Health and Social Care Delivery Research

Synopsis

Implementation of link workers in primary care: Synopsis of findings from a realist evaluation

Stephanie Tierney,[1*] Geoff Wong,[1] Debra Westlake,[1] Amadea Turk,[1] Steven Markham,[1] Jordan Gorenberg,[1] Joanne Reeve,[2] Caroline Mitchell,[3] Kerryn Husk,[4] Sabi Redwood,[5] Tony Meacock,[1] Catherine Pope,[1] Beccy Baird[6] and Kamal Mahtani[1]

[1]Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK
[2]Hull York Medical School, University of Hull, Hull, UK
[3]School of Medicine and Population Health, University of Sheffield, Sheffield, UK
[4]Peninsula Medical School, University of Plymouth, Plymouth, UK
[5]Bristol Medical School, University of Bristol, Bristol, UK
[6]The King's Fund, Cavendish Square, London, UK

[*]**Corresponding author** stephanie.tierney@phc.ox.ac.uk

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Abstract

Background: Social prescribing link workers formed part of the Additional Roles Reimbursement Scheme introduced into primary care in England from 2019. Link workers assist patients experiencing issues affecting their health and well-being that are 'non-medical' (e.g. lack of social connections, financial difficulties and housing problems). They give patients space to consider these non-medical issues and, when relevant, connect them to support, often within the voluntary–community–social–enterprise sector. We conducted an earlier realist review on the link worker role in primary care. We then carried out a realist evaluation, described in this report, to address the question: When implementing link workers in primary care to sustain outcomes – what works, for whom, why and in what circumstances?

Aim: To develop evidence-based recommendations to optimise the implementation of link workers in primary care and to enable patients to receive the best support possible.

Design: A realist evaluation, involving two work packages.

Setting: Data were collected around seven link workers in different parts of England.

Methods: For work package 1, researchers spent 3 weeks with each link worker – going to meetings with them, watching them interact with patients, with healthcare professionals and with voluntary–community–social–enterprise staff. During this time, researchers had a daily debrief with the link worker, inviting them to reflect on their working day, and they collected relevant documents (e.g. job descriptions and information on social prescribing given to patients). They also conducted interviews with 93 primary care/voluntary–community–social–enterprise staff and 61 patients. As part of this work package, data on patient contact with a general practitioner before and after being referred to a link worker were collected. Work package 2 consisted of follow-up interviews (9–12 months later) with patients; 41 were reinterviewed. In addition, link workers were reinterviewed. A realist logic of analysis was used to test (confirm, refute or refine) the programme theory we developed from our realist review. Analysis explored connections between contexts, mechanisms and outcomes to explain how, why and in what circumstances the implementation of link workers might be beneficial (or not) to patients and/or healthcare delivery.

Results: We produced three papers from the research – one on link workers 'holding' patients, one on the role of discretion in their job, and another exploring patient-focused data and readiness to engage in social prescribing. Data from these papers were considered in relation to Normalisation Process Theory – a framework for conceptualising the implementation of new interventions into practice (e.g. link workers into primary care). By doing so, we

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identified infrastructural factors required to help link workers to: (1) offer person-centred care; (2) develop patients' self-confidence, sense of hope and social capital; (3) facilitate appropriate general practitioner use; (4) foster job satisfaction among those delivering social prescribing.
Discussion: Our research highlighted the importance of a supportive infrastructure (including supervision, training, leadership/management, clarity about the role, link workers' ability to use existing skills and knowledge and having capacity to connect with providers in the voluntary–community–social–enterprise sector) in order to produce person-centred care, to nurture hope, self-confidence and social capital among patients, to ensure they receive the right support (medical or non-medical), and to promote link workers' job satisfaction. Data showed how link workers can contribute to the offer of holistic care beyond a purely medical lens of health and illness.
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Preface

This is a synopsis of a realist evaluation that addressed the question: *When implementing link workers (LWs) in primary care to sustain outcomes – what works, for whom, why and in what circumstances?* It sets out why this project was needed, how we collected and analysed data, our key findings and how we wove together these findings with stakeholders' input to produce recommendations. Our main findings were submitted for publication as three separate papers.[1,2,3] Their titles are listed in *Table 1*; a summary of each paper is provided in this synopsis.

To help us make sense of and synthesise ideas from across these papers, we drew on the Normalisation Process Theory.[4] Doing so prompted us to consider the importance of a supportive infrastructure for LWs to flourish and shaped the recommendations we developed from the research (see *Report Supplementary Material 1*).

