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Adapting social prescribing to groups in vulnerable situations. a multi-national co-creation study

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Abstract

Background Primary care consultations have been found to acknowledge patients' health-related social problems but not systematically meet them. Social problems such as debt, housing, family and work issues along with loneliness are unevenly distributed and disproportionately affect the access to health care of particular groups including LGBTIQ+ individuals, refugees and migrants, and older adults living alone. Social prescribing has been proposed as a tool to address social problems of groups in vulnerable situations. Yet research into potential adaptations of social prescribing to meet needs among groups with diverse vulnerabilities remains limited. This study aimed to explore how the different stages of the social prescribing pathway (referral, linking, and community engagement) can be adapted to better address unmet social needs of people in a variety of vulnerable situations.

Methods This co-creation study is part of an EU Horizon Europe project, Social Prescribing-EU, which aims to assess the potential of social prescribing to improve access to health and care services for groups in vulnerable situations. Conducted across three European hubs, Berlin, Aalborg, and Bern, this paper focuses on four consultations and six co-production workshops with diverse stakeholders. Data sources included workshop materials, field notes, and transcripts of audio recordings. Data were thematically analysed within each hub and synthesised collaboratively across sites.

Results Despite the diverse vulnerabilities in the target groups discussed, common requests were identified across the stages of social prescribing. These included the importance of GPs' communication with patients about their social situations; of link workers approaching each individual with a flexible and open approach; and of diverse community options being available in which participation is linked with individual interests rather than target-group membership. Yet our findings also point to possible tensions in social prescribing, for example between meeting requests for target-group-specific knowledge while also avoiding stereotyping participants.

Conclusion Our study proposes an interpretation of vulnerability in social prescribing as an individualised and contextual state that may be met through informed, person-centred approaches. Communication, sensitivity training, and strengthening person-centred approaches in general practice and link-worker teams could promote accommodating the needs of diverse groups in potentially vulnerable situations throughout the social prescribing pathway.

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Background

Health and illness are multidimensional phenomena. While biomedical circumstances are often the focus of primary care consultations, patients' health-related social problems may be acknowledged but not systematically met [1, 2]. In a survey among 1,439 German general practitioners (GPs), Herrmann and Napierala (2024) found that the proportion of patients with psychosocial problems was on average 40.6% (SD = 21.1%) [3]. Such patients may present challenges including loneliness, workplace and unemployment problems, family or partnership problems, housing instability, or financial issues - circumstances that may both contribute to and result from physical and mental health conditions [4]. Yet, despite documented impacts on individual physical and mental health [5, 6], addressing social problems such as those mentioned above within routine primary care remains challenging, often due to limited time in GP consultations and a lack of knowledge about referral options [1, 7].

Social problems are unevenly distributed across populations. Persons who have been found to often occupy vulnerable situations are more likely to experience social problems and face further barriers to accessing healthcare services, which contribute to increasing health inequalities [8]. In this study, we focus on three target populations, namely LGBTIQ+ individuals, refugees and migrants, and older adults living alone, as examples of groups who experience social problems in distinct ways. These populations were not selected for comparison, but to reflect the varied ways in which vulnerability may arise. For example, LGBTIQ+ individuals report lower self-perceived social support and face a greater risk of social isolation than non-LGBTIQ+ persons [9, 10]. Additionally, studies suggest that sexual minorities experience both poorer health [11, 12] and worse healthcare experiences than heterosexual people [13]. LGBTIQ+ individuals might not disclose their sexual orientation and any related social problems to their GP out of fear of discrimination, including receiving poor or unequal care [14]. On another note, migrants and refugees often encounter challenges such as poorer socioeconomic conditions, language barriers and cultural relocation that manifest as psychosocial vulnerabilities, all of which affect their health and quality of life [15, 16]. Studies further indicate disparities between migrants and non-migrants in accessing healthcare services across European countries, leading to unmet healthcare needs [17, 18]. Additionally, migrants can fear that accessing public health services could negatively affect their immigration status [16]. Regarding older adults living alone, social isolation, poor housing conditions and limited physical accessibility also seem to be barriers for older adults' access to healthcare services [19], and living alone is itself associated with an increased risk of mortality in older adults [20]. Taken together, these three populations illustrate how vulnerability may manifest differently across but also within groups.

Social prescribing has been proposed as a tool for integrating attention to social problems into healthcare systems [21–24]. Social prescribing is defined as 'a means for trusted individuals in clinical and community settings to identify that a person has non-medical, health-related social needs and to subsequently connect them to support and services within the community by co-producing a social prescription - a non-medical prescription, to improve health and well-being and to strengthen community connections' [25]. The social prescribing pathway may be divided into three stages [26], including i) referral, ii) linking, and iii) community engagement. Social prescribing enables primary care professionals, such as GPs, to refer patients to a link worker when health-related social problems are identified. The link worker offers flexible, personalised support to access community activities, such as art, exercise and nature therapy, befriending groups, or help with to finding wider support, for example with housing or debt advice.

Drawing on large-scale data from the UK, a study by Bu et al. (2025) on social prescribing via GP referrals shows progress from 2019 to 2023 in reaching specific target groups, including those from more deprived communities. However, gaps in access and service uptake remain; for example, fewer men and older adults are

using these services. The authors thus suggest more research into barriers at different stages of social prescribing for underserved groups [27]. Another UK-based study (2025) found that people from marginalised groups, like migrant groups and people from deprived areas, are more likely to be reached through non-medical referral routes, such as through voluntary organisations. Furthermore, although 90% of referrals result in contact with a link worker, only 38% receive any intervention, highlighting a shortage of matching community activities [28]. These findings point to the need to examine barriers and potential adaptations that can be implemented across the stages of the social prescribing pathway to meet the needs of people in vulnerable situations.

Research further indicates that tailoring social prescribing for particular groups [29] may improve services in terms of citizens' accessibility and the possibilities for making social connections, as demonstrated by interventions targeting people with autism, people living with dementia, and older adults [30–32]. Yet, to our knowledge, research on how social prescribing may be adapted to address unmet social needs of people experiencing different forms of vulnerability remains limited. This paper, therefore, aimed to explore how social prescribing can be adapted to address unmet social needs among people who often find themselves in vulnerable situations. Specifically, the study addressed the following research question: What are stakeholder[1]s' views on possible adaptations across the stages of the social prescribing pathway to address unmet social needs among populations representing different forms of vulnerability, exemplified by LGBTIQ+ individuals, refugees and migrants, and older adults living alone?

