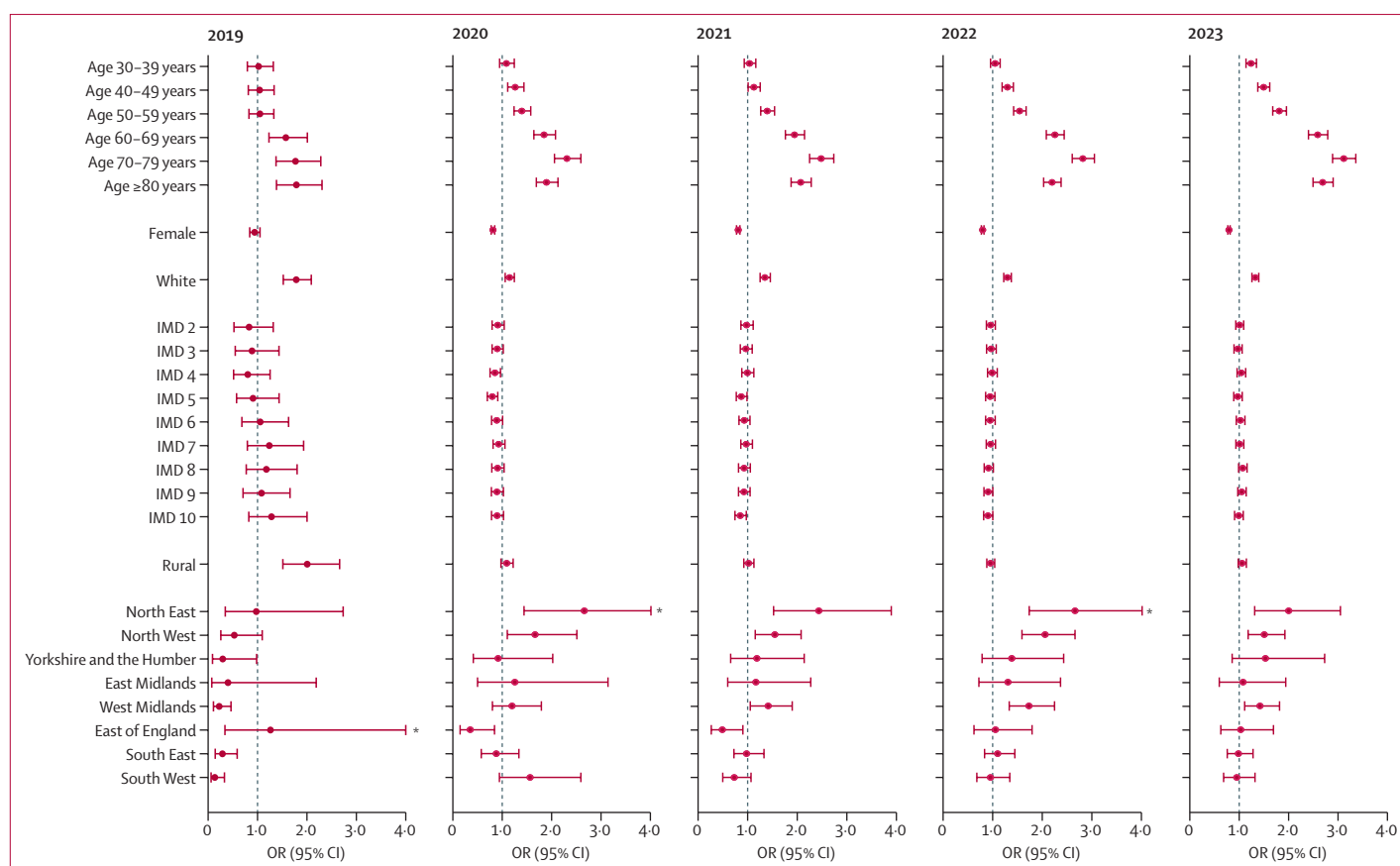


**Figure 2: Changes in sociodemographic profiles of patients with social prescribing codes in Clinical Practice Research Datalink Aurum (England, 2017–23)**  
GP=general practitioner. IMD=index of multiple deprivation.

shifts, given the stability of relevant characteristics during the study period (appendix p 3).