Introduction

Numerous factors shape health and well-being; many are non-medical in nature,[5] which can influence when and how healthcare services are used. For example, loneliness, worrying about money or experiencing poor housing can have a direct impact on people's health (e.g. contributing to stress or respiratory infections) or affect willingness to engage in health behaviours (e.g. taking medication and being physically active). Social prescribing (SP) enables people to receive support with such non-medical determinants of health.[6] It involves connecting people to relevant services and support (e.g. gardening groups, physical activity sessions, cultural events or charities that provide advice on debt). Benefits from such connections and support vary but can include helping people to develop their social capital;[7] this refers to resources that individuals accrue from connections with others.[8] Putnam[9] wrote that social capital is engendered through participation in groups/activities and facilitates social cohesion. In that sense, social capital is regarded as an asset or resource, with higher levels of social capital linked to better health and well-being.[10,11] The voluntary–community–social–enterprise sector (VCSE) sector has a tradition of developing social capital and supporting individuals, working in partnership with general practice for decades; SP facilitates this partnership. Through working with VCSE organisations to link people to appropriate support, and to develop their social capital,[7] SP also fosters personalised care, whereby individuals 'have choice and control over the way their care is planned and delivered based on "what matters to them" and their individual strengths, needs and preferences'.[12]

TABLE 1 Titles of the three submitted papers around which the synopsis is threaded

Paper 1	*'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*[1]
Paper 2	*The consequences of micro-discretions and boundaries in the social prescribing link worker role in England: a realist evaluation*[2]
Paper 3	*Patient buy-in to support from a social prescribing link worker – creating hope (connecting with), giving direction (connecting to) as part of person-centred care: findings from a realist evaluation*[3]

National roll-out of link workers into primary care

Social prescribing's role as an additional approach to medical care and a means of developing social capital was included in NHS England's Long Term Plan,[13] in which a commitment was made to provide primary care networks (PCNs) with funding for LWs; these employees form part of the Additional Roles Reimbursement Scheme (ARRS)[14] to improve access in primary care by introducing new staff to contribute to its skills mix. The NHS Long Term Plan[13] stated that by 2023–4, 900,000 patients would have been referred to SP, and its Long Term Workforce Plan[15] projects that the number of LWs in 2022, which was 3000, would rise to 9000 by 2036–7.

Employment of link workers

There is variation in how NHS funding for LWs has been used. Some LWs are employed through primary care to serve one or more surgeries, where they work alone. Others work alongside a health and well-being coach and/or care co-ordinator, or additional LWs, in a practice. Alternatively, LWs can be employed through a VCSE organisation as part of a bigger SP team; NHS funding provided to PCNs may be passed to a VCSE organisation to employ a LW to serve its patients. There are also examples, in England, of alternative funding sources to employ LWs, augmenting existing provision or offering something different (e.g. a specialist LW focusing on specific patient groups, funded through local authority or charity money).

Many LWs employed through NHS funding started their role just before or at the start of the COVID-19 pandemic. They faced several challenges, as a consequence, around patient engagement (e.g. developing rapport remotely), practice integration (e.g. accessing resources required to work from home, such as laptops and mobile phones, and getting to know primary care team members) and service provision (e.g. limited VCSE access/support to refer people to). In addition, LWs found themselves receiving increasingly complex referrals.[16–21] Nevertheless, they proved to be an invaluable resource in many practices during this time, carrying out well-being calls to vulnerable patients, ensuring that patients received medication or food, supporting patients who were socially isolated, providing information about the virus and assisting with the delivery of vaccination programmes.[19,20,22,23]

Key elements of the link worker role in primary care

Link workers may be regarded as ‘signposting’ people to local services. However, research shows their role is more complex[16,24,25] and includes having:

- Time to understand what matters to patients in terms of their well-being goals (these may be varied, such as wanting to feel that life has purpose, losing weight and dealing with emotional or practical problems).
- Up-to-date knowledge of local resources (e.g. groups, organisations and charities), so they can coproduce an action plan with patients and connect them to community support/services to meet their well-being goals.

Training for link workers

There is no set qualification or training for LWs; individuals come to the role from a variety of backgrounds, with a range of personal and professional experience (e.g. VCSE, NHS, social care, local authority, education and volunteering).[26,27] NHS England[28] has produced a workforce development framework to increase understanding of the role and how LWs can support and have an impact on people’s wider health and well-being. It includes information on professional standards and competencies, offers guidance on supervision and on continued professional development. It includes details on training available to LWs from the Personalised Care Institute (listed in *Table 2*).

This workforce development framework[28] proposes that LWs dedicate time to having person-centred conversations with patients, supporting individuals for an average of 6–12 sessions over a 3-month period. The framework suggests that LWs should have a typical annual maximum caseload of 200–250 people.

A need for research on the link worker role in primary care

Despite the drive in England for SP within primary care, and the LW role as part of this, a consistent theme from systematic reviews is a need for more high-quality research to support policy.[29–31] This includes an improved understanding of how, why and under what circumstances SP can be optimally delivered. A realist review that some authors of this document published[7] was a step towards addressing this knowledge gap. It drew on 118

TABLE 2 Online modules (correct at the time of writing) provided for LWs

1.	Introduction to the LW role
2.	Developing personalised care and support plans with people
3.	Developing partnerships
4.	Introducing people to community groups and VCSE organisations
5.	Safeguarding vulnerable people
6.	Keeping records and measuring impact
7.	Supporting people with their mental health through SP
8.	Social welfare, legal support and money guidance
9.	SP for children and young people
10.	Supervision
11.	SP and the Armed Forces Community
12.	Culturally responsive practice