Methods

Study design

The study is part of the multi-national EU-funded Horizon Europe project, Social Prescribing- EU (SP-EU), which aims to assess the potential of social prescribing to promote and improve access to health and care services for people in potentially vulnerable situations, focusing on LGBTIQ+ individuals; refugees and migrants; and older adults living alone. The SP-EU project focuses solely on social prescribing models initiated by referral from general practice, which is why such models will be the focus of this paper. We are aware that other models of social prescribing also employ non-medical referral routes [33], but these will not be addressed here. Furthermore, in the SP-EU project, all link workers will undergo the same link worker training prior to testing the adapted intervention in multinational contexts. Additional information on the SP-EU project is provided elsewhere [34].

This paper is derived from a co-creation sub-study that informs the intervention development in SP-EU [35]. It draws on data from stakeholder consultations and co-creation workshops to analyse stakeholders' views on possible adaptations across the stages of the social prescribing pathway. These activities were conducted by three hubs, each focusing on a different target group: Charité – Universitätsmedizin Berlin, Germany (Charité), which focused on LGBTIQ+ individuals; Aalborg Universitet, Denmark (AAU), which focused on migrants and refugees; and Universität Bern, Switzerland (UBERN), which focused on older adults living alone.

Co-creation approach

Social prescribing can be considered a complex intervention as it involves multiple components, various stakeholders and outcomes at multiple levels [36]. The UK Medical Research Council (MRC) and National Institute for Health and Care Research (NIHR) Framework for developing and evaluating complex interventions

[1] We use the term 'stakeholder' in accordance with the MRC/NIHR framework, encompassing 'individuals who are targeted by the intervention or policy, involved in its development or delivery, or more broadly those whose personal or professional interests are affected' [35]. We acknowledge that this term may carry colonial connotations and may be perceived as disrespectful to Indigenous People [40]. We use the term in the context of complex intervention research without such intention.

underlines the importance of engaging stakeholders, including the targeted participants, in developing or refining interventions [37]. Such engagement aims to maximise the intervention's potential to positively impact health and improve the likelihood of achieving changes in practice. Co-creation approaches [38] that position stakeholders as active partners in shaping research rather than solely as sources of data [39] were therefore employed to explore possible adaptations to social prescribing. In this study, we understood co-creation as a collaborative process that directly involves individuals affected by, or with expertise in, the research topic as stakeholders, engaging them in the design process and seeking to tailor the social prescribing intervention to their particular needs. The study was informed by a three-stage framework developed by Hawkins et al. for the co-production and prototyping of public health interventions [40].

Stakeholder consultations

Each hub held stakeholder consultations in which representatives of the three target populations were invited to participate, with one hub organising two sessions to reach different sub-groups. Purposeful sampling of participants belonging to the target groups and with in-depth experiences of health-related social needs was conducted across the three hubs by contacting local NGOs and local community offers, health centres, GPs, and social service providers who are in daily contact with the diverse target groups. Potential participants received study information and invitations to join the stakeholder consultations (see Table 1 for characteristics of participants). During the consultations, stakeholders were introduced to social prescribing and the SP-EU project. They then created 'personas'- fictional characters from the target groups who could benefit from social prescribing, inspired by a co-design Toolkit by the New South Wales Government - Agency for Clinical Innovation [41]. The personas were created collaboratively by the stakeholders through a series of questions, such as "Describe the person's life situation (such as family circumstances, social relations, housing, geography, employment, education, etc.); or "Does the person have wishes for their own health and well-being?". The persona descriptions were used to synthesise diverse lived experiences of the stakeholders and support their engagement in the dialogue [42]. The persona descriptions also provided input for the hubs to prepare for the upcoming co-production workshops. Data collection included the filled-out personas along with field notes and, where possible, audio recordings of plenary discussions.

Table 1 Characteristics of participants in stakeholder consultations

	26 LGBTIQ+ individuals, including 16 cisgender, four transgender, two non-binary, and four unspecified.		Six personas, each facing a social problem commonly related to LGBTIQ+ identity
Pioneer hub Charité	26 LGBTIQ+ individuals, including 16 cisgender, four transgender, two non-binary, and four unspecified.	Charité, Berlin /March 2025Duration: 180 min	Six personas, each facing a social problem commonly related to LGBTIQ+ identity
Pioneer hub AAU	1. session: 12 participants, including 8 women with migrant or refugee backgrounds; 3 healthcare professionals; and 1 link worker (supporting, e.g., due to language barriers). 2. session: 6 participants, including 4 men with migrants or refugee backgrounds; 1 volunteer; 1 healthcare professional	A health centre in a so-called deprived neighbourhood, Central Denmark Region February (women) and March 2025 (men) Duration: 2 × 90 min	Three personas - two female, one male
Pioneer hub UBERN	8 older adults living alone, 1 GP and 2 social workers specialising in care for older adults.	Swiss Red Cross, Seeland, Biel, canton Bern, Switzerland March 2025 Duration: 120 min	Three personas representing the three most pressing social problems for older adults living alone

Table 2 Characteristics of participants at co-production workshops

	Participants at co-production workshops	Place and time
Pioneer hub Charité	st workshop: 10, including 4 GPs, 1 social worker, 1 person from an undisclosed profession, and 4 LGBTIQ+ stakeholders.2nd workshop: 9 participants, including 6 GPs, 1 nurse or medical assistant, and 2 LGBTIQ+ stakeholders.	Charité, Berlin1st workshop: June 2025Duration: 90 min2nd workshop: June 2025Duration: 90 min
Pioneer hub AAU	1st workshop: 22, including 15 migrants or refugees, 2 medical doctors, 1 representative from the Danish Society for Immigrant Health, 3 healthcare professionals, and two link workers. 2nd workshop: 33, including 20 migrants or refugees, 4 GPs, 3 healthcare professionals, 4 link workers, 2 VSC representatives	A municipal health centre in a socially deprived neighbourhood, Central Denmark Region 1st workshop: June 2025 Duration: 90 min 2nd workshop: June 2025 Duration: 90 min
Pioneer hub UBERN	1st workshop: 10, including 7 older adults and three professionals specialising in care for older adults. 2nd workshop: 9, including 6 older adults and three professionals specialising in care for older adults.	Swiss Red Cross, Seeland, Biel, canton Bern, Switzerland. 1st workshop: June 2025 Duration: 90–120 min 2nd workshop: June 2025 Duration: 90–120 min

Co-production workshops

Each hub held two co-production workshops, resulting in a total of six across all hubs. Distinct from the stakeholder consultations, which mainly focused on recruiting target group representatives, these workshops aimed to gather diverse views from multiple stakeholders, including healthcare professionals, link workers, community stakeholders and target group representatives. Purposeful sampling of workshop participants was conducted by.

contacting local NGOs and local community offers, health centres, GPs, and social service providers to reach a diverse group (see Table 2 for characteristics of participants). Recognising that the presence of different groups e.g. both healthcare professionals and target group representatives could create power imbalances, each hub employed strategies to promote equitable participation. These included careful consideration of group composition, the establishment and sharing of ground rules, and attentive facilitation.