In total, 0·7 million adult patients were included in the multilevel regression analyses between 2019 and 2023, with varying sample sizes and patient characteristics (appendix p 4). In 2019, 22% of patients (3850/17493) had a record of service refusal, which declined to 11% (16132/150399) in 2021 and remained stable until 2023 (appendix p 8). In 2019, the most variance in service refusal for social prescribing was between practices (72%), which dropped to 42% by 2023 (appendix p 8). Results from regression models suggest that older age groups were more likely to refuse referrals, especially since 2020 (figure 3; appendix p 5). Although sex was not

a predictor of refusal in 2019, female patients consistently had lower odds of refusal since 2020. In 2023, notably, female patients had 21% (95% CI 0·77–0·82) lower odds of refusal than male patients. Patients of White ethnicity had higher odds of refusal than those from minority ethnic backgrounds in all years. There was no evidence that area deprivation or urbanicity was associated with social prescribing refusal in any of the years, but there were some disparities across regions, including higher odds of refusal in the North East, West Midlands, and North West compared with patients in London, since 2021. Results from models with sensitivity analyses using delta adjustment were largely consistent with the main analyses (appendix p 6).



**Figure 3:** OR (95% CI) from multilevel logistic regression models on service refusal fitted separately by year (multiple imputation=20)

IMD=index of multiple deprivation. OR=odds ratio. \*Large values capped at 4.0, reference categories are age 18–29 years, male sex, minority ethnic background, IMD 1 (most deprived), urban area, and London region.

## Discussion

Analysing data from CPRD, our study provides the first detailed analyses of the national roll-out of social prescribing in England. Our findings show a rapid expansion of social prescribing through GP practices since 2019. From 2019 to 2023, an estimated 9.4 (8.8–10.0) million GP consultations involved discussions about social prescribing, with over 5.5 (5.2–5.9) million consultations leading to a referral. In 2023 alone, an estimated 1.8 (1.6–1.9) million patients discussed social prescribing with their GP and 1.3 (1.1–1.4) million received a referral. These figures represent conservative estimates as they do not include other related codes (eg, community navigators and health trainers, unless used in combination with social prescribing codes) that might be used interchangeably with social prescribing. These figures also do not include referrals from alternative routes, such as secondary care, voluntary and community sector organisations, statutory services, self-referral, or patients who are referred but potentially not coded as such. Our findings suggest that social prescribing has far exceeded the NHS Long Term Plan's target of 900 000 patients by 2023–24,<sup>6</sup> highlighting

a widespread recognition and adoption of social prescribing within the primary care system.

Although social prescribing aims to reduce health inequalities, concerns have been raised that it might inadvertently exacerbate inequality by disproportionately benefiting less disadvantaged populations as a result of structural inequalities.<sup>9,10</sup> In addition to concerns about geographical inequalities in the roll-out of link workers, some pilot studies have reported lower referrals from individuals facing more socioeconomic disadvantages.<sup>11,17,18</sup> Our analyses found that in 2023, 42% of social prescribing patients were from the top five most deprived deciles geographically. Although equality and equity in social prescribing distribution have not yet been achieved, this figure is nearly double the 2017 percentage, with representation of deprived areas increasing yearly. There have also previously been concerns about lower engagement in social prescribing among minority ethnic groups,<sup>17–19</sup> but as of 2023, 21.7% of social prescribing patients were from minority ethnic groups, surpassing the general population's 19.3%.<sup>20</sup> Furthermore, individuals from minority ethnic backgrounds appeared more likely to take up social prescribing referrals than

White individuals, after accounting for other factors. These findings show that social prescribing has increasingly reached traditionally underserved populations, marking substantial progress towards accessibility equality. This progress aligns with national initiatives to reduce health-care inequalities, such as the NHS Core20PLUS5 model launched in 2021, targeting the most deprived 20% and locally identified high-risk groups, including minority ethnic communities.<sup>21</sup>

Despite these advancements, work is still needed to ensure equity in social prescribing. For example, we found an under-representation of rural residents comparing with national statistics (13% vs 17%),<sup>22</sup> a gap persisting since 2020. This disparity might be partly explained by the slight overall under-representation of rural residents in CPRD (15% vs 17%),<sup>14</sup> but it could be also related to limited community resources in some rural settings. In line with previous literature,<sup>17,18</sup> our findings reveal a consistent over-representation of female patients among social prescribing patients, despite an even sex distribution in the CPRD population.<sup>13</sup> Although this disparity might be partly attributable to higher consultation rates among female patients,<sup>23</sup> sex differences in social, emotional, or practical needs could also have a role. Further, female patients are more likely to take up referrals when offered, reinforcing sex-based disparities. Higher referral uptakes are also found among younger adults, who might benefit from greater acceptability of non-clinical interventions and fewer barriers in digital access and physical functioning. These findings corroborate earlier findings from the Social Prescribing Observatory,<sup>24</sup> and highlight the importance of ensuring that existing accessibility disparities are not amplified through differences in service uptake by conducting more extensive research to identify context-specific barriers across different social prescribing stages in underserved populations.<sup>23</sup> Furthermore, although our data only focus on GP referrals, recent work using routine data covering various referral pathways suggests that young adults, individuals from more deprived groups, and those from minority ethnic backgrounds are more likely to access social prescribing through non-clinical routes such as voluntary and community sector organisations, statutory services, and self-referral.<sup>2</sup> Therefore, it is important for future equity assessments to incorporate both GP and non-clinical pathways to avoid underestimating service penetration and to inform strategies for equitable referrals. Beyond individual sociodemographic factors, future research should also explore potential intersectional subgroups experiencing compounded disadvantages in social prescribing referrals.