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documents about the LW role. By triangulating qualitative and quantitative findings from across these documents, we made a series of knowledge claims (in the form of a programme theory) regarding how LWs work, for whom, in what circumstances and why. Our realist review highlighted the following:

- Engagement is key, with success dependent on 'buy-in' from patients and healthcare professionals (HCPs) to (1) the idea of SP as a viable addition to traditional clinical care and (2) those undertaking the LW role (i.e. seeing them as credible and reliable).
- VCSE organisations will 'buy-in' to the role and feel able to work in partnership with a LW, if adequately supported (financially) and not overstretched.
- Connections are key to buy-in, through relationship-building/trust between the patient and LW, LW and primary care staff, LW and the VCSE sector.
- LWs can facilitate mobilisation of social capital (i.e. resources accrued by patients through connections, such as a sense of belonging, improved self-confidence and access to advice).
- People can be prompted to invest in their health through an upsurge in their social capital. This could mean they rely less heavily on medical professionals for assistance or, conversely, that they contact their general practitioner (GP) more as they seek to better manage their health.

This previous realist review[7] highlighted gaps in knowledge, including how LWs promoted buy-in to their role from patients, what elements of their work were key to stakeholder buy-in to the role and what factors prompt change to a patient's situation following SP. This led to our decision to conduct some follow-up primary research to build on and advance findings from our realist review.

Summary

Managing non-medical issues affecting health and well-being is a key aim of SP; it seeks to address problems experienced by patients, which cannot be managed with medical interventions. Our previous realist review resulted in an explanation of potential mechanisms associated with outcomes from the LW role and highlighted the challenges with its implementation in primary care. This review was based on existing literature published prior to the national roll-out of the LW role in primary care and before the COVID-19 pandemic. For SP to become part of regular support offered to patients, and a means of addressing workforce challenges in primary care, new research in the form of a realist evaluation was conducted to characterise the role and understand factors associated with its implementation.

Aim

Our realist evaluation aimed to generate evidence-based recommendations on the potential to optimally implement LWs in primary care, allowing NHS patients to receive the best possible support. The primary research question it addressed was: *When implementing LWs in primary care to sustain outcomes – what works, for whom, why and in what circumstances?* Additional subquestions were:

- How are LWs being implemented and used in primary care in England?
- What factors contribute to LWs working, for whom, why and in what circumstances?
- What is required to further optimise patient outcomes?
- What impact do LWs have on patients and service use?

Methods

Research design

A realist approach is suitable for understanding complex interventions; this approach explains the influence of context, who might (or might not) benefit and how outcomes have arisen.[32] We regarded the LW role in primary care as a complex intervention,[33] composed of a range of components (e.g. educating, encouraging and empowering people), including several stakeholders (e.g. patients, the VCSE sector, primary care staff and LWs) and producing variable outcomes (e.g. for patients, practices and the health service).

Our realist evaluation focused on mechanisms and contexts required to 'trigger' them – resulting in the development, refinement and testing of context–mechanism–outcome configurations (CMOCs). CMOCs are propositions or causal claims to explain how a specific context (C) activates mechanisms (M) to produce an outcome (O). They are embedded within a programme theory, which provides an explanation of how an intervention is thought to work and under what conditions.[34] The starting point for our realist evaluation was the programme theory we developed from our previous realist review,[7] which we expanded and refined by studying the LW role in depth, in different parts of England. We followed Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) quality and reporting guidelines, developed for realist projects, when conducting and reporting on this study (www.ramesesproject.org/) (see *Report Supplementary Material 2* outlining where in the paper we addressed these guidelines).

Data collection and analysis took place between November 2021 and December 2023. A protocol was published at the start of the study. The study consisted of two work packages (WPs).

Work package 1: in-depth data collection through focused ethnographies

Sampling

Our previous research[7,35] highlighted the inherent diversity in how LWs have been implemented in the NHS and wider community. This informed the purposive sampling adopted and what areas we focused on within the sample. Data were collected around seven LWs (our study cases) in different parts of England. We strove for maximum variation. This involved collecting data from cases (LWs) and sites (practices) that varied in: (1) location within England; (2) how LWs were employed – through primary care or VCSE sector; (3) the population being served and (4) the amount of time LWs had been in post. We felt that collecting data around seven LWs was sufficient to provide variation, was possible in the time available and was manageable in terms of the number of data that would be collected. Clinical research networks helped with recruiting sites by advertising the study to PCNs.

Data collection

Multiple sources of data were collected around each case (LWs) for WP1, as outlined in *Table 3*. We were collecting data while COVID-19 was still causing limitations in interactions (especially during early stages of the research) but were able to complete face-to-face data collection as planned, alongside interviewing some patients and professionals remotely.