The workshops were facilitated by research members of the hubs and in some cases, local health professionals provided support, for example with language barriers. Personas created in the stakeholder consultations were used in the workshops to explore possible adaptations to the social prescribing pathway. After working on this in groups, the workshop participants presented their findings in plenum for further clarification and discussions.

Following the first workshops, the research teams from the three hubs met online to share insights and plan the next round of workshops. Data collection included field notes, stakeholder-completed templates, and, where feasible, audio recordings of plenary presentations (available at the AAU facilitated workshops). The study adopted a pragmatic approach, prioritising the best possible input from each site. Although the aim of the co-creation activities was consistent across the three hubs, the number and composition of participants, as well as the facilitation processes, varied. Given the inherent differences among the three target groups, a uniform procedure across hubs was not feasible, and neither was the aim to compare the three groups but gain access to insights into what aspects of social prescribing should be adapted to the diverse groups.

Ethical considerations

Informed consent was obtained from all participants prior to the stakeholder consultations and co-production workshops. Participants received reimbursement in alignment with local custom, resulting in financial compensation at Charité (between €50 and €75) and at UBERN (€109), while AAU distributed gift baskets valued at €67 upon agreement about such payment. In our analysis and reporting, participants were pseudonymised, and their stakeholder roles are broadly described. The project activities were registered in accordance with the ethical guidelines for research at Charité, AAU and UBERN.

Data analysis

Although stakeholder consultations and co-production workshops were conducted separately for each target group to gain population-specific insights, our analytical approach was designed to identify patterns within and across populations, rather than to examine context-specific findings for a single hub. Analysis proceeded in two stages. First, each hub conducted local thematic analysis [43] to develop population-specific findings. Throughout this stage, the research teams met regularly online to discuss initial findings. Second, these population-specific findings were synthesised collaboratively across sites. Here, translation of data from the three national languages (German, Danish and French) into English were conducted collaboratively across hubs.

Then, inspired by an inductive thematic analysis approach [43], we coded persona descriptions, field notes and workshop findings using an overarching coding framework representing the three stages of the social prescribing pathway in SP-EU; referral in general practice; linking; and community engagement. Within this framework, themes were developed inductively. Initial themes and interpretations were developed by the first author (LGR) and the last author (SA) and subsequently shared with all hubs, who contributed target-group-specific nuances or highlighted potential disagreements with the proposed interpretation, which were then discussed collaboratively and refined. This iterative process of sharing, discussion and refinement continued until agreement was reached across the hubs and in the author group.

In line with thematic analysis [43], themes were identified based on their importance and relevance to the research question, rather than solely based on their frequency or proportion in the full dataset. This was considered particularly appropriate given that data collection methods varied across hubs, and the volume of available data differed, e.g., with audio recordings available only from the AAU-facilitated workshops. In addition, the persona descriptions were analysed as outputs of the co-creation process, representing some of the challenges and needs of the target groups to inform possible adaptations of social prescribing. The coding and cross-site synthesis were managed using Microsoft Excel and Word.

Results

Our findings are presented below, structured according to the three stages of the social prescribing pathway: (i) referral; (ii) linking; and (iii) community engagement. Selected persona descriptions are presented in Appendix 1 as illustrative examples of potential needs identified. These personas are fictional characters, constructed and co-created to represent individuals in the target groups for whom social prescribing could be relevant. These should, however, not be interpreted as accounts of real individuals.

Referral

Our workshops revealed that identifying patients for social prescribing in general practice may be challenging due to time constraints and because GPs may prioritise acute or somatic symptoms. Yet, exploring a patient's social situation may be facilitated through continuity of care in general practice, building on multiple consultations to establish a trusted relationship. A representative of older adults living alone alerted attention to this when asked whether they talk with their GP about their social situation: 'More or less, it depends on the relationship we have with them' (Fieldnotes from workshop by UBERN). Still, stakeholders at the UBERN workshop suggested delegating tasks to other staff members in general practice, such as practice nurses, who may have more time to inquire into patients' social situations. Lack of time in consultations with their GP was also pertinent for migrants and refugees with limited language skills. Here, additional consultation time, an extra appointment, or translation services were suggested as possible solutions. Such adaptations may help the GP identify health-related social needs of patients and facilitate access to social prescribing services.

Furthermore, some patients can feel reluctant or ashamed to share problems such as loneliness with their GP and may be unsure about whether it is appropriate to raise such concerns in a medical setting. This was especially the case at the workshops concerning older adults living alone, such concerns were mentioned, which could be worsened during communication with GPs:

> *Another problem is that the GP is always behind their computer and doesn't really look at us anymore. That makes us feel unheard, and so we don't feel like talking about it. It helps when they look at us while we speak and allocate time for us—we feel more comfortable talking about our problems. It also helps when they ask us questions, but they almost never do*. (Fieldnotes from workshop by UBERN)

As suggested above, non-verbal cues, such as direct eye contact, as well as verbal cues, such as proactive questions about non-medical aspects of health, may be of high importance to detect if patients have unmet social needs. Similarly, stakeholders at the workshops with refugees and migrants suggested that:

> *The GP could be aware of asking questions such as, 'Do you feel the need to see other people?'* or *'Do you feel the need to be social?' and perhaps be curious about 'What do you do in your daily life?* (Quote from transcribed audio recordings by AAU)

Beyond such questions, stakeholders at workshops in Berlin focusing on the health-related social needs of LGBTIQ+ individuals suggested that GPs should proactively ask patients about their sexual orientation and gender identity instead of assuming. They recommended adapting medical history forms to include voluntary questions on these topics and using symbols, flyers, magazines, or pronouns on name tags to foster a welcoming environment for LGBTIQ+ individuals. Participants also discussed whether practice teams need specific resources or sensitivity training to address gender identity and sexual orientation. Taken together, these suggestions indicate that proactive communication about social problems is not always experienced as the norm in general practice.

Interestingly, while most target group representatives preferred proactive questions about social needs, some healthcare professionals expressed concerns that this could risk stereotyping or imposing vulnerability. As such, the phrasing used when proposing social prescribing should be carefully considered:

> *If someone* (the patient) *is a dignified older man who says, 'I don't need any help', it might be easier for you* (as a GP) *to suggest, 'Would you like to meet someone, sit together playing board games with people your own age?' That can be easier for him to accept than saying, 'Do you need help?' – people don't like that. So, use words in a way that maintains his dignity and makes it easier for him to accept the offer (of social prescribing) and makes it easy to say 'Yes', so it doesn't feel like it's out of pity. (Quote from transcribed audio recordings of workshop by AAU)*

This quote came from a former GP, who pointed to the risk in suggesting social prescribing if not appropriately framed, as it could position the participant in a deficit position. These findings reveal a tension between patients' potential preference for proactive communication about social problems and GPs' reluctance to initiate such conversations due to concerns about stigmatisation.