The main strength of our study is its use of a national longitudinal primary care dataset (CPRD) over a multiple-year period. Other strengths include the consideration of other related terms and robust analytical approaches accounting for nested data

structure and missing data. However, several limitations should be noted. First, as our sample was restricted to social prescribing patients, we cannot compare them with patients not considered for social prescribing. Nevertheless, our study does provide valuable insights into the sociodemographic profiles of social prescribing patients and their temporal trends. Second, although CPRD is generally recognised for its quality as a routine dataset,<sup>25</sup> our study shares the limitation common to routine health-care data regarding coding accuracy, particularly for social prescribing, where both undercoding and overcoding might exist. CPRD data also currently do not contain granular detail in social prescribing, with little information on referral reasons, prescribed interventions, patient outcomes, and link worker characteristics (eg, age, sex, and work setting). But recent updates to coding systems, incorporating newly added social prescribing codes, present opportunities to address these gaps in future work. Third, in this study, we have considered social prescribing as well as related terms such as community navigator, health coach, health trainer, and health and wellbeing worker or coach. Although these terms are occasionally used in combination with social prescribing codes, they are predominantly recorded independently. Therefore, it is unclear whether these terms are used as precursors, subdomains, or standalone equivalents to social prescribing. This lack of clarity highlights the urgent need for standardised definitions and coding practice to enhance data comparability for research and policy evaluation in this rapidly evolving field. Fourth, our national projections of social prescribing rely on the assumption that practices in CPRD constitute a nationally representative sample. Although previous studies have established CPRD's representativeness of the national population,<sup>13,14</sup> its representativeness at the practice level is yet to be tested, meaning that these estimates should be interpreted with caution. Additionally, for research aim three, we categorised social prescribing codes intuitively based on whether they indicated uptake or refusal. However, given the multiple codes available, GPs could have used neutral codes (eg, social prescribing offered) rather than uptake or refusal-specific codes, so we might have underestimated the true samples for both uptake and refusal. Finally, our analyses focus specifically on GP referrals, so they do not provide a complete picture of all social prescribing referrals in England, and GP referrals should not be considered the only viable social prescribing pathway.

Our study highlights the rapid expansion and evolving sociodemographic landscape of social prescribing through GP practices, with referrals surpassing national targets by at least 27–52% in 2023 alone. At a time when the future of the NHS is being redesigned, these results highlight the clear appetite for social prescribing in primary care and the sizeable and growing number of



patients who are being referred each year. Promisingly, there is increasing representation of younger adults, those of minority ethnic backgrounds, and individuals living in deprived areas accessing the service. However, addressing disparities in service accessibility and uptake requires targeted strategies and diverse referral pathways to ensure social prescribing fulfils its promise. Moving forwards, it will be important to continue annual monitoring of the rates and patterns of social prescribing referrals to ensure there are continued improvements in equity of access and support continuous quality improvement of the service. At local levels, GP practices are encouraged to consider barriers and enablers of access across the full pathway to reduce refusal rates and encourage sustained engagement. From a policy perspective, these findings also highlight a crucial point: that the annual funding allocated to social prescribing in the first 4 years alone has led to far more patient referrals than anticipated. As such, social prescribing is a much larger service within the NHS than previously acknowledged.

#### Contributors

FB, DF, and AB conceptualised this study. AB and AET gained data access. AR-B, AB, and FB accessed and verified the data. FB cleaned and analysed the data. FB and DF interpreted the results and wrote the manuscript. AR-B, NL, and DO advised on data management. All authors contributed to writing (review and editing). AB gained funding for the study. All authors approved the final manuscript and accepted the responsibility for the decision to submit it for publication.

#### Declaration of interests

We declare no competing interests.

#### Data sharing

The original data from this study are provided by Clinical Practice Research Datalink (CPRD). Data cannot be shared publicly because they are not publicly available. CPRD may provide researchers with data following completion of their approvals and ethics process: <https://www.cprd.com/research-applications>.

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