Data collection involved a researcher spending 3 weeks shadowing a LW at the seven sites involved in the study. We defined this as our fieldwork. We anticipated that engaging in fieldwork would uncover new contexts and outcomes not identified within the programme theory we produced as part of our previous realist review.[7] During the 3 weeks of fieldwork, researchers spent time observing LWs in their activities, with primary care staff, with VCSE organisations, with patients; this included attending meetings and taking part in more informal activities (e.g. coffee or lunch breaks). Researchers made written field notes of what they observed; these were discussed during the fieldwork period with project leads on the study (Tierney and Mahtani). They also collected relevant documents (e.g. information given to patients about SP and job descriptions for LWs). Furthermore, as part of fieldwork, towards the end of each day, researchers scheduled a 15–20-minute 'debrief' with

TABLE 3 Data collected at each site for WP1

Data collection	When
Non-participatory observations of LW in a consultation with at least two patients	Collected during the 3 weeks of fieldwork at each site
Non-participatory observations of LW at meetings with health colleagues or VCSE services	Collected during the 3 weeks of fieldwork at each site
Daily debrief with the LW acting as the 'case' for the study, to ask about key activities undertaken that day	15–20 minutes each day for the 3 weeks of fieldwork
For each site, we conducted an interview with the LW who was the case	During fieldwork (in-person) or just after (remotely)
For each site, we interviewed professionals the LW interacted with (e.g. a GP, practice manager, PCN clinical director, practice nurse, surgery receptionist, health and well-being coach, VCSE sector representative)	One off interview – during the fieldwork period (in-person) or just after (remotely)
For each site, we aimed to interview up to 10 patients who had seen the LW either during the fieldwork period, in the month before this or the month after it	Mainly undertaken remotely (apart from site 7, where most interviews were in-person)
Documents related to the LW role for the site, e.g. job description, material on SP for patients	Collected during the 3 weeks of fieldwork at each site
Anonymised and aggregated data on patients referred to the LW during the fieldwork month, how many GP appointments they had in the 6 months prior to this month and then in the 6 months afterwards	This information was collected from the data manager or practice manager at sites involved in the study
Well-being (ONS4)[36] and self-efficacy (General Self-Efficacy Scale)[37] questionnaires completed by patients	Completed during interview with a researcher

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LWs, asking what they had done that day and whether these activities were standard or if anything unusual had taken place.

In addition to the fieldwork described above, researchers conducted semistructured interviews during WP1, which were audio-recorded and transcribed verbatim. Interviews were conducted with primary care staff, VCSE representatives and LWs. Most interviews with professionals were conducted during the 3 weeks of fieldwork. If this was not possible, they were interviewed afterwards via Microsoft Teams (Microsoft Corporation, Redmond, WA, USA) or telephone. We purposively selected key informants who varied in their position – from those with little formal power (e.g. receptionists) to organisational leaders; all had different relationships with, and input into, the implementation of the LW role within primary care. Furthermore, interviews with patients from each site were conducted. These were undertaken remotely (via Microsoft Teams or telephone) after the fieldwork period (apart from site 7, where most interviews with patients were in person during the fieldwork period, after the LW suggested that trying to recruit patients for a remote interview was unlikely to be successful). As part of interviews, patients were invited to complete with the researcher two questionnaires; the ONS4 (which measures well-being)[36] and the General Self-Efficacy Scale (which assesses one's belief in being able to cope with stressful or challenging demands in life).[37]

For WP1, we gathered data about the number of appointments patients had with a GP before and after being referred to a LW. We asked each site (practice) to identify all patients referred to the LW in the month of fieldwork. We then asked them to identify how often these patients saw a GP in the 6 months prior to the month of fieldwork and in the 6 months after the month of fieldwork. We received this information from all but one site.

Work package 2: follow-up interviews with patients and link workers

A follow-up interview was undertaken 9–12 months later with patients from WP1 and LWs who were our cases. This allowed researchers to consider longer-term outcomes and receive patients' reflections on their experiences of seeing a LW. It also enabled us to explore with participants some of the ideas we had developed from WP1 and to collect further data when required related to our analysis. These interviews were conducted remotely (via telephone or Microsoft Teams). All patients who agreed to be recontacted (one person said they only wanted to take part in the first interview) and were still alive (two had died) were invited to take part in a follow-up interview during which they completed the questionnaires (ONS4 and General Self-Efficacy Scale) again. All LWs in post at the time of WP2 were recontacted for a second interview. Examples of questions asked in WP1 and WP2 interviews are presented in *Report Supplementary Material 3*.

Data analysis across work packages 1 and 2

Members of the research team had monthly meetings to discuss the data. Furthermore, researchers involved in fieldwork and interviews met weekly to discuss coding. Analysis built on the programme theory developed for our realist review.[7] After completing fieldwork for sites 1–4, we started to analyse data in a systematic way by using the qualitative data management software NVivo (QSR International, Warrington, UK) to assist with this. Analysis involved:

1. First of all, we coded WP1 data from sites 1–4. We used deductive coding (based on the review's[7] programme theory) and inductive coding (developing new codes when parts of the data did not fit the review's programme theory). We produced a coding framework that could be used across sites. For each site, we started the analysis by focusing on interview data. We then looked at field notes and observational data to see how they compared with interview findings. After this, we read through documents collected from each site. The final data to be considered were on GP usage and patient questionnaires.
2. We used coding from the first four sites to develop initial key concepts.
3. We created CMOCs on key concepts; this included identifying CMOCs from the realist review[7] that related to these concepts and also developing new ones.
4. We then coded WP1 data from sites 5–7 against CMOCs created from sites 1–4 data; changes to key concepts and CMOCs were made to incorporate new learning from sites 5–7.
5. The last part of the analysis involved WP2 interviews, data from which were used to further consolidate or populate CMOCs, or to revise CMOCs when necessary.