Our findings suggest that identifying patients who could benefit from social prescribing may be challenging in general practice due to limited consultation time, along with both GPs and patients may not feeling comfortable talking about health-related social needs. Proactive strategies like asking open questions about social situations, extending time for patients with language barriers, or displaying LGBTIQ+ symbols may help reduce barriers for referral. However, these should be balanced against the risk of placing patients in a deficit position. This points to the importance of the GP communicating about social prescribing as an optional choice rather than a necessity based on a predetermined vulnerability of their patients.

Linking

The discussions in the consultations and workshops also made it apparent that the characteristics of link workers may be especially important for groups in vulnerable situations. Representatives of migrants and refugees expressed a preference for link workers who could speak the participants' native languages. This could help overcome language barriers, allow participants to express their needs more comfortably, and foster shared cultural understanding. However, since link workers rarely speak multiple languages, their awareness of the cultural diversity was considered most important. Similarly, during the workshops in Berlin, stakeholders discussed recruiting link workers who identify as LGBTIQ+ themselves. This common ground could help build trust and understanding. However, it was later suggested that link workers should be trained to understand diverse needs, in addition to having awareness of inclusive LGBTIQ+ terminology. Among older adults living alone, it was suggested that link workers should have insight into issues commonly experienced by this group, such as mobility issues and potential reluctance to talk about social problems. These findings reveal the perceived importance of link workers having specific knowledge relevant to each group, such as commonly experienced challenges or points of awareness in communication. Nevertheless, stakeholders made it clear that such target-group-specific knowledge should not overshadow the importance of approaching each individual with an open mind and without assumptions.

Besides link workers acting as community navigators, the time to attentively listen to participants was perceived as potentially beneficial in itself:

> *Often, patients go to the doctor because they feel lonely and want to talk to someone. The link worker would take care of that for the doctor and accompany the patient over a longer period.* (Fieldnotes from workshop by UBERN).

Building a trusted relationship with the same link worker seemed important, especially for older adults living alone, implying participants should be able to request a different worker if their needs were not met. Furthermore, the listening skills of link workers may be particularly valuable for those participants who have experienced a lack of understanding in previous encounters with the healthcare system. This may be demonstrated through the persona of 'Philly' (See Appendix 1):

> *Philly reports having already visited several GPs and specialists, but no one has so far been able to help sufficiently. Because of non-visible health limitations, Philly frequently encounters barriers when accessing the medical care system and when confronted with bureaucratic processes. Philly has the impression that various things in everyday life seem to come easily to other people (organizational structure of a daily routine, doing administrative tasks, access to medical care), while Philly struggles with them. Philly is searching for a diagnosis that could explain their symptoms and seeks support from a doctor with understanding and knowledge. As a genderfluid person, Philly feels a pressure to justify themselves in public spaces, which is exacerbated by the use of incorrect pronouns and forms of address, leading to social isolation."* (Extract of case-vignette based on persona description developed during stakeholder consultation by Charité).

As illustrated above the stakeholders described that referral to the link worker could help people access community support to reduce everyday life challenges, but perhaps also convey the understanding that persons like Philly have felt what was missing so far in the healthcare system. Together, stakeholders expected the link worker support to be beneficial in itself to address unmet social needs among referred participants.

Yet stakeholders also made it apparent that the link worker should adapt their mode of delivery of social prescribing to each individual, allowing appointments to be arranged according to participants' needs, including home visits, face-to-face meetings at neutral locations, in general practice, at community sites, by telephone, etc. As for the target group of older adults living alone, it was emphasised that link workers should contact the participant quickly after referral and be able to conduct home visits, at least for the first appointment. Similarly,

during the workshop focusing on refugees and migrants, it was emphasised that the initial meeting between participant and link worker could be held face-to-face, both to build trust and to reduce potential language barriers, as in-person interactions and non-verbal communication can improve mutual understanding. However, flexible support from link workers appeared most important, allowing appointments to take place at various locations depending on participants' needs.

In sum, our findings suggest that link workers' backgrounds and knowledge may play a significant role in building trust and acceptability among participants. While matching backgrounds might not be feasible, providing link workers with specific knowledge about the target group(s)' needs along with training their sensitivity to diversity could be beneficial. Nevertheless, stakeholders encourage link workers to approach each individual with openness, acknowledging their personal preferences. In addition, having knowledge of community services, spending time together and attentive listening appear to be key.

Community engagement

The stakeholders emphasised the importance of availability of a variety of community options to refer to that target specific yet diverse needs. During the Charité workshops, it was emphasised that link workers should prioritise identifying queer-friendly spaces and services targeting LGBTIQ+ persons. Here some stakeholders expressed that subgroup-specific communities were essential, as not all community options are equally suitable for everyone: For instance, communities targeting cisgender gay men might not be suitable for trans* persons. As such it was pointed out that specific community options could offer opportunities for participants to be reflected in peers, and to feel accepted in the social environment. Similar requests for target-group specific offers were raised during workshops focusing on migrants and refugees. When discussing the persona of Yasmina, who, among other challenges, has a limited social network and language difficulties, a stakeholder explained:

> *It is no use being in a group of people where she* (Yasmina) *cannot communicate or mirror herself. So, she must be capable of mirroring herself in others – there can be other nationalities providing her with the opportunity to learn Danish, but she must also have the opportunity to liken herself with others.* (Quote derived from transcribed audio recordings from workshop by AAU)

Stakeholders highlighted that the composition of members in the communities referred to and their approaches to including newcomers from diverse cultural and ethnic backgrounds are essential. Yet, stakeholders also pointed out that supporting participants in accessing such communities should be balanced with link workers' ongoing openness to individual preferences, avoiding assumptions about suitable community options.

It was stressed in the workshops that participants should ideally identify their own direction for community engagement. However, not all participants know which direction they want to take, so qualified suggestions can be required based on dialogue:

> *You can come in as a participant and say, 'I don't have any interests or hobbies,' or 'I don't know what I want. So, when these citizens come in, they need to have a sort of walkthrough, like okay, these things exist, and 'what did you like as a child?' or 'what did you used to do?', 'do you have any previous interests?' Then try to approach it that way, because there are many who don't know what they want.* (Quote derived from transcription of audio recordings of workshop facilitated by AAU)

Workshop stakeholders also recognised the need to address practical barriers to community participation, such as transportation, participation costs, geographic distance, timing of services, or lack of equipment. Through the description of personas (See examples in Appendix 1), it became evident that the perceived individuals who could benefit from social prescribing face multiple interconnected challenges, including financial or mobility problems. Therefore, participation costs or geographic distance may often pose significant obstacles. As one stakeholder at a UBERN workshop stated: 'If it's too expensive, we won't participate either, or if the procedures are too complicated, same thing. So, it should be inexpensive, easy to do, and the benefit should be direct.' (Fieldnotes from

workshop by UBERN). Thus, it was pointed out that practical issues can serve as barriers for some individuals, even to engage with a link worker. Therefore, stakeholders pointed out that such barriers should be addressed throughout the social prescribing pathway.