During the analysis, we used a realist logic of analysis to bring together different sources of data.[38] We applied a range of reasoning processes associated with realist analysis[32] – such as juxtaposing data, reflecting on conflicting data and consolidating data – to explain how and why identified outcomes occurred (or not).

Patient and public involvement and stakeholder engagement

For sense-checking and to hear alternative perspectives on our interpretation of data, we discussed our findings with two patient and public involvement (PPI) groups (one composed of six members of the public with an interest in SP, who we met with on seven occasions; another involving people with an interest in health research, who we met with twice) (see *Report Supplementary Material 4* for more details). In addition, we shared our thinking on the data with our study advisory group; it consisted of 14 people delivering and/or funding or promoting SP, or from groups and VCSE organisations involved in SP. We met with the advisory group five times during the project. We also had a steering committee that met with the study leads (Tierney and Mahtani) on three occasions. PPI activities are described in more detail later in the document.

Findings

Part 1: an overview

We involved a range of sites and LWs as cases in the study (*Table 4*). For WP1, we interviewed 93 professionals (primary care staff, VCSE representatives and LWs) and 61 patients. Researchers observed 35 consultations between a patient and LW across sites. During this WP, in two cases, LWs decided that it was not appropriate to ask a patient to be observed (because an individual had trust issues and the LW had spent time gaining their confidence or the LW thought the person was not able to give informed consent due to their mental health condition). In another two cases, patients declined to have the researcher present when they met with the LW.

Details of individuals involved in WP1 can be found in *Tables 5* and *6*. We reinterviewed, for WP2, 41 patients, 7 LWs and 1 LW manager.

Documents collected from the sites provided details on how the LW role may have been initially conceived in the setting, context around the history of the SP service, evaluation methods used and indicated potential interviewees to approach (e.g. in VCSE settings).

The GP usage data and patient questionnaire scores (see *Report Supplementary Material 5* and *6*) supported ideas we developed from interviews and fieldwork. For example, data on GP usage showed that referral to a LW may not necessarily reduce patient contact with a GP. As for questionnaire data, on average, patients' ONS4 (well-being)[36] scores improved from their first to second interview, although these were still less positive than for the general UK population. Likewise, a slight improvement in self-efficacy[37] was found when looking at the average scores of patients completing this questionnaire at their first and second interviews. However, these findings should be treated with caution as not all patients completed the questionnaires; at first interview, 50 patients completed the ONS4 and 41 completed the self-efficacy scale, and at follow-up interviews, 38 patients completed the ONS4 and 26 completed the self-efficacy scale.

Our realist analysis resulted in three novel concepts related to the LW role in primary care. We have published separate papers describing these concepts (see *Table 1*). We start this section with a brief overview of these papers. They were based on the following concepts – holding, micro-discretions and patient readiness to connect with LWs or to external support. These concepts were selected for focus because they surfaced local knowledge and assumptions, often implicit, around the implementation of LWs in primary care. These findings resonated with stakeholders when shared at knowledge exchange events across the country (see *Report Supplementary Material 7* for details).

Part 2: describing and understanding delivery of the link worker role in primary care – a summary of the three submitted papers

Paper 1 – Holding as link workers become the intervention

Context–mechanism–outcome configurations associated with this concept are presented in *Report Supplementary Material 8*, with accompanying data extracts. Descriptions of SP often focus on how LWs identify patients' concerns and connect them to community organisations, activities and services to support their goals. This was the understanding of the role generated from our previous review,[7] which highlighted how buy-in to SP among stakeholders allowed for connections to external resources and the generation of social capital. However, observations undertaken during the fieldwork of interactions between LWs and patients, and interview data from the study, revealed that relational practices of LWs are themselves an important but overlooked element of the role. Data suggested this was particularly critical in areas of high socioeconomic deprivation, where it is not possible to 'fix' many of the social issues experienced by patients that lead to their ill health (e.g. related to housing or employment). This practice was akin to 'holding' work carried out by other HCPs in primary care.[40]

In the paper we published,[1] we redefined and described in-depth holding within the LW context. We identified four

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TABLE 4 Details on the sites and LWs acting as cases in the realist evaluation

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
LW time in role (in months) at start of data collection	24	2	16	8	32	31	38
Deprivation in area served[a]	Medium	Low	Low	Medium	Medium	High	High
Location of site in England	South	Midlands	South	Midlands	South West	North	North
Employment of LWs	Funded through primary care but subcontracted to and managed by VCSE	Funded through primary care but subcontracted to and managed by VCSE	Funded through primary care but subcontracted to and managed by VCSE	Funded, contracted and managed by primary care	Funded, contracted and managed by primary care	Funded through primary care but subcontracted to and managed by VCSE	Funded, contracted and managed by primary care
Who set up the LW service	VCSE, GP and LW	GP	VCSE and LW	Mainly LW	Practice manager and LW	VCSE and LWs	LWs
How many general practices the LW served	2	1	2	2	2	5	5

a Please see the following blog we wrote about how we defined deprivation.[39]

TABLE 5 Background information on professionals interviewed in WP1

Work roles	LWs (7 were our cases and 5 were others with whom these cases worked)	12
	VCSE staff and managers	20
	GPs (including trainees)	19
	Practice managers/operations managers	11
	Nurses (including advanced practitioners)	10
	Care co-ordinators/health and well-being coaches	6
	Reception staff	5
	Clinical pharmacists	2
	Mental health practitioners	2
	Dietician	1
	Occupational therapist	1
	Paramedic	1
	Physiotherapist	1
	Other	2
Gender	Female	70
	Male	23
Age	Range	20–66 years
	Mean (SD)	43.3 years (SD 12.2)

SD, standard deviation.

Note
One of the VCSE staff was a line manager to two of the LWs involved in the study, so was interviewed twice.

TABLE 6 Background information on patients participating in WP1 (interviews and/or observations)

Involvement in the study	Observation only	23
	Interview only	49
	Interview and observation	12
Ethnicity	White British	62
	White (non-British)	6
	Asian (including British Asian and Indian)	5
	African Caribbean/Black British	5
	Mixed ethnic groups	3
	Other	3
Gender	Female	55
	Male	29
Age	Range	19–86 years
	Mean (SD)	49.3 years (SD 19.5)

SD, standard deviation.
Note
One interviewee was speaking as a member of the practice Patient Participation Group rather than someone who had engaged in SP.

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functions of holding: (1) supporting patients waiting for services; (2) sustaining patients as they prepare for change; (3) reducing emotional burden experienced by HCPs and (4) bearing witness to patients' distress. Our data revealed how patients see the LW as a reliable and consistent person to support their emotional needs, especially at times of overwhelm and when they did not feel they experienced such consistency from other services. Data also highlighted the unintended consequences of holding. For example, LWs might take on too many complex cases, become burnt out and eventually leave their job. It was not clear in the data who takes on holding of a patient once the LW can no longer see them, if someone's concerns persist. We concluded that if accepting that LWs provide this degree of support when required: (1) they should receive adequate training and supervision to do their job well, without experiencing undue pressure; (2) there needs to be sufficient LW capacity to assist people for an extended period. Furthermore, it highlights the importance of supporting (including financially) the VCSE sector as a key component of SP delivery.[41]

Paper 2 – Micro-discretions enacted by link workers in their role

Context–mechanism–outcome configurations associated with this concept are presented in *Report Supplementary Material 8*, with accompanying data extracts. We have written elsewhere about micro-discretions and LWs[2] – actions they enact based on personal judgement, not always in line with guidance or protocols, often undertaken to smooth one-to-one interactions with patients and other stakeholders. Micro-discretions allowed LWs to act in a manner that was person-centred and to shape what they provided to reflect local context. This concept fits with and extends concepts from our realist review[7] around buy-in and connection. Data suggested that micro-discretions were employed by LWs strategically to increase connections with patients and healthcare staff, to ensure they were seen as a credible source of support that made a valuable input to people's wider care needs, resulting in buy-in to them as an individual and to SP more generally.

Data showed aspects of the job where LWs might exhibit micro-discretions. For example, how long and how often they saw patients, what types of referrals they accepted, training they undertook, how they built community connections and knowledge and feedback they provided to GPs and other stakeholders. These areas are often not explicitly discussed by those developing, managing or delivering SP schemes. More transparency about what is happening and why will ensure that there is clarity around the remit of the role and prevent LWs from working outside their skills and knowledge base. However, if boundaries around the role become too confining, they risk hampering LWs from being flexible in their approach to patients and how they work with practices. This could reduce both buy-in to the role and LWs' sense of satisfaction with it.

Consequences of LWs having discretion in their role include, on the positive side, feeling like trusted and respected employees, who are able to make a valued contribution to primary care by using their skills and knowledge to best support patients and their diverging needs. This can foster job satisfaction and retention of these employees. Conversely, negative consequences of too much discretion are that LWs feel unsupported, lack structure in their role and feel overwhelmed by it. This could lead to job dissatisfaction and the risk of LWs leaving their post.

Paper 3 – Readiness for external support by connecting with the link worker

Context–mechanism–outcome configuration associated with this concept are presented in *Report Supplementary Material 8*, with accompanying data extracts. Data from interviews with patients and observing them meeting with a LW were explored in our third paper.[3] This gave us an in-depth insight into the review's[7] finding that buy-in to this role from those receiving SP stemmed from connections. For this to transpire, LWs had to be skilled in putting people at ease and creating an atmosphere whereby individuals felt able to open up. This could mean that even if a patient's original referral looked straightforward (e.g. for help with a benefit claim or advice on local exercise groups), LWs could unlock a range of additional issues that patients required support with to reach a state of equilibrium before moving forwards. Hence, LWs' ability to offer patients space to set the agenda, rather than being bound to addressing only the original referral, was important.