Discussion

Our findings suggest a range of possible adaptations across the stages of social prescribing. As a sub-study informing the development of the social prescribing intervention in SP-EU [35], this paper identified possible adaptations that stakeholders perceived as acceptable and relevant [37]. Our findings do not demonstrate the feasibility or effectiveness of the suggested adaptations, which will be evaluated in subsequent phases of the SP-EU project.

Despite examining three populations facing different types of vulnerabilities, common patterns were identified. Representatives of all three groups emphasised the importance of GPs' sensitive inquiry into their social situation, while link workers were also encouraged to approach each individual with flexibility and openness, and support access to diverse community options where engagement emerges from participants' own preferences rather than target-group membership. Our results highlight the importance of meeting the specific needs of target groups on the one hand, while avoiding stereotypical treatment of participants based on their group membership on the other. This tension may be especially relevant for GPs and link workers, suggesting the use of proactive strategies to reduce barriers to engagement. However, they must balance this with the risk of inadvertently imposing vulnerability, which could undermine the ideal of empowerment and ownership which social prescribing aims to foster [36, 44].

Our results resonate with existing social prescribing literature. At the referral stage, our findings suggest that health professionals' proactive strategies for exploring patients' social situations may enhance access to social prescribing. This aligns with Bos et al. (2025), who also identified barriers to addressing broader health needs among people with complex multiple problems, including limited consultation time. They also found that patients may not always recognise that their physical complaints can stem from other issues, such as stress, financial or social problems. This makes it difficult for GPs to recommend more holistic approaches, such as social prescribing, because patients might hesitate or lack motivation to engage. These findings add to our study by suggesting that barriers to engaging in referral also exist at the patient level [45], which further underscores health professionals' ability to communicate about social issues with sensitivity and help patients feel comfortable sharing them, as a way to facilitate access to social prescribing.

Further our results add to existing social prescribing research especially regarding the role of link workers. A scoping review by Mulholland et al. (2025) describes how social prescribing link workers must balance empowering participants and supporting their autonomy whilst providing sufficient and appropriate support without creating dependency [46]. Our findings pinpoint a related but distinct tension between navigating target-group-specific awareness with person-centred approaches that do not reinforce stereotypes. Together, these findings suggest that, in some cases, link workers may need to navigate competing demands to properly support participants' engagement in social prescribing.

This aligns with Tierney et al. (2024), who describe the importance of link workers' ability to build trusted relationships through communication skills and knowledge of community resources. Critically, they emphasise that link workers must avoid being overly directive when supporting community engagement, as decisions should emerge from joint decision-making, enabling participants to feel a sense of ownership [10]. Our findings across the three distinct populations confirm these insights. Furthermore, stakeholders at our workshops hypothesised that support from link workers could be valuable in itself. Such value may arise through trust-building and the link worker's ability to listen and address sensitive issues. These aspects of the link worker role align closely with the concept of 'holding' described by Westlake et al. (2024), who emphasise that this important dimension of the link worker role should be recognised in training programs and support provision [47]. This holding function

may be particularly prominent when supporting participants in potentially vulnerable situations, as evident in our findings.

Additionally, stakeholders at our workshops often identified practical barriers to community participation, such as transportation difficulties and participation costs. Such barriers may reflect broader social and economic inequalities that may lie beyond what social prescribing alone can address. This highlights that when participants' problems stem from structural determinants of health, such as poverty, housing insecurity, or discrimination, the individual-level focus of social prescribing may be insufficient to tackle the underlying causes and health inequalities. Here, broader system-level interventions may be needed [48, 49].

Despite common patterns emerging across the three selected target groups, our study also confirms the presence of unique needs for each target group, which, to some extent, has been described elsewhere in the social prescribing literature. For instance, Kellezi et al. (2021) describes barriers to migrants accessing health services, including language and cultural barriers, which can make it more difficult to disclose sensitive social issues [16]. Furthermore, Zhang et al. (2021) emphasise the importance of tailoring community offers to meet individual needs, paying particular attention to language and cultural tailoring [50]. Similarly, Westlake et al. (2026) propose that community organisations can foster inclusive participation in cultural activities for older people from global majority backgrounds through intentional engagement, power-sharing, and relational practices [51]. Regarding older adults, Grover et al. (2023) emphasise that some may experience poor health due to chronic conditions and reduced mobility, which act as barriers to attending community-based programs [52], while our findings highlight the need to address such barriers early in the referral process. To our knowledge, there is limited research examining social prescribing adaptations specifically for LGBTIQ+ populations, whereas our findings seem to expand the current literature within this area.

Beyond the empirical findings, our study proposes an interpretation of vulnerability within social prescribing interventions. Rather than treating vulnerability as a static characteristic associated with target group membership, our findings suggest it may be more usefully understood as an individual and contextual state [53, 54]. Our stakeholders emphasised that being met with preconceived ideas about one's needs and preferences risks limiting personal ownership and contributing to stereotyping. Thus, our findings underscore and confirm the value of social prescribing as a person-centred approach [55] to accommodate diverse needs and vulnerabilities. At the same time, our findings highlight the need to balance open-minded, person-centred approaches with target group-specific knowledge. Importantly, such knowledge should not imply that vulnerability is treated as a static characteristic. Instead, an informed person-centred approach that identifies support mechanisms tailored to individual needs may offer a responsive way of addressing diverse vulnerabilities in social prescribing.

Limitations

A limitation of co-creation approaches is that findings are shaped by the contexts in which they are developed [39]. Whilst we conducted co-creation activities across three geographically distinct settings and sought to standardise processes and a shared focus on the social prescribing pathway, the suggested adaptations remain influenced by local conditions. This should be considered when interpreting findings and assessing their transferability across different healthcare contexts. Furthermore, the three target groups of this study were selected to represent different types of vulnerability and distinct social problems, which were also evident in our findings. Yet each of the three groups is in itself heterogeneous, with considerable variation among individuals, and some individuals may also be at the intersection of more than one group. Therefore, the identified needs and potential adaptations do not necessarily apply to all individuals within these groups but underline the importance of person-centred approaches that respond to individual needs.

Limitations also include that recruitment was restricted to purposeful sampling of participants that could help describe experiences, possibly underrepresenting target-group members in the most vulnerable situations [56]. Furthermore, especially for our recruitment of target group representatives, we largely relied on gatekeepers with access to these populations, which may have limited our ability to specify recruitment criteria towards

subgroup-diversity properly and might have favoured more engaged participants. Still, our co-creation approach involved various efforts to support participation across different languages and backgrounds, engaging stakeholders not just in articulating their needs but also in co-creating possible adaptations.

Furthermore, information on stakeholders' prior experience of social prescribing was not systematically collected across hubs. As social prescribing remains sporadically implemented across the three national contexts, a potential lack of lived experience with social prescribing among stakeholders should be considered when interpreting the findings.

Another limitation worth mentioning is that data collection methods varied across the three hubs, e.g. with audio recordings only available for AAU. This variation in data availability may have influenced opportunities for equally in-depth analysis across hubs. However, in line with co-creation approaches [57], a diverse range of methods can serve various purposes during co-creation processes, including data collection, recruitment, reflection, engagement, and knowledge sharing among participants. Data collection should therefore be balanced with other aspects of interest in co-creation, which is why the data collection procedures were based on what seemed most appropriate at each site. Still, ongoing cross-hub dialogue and validation of findings throughout the analytical process provided an important basis for ensuring the trustworthiness of our findings. Additionally, the number and composition of participants varied across hubs, with AAU having a higher number of workshop participants and a different mix of stakeholders than the other sites. This influenced which stakeholder perspectives were present across sites.

Additionally, the personas developed during stakeholder consultations were fictional characters constructed by a specific group of stakeholders. Different stakeholder groups would likely have resulted in different persona descriptions, which could have influenced the data analysis. Furthermore, as co-design tools, the persona descriptions do not necessarily capture the range of individual perspectives or nuances that could have been obtained through accounts from real-world participants.

Finally, the informed consent procedures and use of audio recordings (one hub only) may have inadvertently positioned stakeholders as research subjects rather than equal collaborators, potentially reinforcing power imbalances that undermine the co-creation ideal [58]. Also, we did not systematically collect stakeholders' feedback on the co-creation activities, including whether they felt their contributions were valued or whether they experienced power imbalances. Post-workshop surveys or independent observers [59] could have captured such perspectives and strengthened our assessment of the quality of our co-creation activities.

Conclusion and perspectives

Our findings identify several options for adapting social prescribing to address unmet social needs of people in potentially vulnerable situations. Through co-creation activities with three exemplary populations representing different types of vulnerabilities: LGBTIQ+ individuals; refugees and migrants; and older adults living alone, we identified common requests. These included the importance of GPs' communication about patients' social situations; link workers approaching each individual with a flexible, open approach; and diverse community options in which participation is linked to individual interests rather than target-group membership.

Our findings point to possible tensions, including meeting requests of target-group-specific knowledge while avoiding stereotyping participants based on their group membership. As such, this paper proposes an interpretation of vulnerability in social prescribing as an individual and contextual state rather than as a static characteristic of target-group membership, highlighting the potential of informed, person-centred approaches. Our findings point towards the potential importance of communication skills and sensitivity training in strengthening the capacity of general practices and link-worker teams to accommodate populations with diverse vulnerabilities throughout the social prescribing pathway.

Our findings may have several implications for social prescribing in practice and research. First, our findings point towards strengthening communication training, such as sensitivity training and person-centred consultation

approaches, useful across participants facing various types of vulnerabilities. Such training could enable health professionals to balance proactive awareness of specific needs and barriers (e.g., language barriers, concerns about disclosing social problems) with a flexible, individualised approach that avoids stereotyping. In clinical practice, where GPs and link workers routinely encounter patients with varied social needs, such generic strategies may be more useful than target-group-specific protocols. In that regard, organisational health literacy approaches [60], which emphasise health organisations' capabilities 'to make it easier for people to navigate, understand, and use information and services to take care of their health' [61], may offer a promising framework for focusing on organisational responsiveness to diverse levels of health literacy and vulnerability. Secondly, our findings suggest possible modifications to existing practices. For instance, most GPs are already trained to view their patients as holistic individuals and to acknowledge gender identity, sexual orientation, age, and cultural background - an approach that could be promoted further through sensitivity training. Other suggestions would require system-level decisions and resources, such as extended consultation time. Thus, the feasibility and prioritisation of the suggested adaptations will depend on the resources available within each health service system. Community capacity building, defined as the interaction of human capital, organisational resources and social capital to solve collective problems [62], might also be an interesting addition when co-creating efforts such as social prescribing to enhance equitable access to health [63].

Finally, future social prescribing research could examine the transferability and feasibility of our findings to different local contexts. Whilst our findings were derived across national contexts, the relevance of the suggested adaptations will often depend on local contextual factors, including the social prescribing model, the healthcare system, and available community resources. In the SP-EU project, local advisory boards (LABs) were involved in each national context to add context-specific perspectives on the findings derived from the workshops. Further co-creation processes could also facilitate such local tailoring, in line with evidence from a systematic review by Thomas et al. (2021), which found that co-approaches can effectively engage stakeholders in developing and implementing social prescribing interventions within community settings [64].

Abbreviations

GP	General practitioner
MRC	The UK Medical Research Council
NIHR	National Institute for Health and Care Research
SP-EU	Social Prescribing-EU
LABs	Local advisory boards
Charité	Charité – Universitätsmedizin Berlin, Germany
AAU	Aalborg Universitet, Denmark
UBERN	Universität Bern, Switzerland

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Authors' contributions WH and HN drafted the application of the SP-EU project, including the co-creation work package with inputs from SB, MJM, SD and SA. JH contributed to the development of the co-production framework applied in this study and provided consultation throughout. SA, LGR, MJM, SD, PO, SH, FR, SB, MH and AB operationalised the SP-EU

co-creation study. LGR, SA, PO, SH, SB, MH and AB conducted the data collection. LGR and SA conducted cross-hub analysis and interpretation, which were iteratively validated across research hubs. MM developed the graphical presentation of the personas based on input from the co-creation hubs. LGR drafted the manuscript in collaboration with SA. All authors iteratively reviewed and refined the manuscript. JH provided additional review for language and clarity.

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Data availability The datasets generated and/or analysed during the current study are not publicly available due to ensuring anonymity of the participants involved, but are available in pseudonymized form from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate Ethical approval for the co-creation study was obtained through application to the Research Ethics Committee at AAU. All participants were informed about the study and the freedom to decide whether to participate. Oral consent was obtained by UBERN, while Charité and AAU collected written consent from all participants.