The LWs gave patients a sense of hope by proposing a range of potential solutions in the community that they could draw on for support. However, LWs had to be careful in how they encouraged people to take steps to connect to external support; while some patients welcomed setting goals and being gently pushed to try things, others said this was inappropriate, especially in the early stages of their interactions with a LW, when they still felt the need to have space to think more clearly. This is when LWs would act as an anchor point (and take on a holding role). In this paper, we described the anchoring role that LWs undertook – helping patients to start to find a state of stability, giving them permission to discuss their difficulties and knowing at what point to start encouraging them to consider potential solutions, when relevant, often in the local community.

Revised programme theory based on the three papers

Analysis of data and development of these papers highlighted four new outcomes that were not in the review's[7] programme theory – person-centred care, LW job satisfaction, patients feeling more self-confident and hopeful. They stemmed from the degree of discretion that LWs could exert in their role (engaging in holding when required) and the connections they made (with patients and healthcare staff). The evaluation provided a more nuanced understanding of patient readiness and the role of LWs as an anchor point as part of this. It also furthered the understanding on how, through engagement with a LW, inappropriate GP consultations may reduce while health-related ones may increase. Part of this relates to the holding role LWs assume, which can remove the emotional labour within subsequent health-related consultations with HCPs, making these consultations more focused on a medical plan. In addition, LWs can act as advocates, encouraging patients to see a HCP when medical problems are uncovered and helping to facilitate their access to meeting with a GP. In some cases, safety issues were identified by LWs, particularly related to severe mental health conditions, which were escalated to a GP. The impact LWs' presence had on healthcare use is reflected in data extracts from interviews with patients and HCPs presented in *Box 1*. This is followed by *Figure 1*, which illustrates the revised programme theory, which brings in new learning from the three papers produced from the realist evaluation.

Part 3: synthesising the three papers, drawing on Normalisation Process Theory

Our realist review and evaluation surfaced a number of key ideas about how the LW role works to achieve outcomes – including the need for buy-in (understanding the role and seeing it as a credible way to support people and as making a valuable contribution to primary care) and the importance of connections. Mechanisms related to holding (and the LW being an anchor point), discretion in the role and patient readiness to engage were highlighted in the three papers. These mechanisms affected social capital development, hopefulness and self-confidence among patients, appropriate GP use and LW job satisfaction. Our programme theory (see *Figure 1*) demonstrates the inter-relations between these elements of this complex intervention.

We now turn to consider how these elements are enabled in everyday practice, drawing on Normalisation Process Theory (NPT).[42] NPT predicates that for a new intervention (LWs in primary care) to become embedded, attention to its key domains (*Table 7*) is required. In this section, we critically examine our data to consider if/how each of the NPT domains is enabled/prevented in daily practice for and by LWs. Our findings align with what is already known in the literature about the challenges of implementing a new intervention, adding to a growing body of work using NPT.[43–45]

An overview of Normalisation Process Theory

Normalisation Process Theory was developed by May *et al.*[46] to understand and evaluate the adoption, implementation and sustainment of complex interventions or innovations into practice. It can help with identifying factors for successful implementation, and the potential contribution to this of different stakeholders,[47] by bringing 'into view a much broader range of categories that matter … which might otherwise remain invisible'.[48] NPT acknowledges that healthcare delivery is shaped by a range of actors, their beliefs and behaviours and the resources they have at their disposal. In a similar way to descriptions of realist research,[32] 'it does not see the intervention as a thing-in-itself, but rather an assemblage of beliefs, behaviours, artefacts, and practices that may play out differently over time and between settings'.[49] NPT consists of four domains that centre on the work that actors (e.g. LWs, HCPs, funders, VCSE providers and patients) undertake to implement and embed a change or innovations within practice;[46] these have been divided into 12 constructs (see *Table 7*).[49]

The following section outlines how these domains relate to what we learnt from our realist evaluation, indicating which of the three papers (see *Table 1*) from the research are relevant.

Coherence

This concept refers to sense-making and how people differentiate an innovation or change to practice from what currently happens; agreement on what it entails and what it is for; how people identify their role in the innovation and how far they see its potential value. Our data elicited instances of poor coherence due to absent or insufficient planning around the introduction of the LW role into a setting (GP practice); this potentially affected the development of connections required for buy-in. It could mean that LWs had a significant degree of discretion in their role, beneficial in terms of providing person-centred care. However, our data suggested too much discretion