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References

1. Gerber T, Hernandez LD, Rüegg R, Vetter D, Zeller A. Social issues in general practice - a survey assessing the interprofessional perspective of general practitioners and social workers regarding frequency, challenges, and needs. BMC Prim Care. 2025;26(1):11.
2. Sachschal J, Welchowski T, Offenberg L, Oberholz M, Gavrilov B, Ikar N, et al. Relationship between psychosocial problems and satisfaction with GP communication in German primary care practices: a structural equation model based on the cross-sectional GPCare-1 patient study. BMJ Open. 2025;15(5):e095489.
3. Herrmann WJ, Napierala H. GPs' perspectives on care models integrating medical and non-medical services in primary care—a representative survey in Germany. BMC Prim Care. 2024;25(1):441.
4. Zimmermann T, Mews C, Kloppe T, Tetzlaff B, Hadwiger M, von dem Knesebeck O, et al. Social problems in primary health care; prevalence, responses, course of action, and the need for support from a general practitioners point of view. Zeitschrift für Evidenz Fortbildung und Qualität im Gesundheitswesen. 2018;131:81–9.
5. Holt-Lunstad J, Smith TB, Layton JB. Social Relationships and Mortality Risk: A Meta-analytic Review. PLoS Med. 2010;7(7):e1000316.
6. Valtorta NK, Kanaan M, Gilbody S, Ronzi S, Hanratty B. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. Heart. 2016;102(13):1009–16.

7. Novilla MLB, Goates MC, Leffler T, Novilla NKB, Wu C-Y, Dall A, et al. Integrating Social Care into Healthcare: A Review on Applying the Social Determinants of Health in Clinical Settings. Int J Environ Res Public Health. 2023;20(19):6873.
8. Marmot M. Achieving health equity: from root causes to fair outcomes. Lancet. 2007;370(9593):1153–63.
9. Herrmann WJ, Oeser P, Buspavanich P, Lech S, Berger M, Gellert P. Loneliness and depressive symptoms differ by sexual orientation and gender identity during physical distancing measures in response to COVID-19 pandemic in Germany. Appl Psychology: Health Well-Being. 2023;15(1):80–96.
10. Eres R, Postolovski N, Thielking M, Lim MH. Loneliness, mental health, and social health indicators in LGBTQIA+ Australians. Am J Orthopsychiatry. 2021;91(3):358–66.
11. Almeida J, Johnson RM, Corliss HL, Molnar BE, Azrael D. Emotional Distress Among LGBT Youth: The Influence of Perceived Discrimination Based on Sexual Orientation. J Youth Adolesc. 2009;38(7):1001–14.
12. Erlangsen A, Jacobsen AL, Ranning A, Delamare AL, Nordentoft M, Frisch M. Transgender Identity and Suicide Attempts and Mortality in Denmark. JAMA. 2023;329(24):2145–53.
13. Elliott MN, Kanouse DE, Burkhart Q, Abel GA, Lyratzopoulos G, Beckett MK, et al. Sexual Minorities in England Have Poorer Health and Worse Health Care Experiences: A National Survey. J Gen Intern Med. 2015;30(1):9–16.
14. Brooks H, Llewellyn CD, Nadarzynski T, Pelloso FC, De Souza Guilherme F, Pollard A, et al. Sexual orientation disclosure in health care: a systematic review. Br J Gen Pract. 2018;68(668):e187–96.
15. Kristiansen M, Razum O, Tezcan-Güntekin H, Krasnik A. Aging and health among migrants in a European perspective. Public Health Rev. 2016;37(1):20.
16. Kellezi B, Wakefield J, Bowe M, Bridger K, Teague K. Adapting Social Prescribing to meet the needs of migrant populations: Challenges and solutions to service access and efficacy. Community Psychol Global Perspective. 2021;7(2):1–21.
17. Gil-Salmerón A, Katsas K, Riza E, Karnaki P, Linos A. Access to Healthcare for Migrant Patients in Europe: Healthcare Discrimination and Translation Services. Int J Environ Res Public Health. 2021;18(15):7901.
18. Lebano A, Hamed S, Bradby H, Gil-Salmerón A, Durá-Ferrandis E, Garcés-Ferrer J, et al. Migrants' and refugees' health status and healthcare in Europe: a scoping literature review. BMC Public Health. 2020;20(1):1039.
19. Cabañero-Garcia E, Martinez-Lacoba R, Pardo-Garcia I, Amo-Saus E. Barriers to health, social and long-term care access among older adults: a systematic review of reviews. Int J Equity Health. 2025;24(1):72.
20. Nakou A, Dragioti E, Bastas N-S, Zagorianakou N, Kakaidi V, Tsartsalis D, et al. Loneliness, social isolation, and living alone: a comprehensive systematic review, meta-analysis, and meta-regression of mortality risks in older adults. Aging Clin Exp Res. 2025;37(1):29.
21. Drinkwater C, Wildman J, Moffatt S. Social prescribing. BMJ. 2019;364:l1285.
22. Brandling J, House W. Social prescribing in general practice: adding meaning to medicine. Br J Gen Pract. 2009;59(563):454–6.
23. Moffatt S, Steer M, Lawson S, Penn L, O'Brien N. Link Worker social prescribing to improve health and well-being for people with long-term conditions: qualitative study of service user perceptions. BMJ Open. 2017;7(7):e015203.
24. Melam C, Dyson J, Thomson K. The Role of Social Prescribing Interventions in Addressing Health Inequalities in the United Kingdom: A Narrative Review. Health Soc Care Commun. 2025;2025(1):6613809.
25. 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(7):e070184.
26. Husk K, Blockley K, Lovell R, Bethel A, Lang I, Byng R, et al. What approaches to social prescribing work, for whom, and in what circumstances? A realist review. Health Soc Care Community. 2020;28:309–24.
27. Bu F, Burton A, Launders N, Taylor AE, Richards-Belle A, Tierney S et al. National roll-out of social prescribing in England's primary care system: a longitudinal observational study using Clinical Practice Research Datalink data. The Lancet Public Health.
28. Bu F, Hayes D, Burton A, Fancourt D. Equal, equitable or exacerbating inequalities: patterns and predictors of social prescribing referrals in 160 128 UK patients. Br J Psychiatry. 2025;226(2):91–9.
29. Touzel V, Esser A-L, Husk K, Reifegerste D. Social prescribing for refugee populations: a protocol for a rapid realist review of international evidence. Front Public Health. 2026;Volume 14–2026.
30. Giebel C, Morley N, Komuravelli A. A socially prescribed community service for people living with dementia and family carers and its long-term effects on well-being. Health Soc Care Commun. 2021;29(6):1852–7.
31. Tierney S, Libert S, Gorenberg J, Wong G, Turk A, Husk K, et al. Tailoring cultural offers to meet the needs of older people during uncertain times: a rapid realist review. BMC Med. 2022;20(1):260.
32. Featherstone C, Sharpe RA, Axford N, Asthana S, Husk K. Health and wellbeing outcomes and social prescribing pathways in community-based support for autistic adults: A systematic mapping review of reviews. Health Soc Care Commun. 2022;30(3):e621–35.
33. Oster C, Skelton C, Leibbrandt R, Hines S, Bonevski B. Models of social prescribing to address non-medical needs in adults: a scoping review. BMC Health Serv Res. 2023;23(1):642.

34. Connecting health care to communities: Social Prescribing as Europe's path to inclusive health social-prescribing.eu: Social Prescribing EU. 2026 [25-03-2026]. Available from: https://social-prescribing.eu/our-research/summary/
35. Co-creation of Social Prescribing to Promote and. Improve Access to Health and Care Services for People in Vulnerable Situations in Europe [Internet]. Open Science Framework; 2025.
36. Tierney S, Wong G, Roberts N, Boylan AM, Park S, Abrams R, et al. Supporting social prescribing in primary care by linking people to local assets: a realist review. BMC Med. 2020;18(1):49.
37. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. BMJ. 2021;374:n2061.
38. Agnello DMBG, Steiner A, Chastin S. Methods Used in Co-Creation Within the Health CASCADE Co-Creation Database and Gray Literature: Systematic Methods Overview. Interact J Med Res. 2024;13:e59772.
39. Agnello DM, Anand-Kumar V, An Q, de Boer J, Delfmann LR, Longworth GR, et al. Co-creation methods for public health research — characteristics, benefits, and challenges: a Health CASCADE scoping review. BMC Med Res Methodol. 2025;25(1):60.
40. Hawkins J, Madden K, Fletcher A, Midgley L, Grant A, Cox G, et al. Development of a framework for the co-production and prototyping of public health interventions. BMC Public Health. 2017;17(1):1–11.
41. Personas. - Patient Experience and Consumer Engagement – Experience-Based Co-design Toolkit [Internet]. (New South Wales Government. 2025 [cited 21-01-2026].
42. Dominello A, Cheek C, Clay-Williams R. The use of personas to involve consumers in healthcare co-design: a scoping review. BMC Health Serv Res. 2025;25(1):649.
43. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Res Psychol. 2006;3(2):77–101.
44. Bhatti S, Rayner J, Pinto AD, Mulligan K, Cole DC. Using self-determination theory to understand the social prescribing process: a qualitative study. BJGP Open. 2021;5(2).
45. Bos C, Vader S, van Vooren N, Jerković-Ćosić K, Keij B. How to improve support for people with (complex) multiple-problems through social prescribing in a vulnerable neighborhood; professionals', experts-by-experience' and clients' perspectives. BMC Prim Care. 2025;26(1):165.
46. Mulholland J, Galway K, O'Hare L, Bertotti M, Gildea A. The Social Prescribing Link Worker—Clarifying the Role to Harness Potential: A Scoping Review. Health Soc Care Commun. 2025;2025(1):4394123.
47. Westlake D, Wong G, Markham S, Turk A, Gorenberg JG, Pope C, et al. She's Been a Rock: The Function and Importance of Holding by Social Prescribing Link Workers in Primary Care in England—Findings from a Realist Evaluation. Health Soc Care Commun. 2024;2024(1):2479543.
48. Khan K, Tierney S. The Role of Social Prescribing in Addressing Health Inequalities. In: Bertotti M, editor. Social Prescribing Policy, Research and Practice: Transforming Systems and Communities for Improved Health and Wellbeing. Cham: Springer International Publishing; 2024. pp. 31–45.
49. Gibson K, Pollard TM, Moffatt S. Social prescribing and classed inequality: A journey of upward health mobility? Soc Sci Med. 2021;280:114037.
50. Zhang CX, Wurie F, Browne A, Haworth S, Burns R, Aldridge R, et al. Social prescribing for migrants in the United Kingdom: A systematic review and call for evidence. J Migration Health. 2021;4:100067.
51. Westlake D, Mahtani KR, Wong G, Gorenberg J, Santillo M, Husk K, et al. Delivering Inclusive Cultural Offers for Social Prescribing: A Realist Evaluation Involving Older People From Global Majority Backgrounds and Cultural Sector Providers in the UK. Health Expect. 2026;29(1):e70550.
52. Grover S, Sandhu P, Nijjar GS, Percival A, Chudyk AM, Liang J, et al. Older adults and social prescribing experience, outcomes, and processes: a meta-aggregation systematic review. Public Health. 2023;218:197–207.
53. Spiers J. New perspectives on vulnerability using emic and etic approaches. J Adv Nurs. 2000;31(3):715–21.
54. Agergaard S, Lenneis V. Rethinking the Vulnerability of Groups Targeted in Health-Promoting Sports and Physical Activity Programs. Social Sci. 2024;13(1):6.
55. Tierney S, Wong G, Westlake D, Turk A, Markham S, Gorenberg J et al. Patient buy-in to social prescribing through link workers as part of person-centred care: a realist evaluation. 2024;13:27.
56. Voorberg WH, Bekkers VJJM, Tummers LG. A Systematic Review of Co-Creation and Co- Production: Embarking on the social innovation journey. Public Manage Rev. 2015;17(9):1333–57.
57. Agnello D, Longworth G. PRODUCES+ Draft Evidence-based Co-Creation Guideline. Zenodno: HEALTH CASCADE: Edvidence based co-creation for public health; 2025.
58. Nollett C, Eberl M, Fitzgibbon J, Joseph-Williams N, Hatch S. Public involvement and engagement in scientific research and higher education: the only way is ethics? Res Involv Engagem. 2024;10(1):50.
59. Observation Guide: Evaluating a Co-Creation Workshop [Internet]. Zenodo. 2024 [cited 26-01-26]. Available from: https://zenodo.org/records/14228909
60. Aaby A, Simonsen CB, Ryom K, Maindal HT. Improving Organizational Health Literacy Responsiveness in Cardiac Rehabilitation Using A Co-Design Methodology: Results from The Heart Skills Study. Int J Environ Res Public Health. 2020;17(3):1015.

61. Farmanova E, Bonneville L, Bouchard L. Organizational Health Literacy: Review of Theories, Frameworks, Guides, and Implementation Issues. INQUIRY: J Health Care Organ Provis Financing. 2018;55:0046958018757848.
62. Chaskin RJ. Building Community Capacity:A Definitional Framework and Case Studies from a Comprehensive Community Initiative. Urban Affairs Rev. 2001;36(3):291–323.
63. Simonsen CB, Overgaard C, Agergaard S. Unpacking tensions in community capacity building: A qualitative examination of a co-production process to support children's and adolescents' leisure-time physical activity in public housing areas. SSM - Qualitative Res Health. 2025;8:100657.
64. Thomas G, Lynch M, Spencer LH. A Systematic Review to Examine the Evidence in Developing Social Prescribing Interventions That Apply a Co-Productive, Co-Designed Approach to Improve Well-Being Outcomes in a Community Setting. Int J Environ Res Public Health. 2021;18(8).

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