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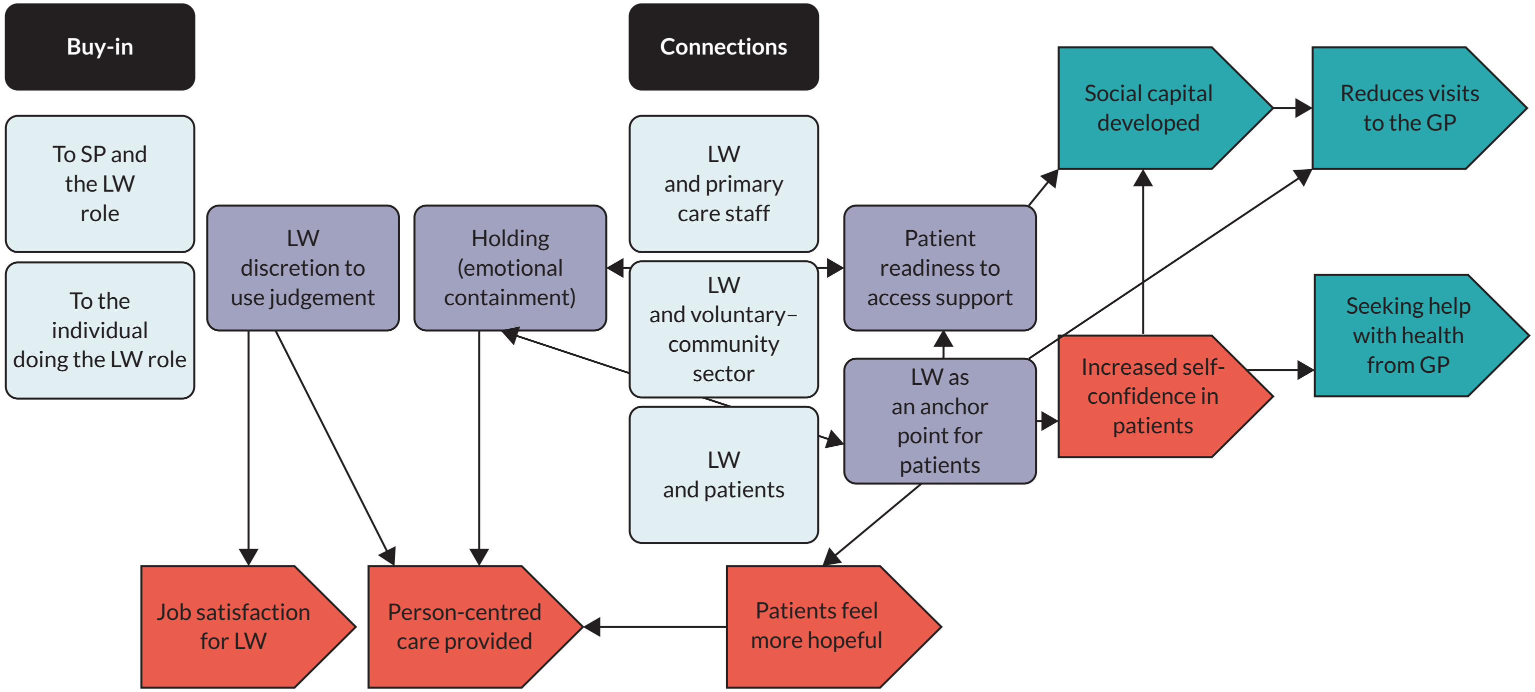

FIGURE 1 Our revised programme theory, amended based on learning from the realist evaluation. The black boxes are key concepts from the earlier review that also informed the evaluation. The light blue shapes highlight key actors associated with these concepts. The navy shapes are new concepts from the evaluation. Orange shapes indicate new outcomes added to the model, which came from the evaluation. Teal shapes are outcomes from the original review.

BOX 1 Data extracts highlighting the impact of LWs' presence on healthcare use

Data from patients	Data from HCPs
Site 3 P08: *'... it takes some of the stress away and she [LW] could point me in the right directions and she did contact social services on my behalf, so that helped. It also saved me having to take up all the time with the GP because it's not necessarily a health matter, it was more on the social side of things ... I think the most important thing was listening and being able to point me in the right direction to be able to assist me'.* Site 3 P14: *'... I don't see my GP as much now because I know I've got someone else to talk to [the LW], so I'm therefore saving the NHS time for other people ... So it helps the whole system'.* Site 6 P07: *'I can basically phone the GP if I need her for anything and make an appointment but apart from like reviews on my pain meds and stuff, I mainly just deal with [LW] ... it's not very often I see her [GP] now, it's all in [LW's] corner so to speak'.* Site 7 P06: *'... normally you've got to ring the doctors at 8 o'clock ... You can never get through, there's no emergency appointments left. As soon as [LW] got involved with us, because of the problems that me and my son are going through ... she can say, "Right I can organise a doctor's appointment for you next week."'*	Site 5 HCP03: *'... it takes that person to have that time to specifically discuss those things which previously, I guess I wouldn't have known where to direct those people or you sort of have to keep up to date with all of the lunch clubs and know about all the different services which seem to be constantly changing. It can end up taking quite a lot of time out of your sort of clinical time to do those things. So it's really good to have that [LW] role to support'.* Site 6 HCP08: *'... we see them [LWs] as a really important part of the team. They're basically doing the things that ... you know it's not that we don't want to do, but just really don't have the capacity to do. And in not having capacity, then we don't do them as well as we would like ... there's definitely patients that we knew we weren't meeting their needs ... So yes, definitely the team we have at the minute have definitely reduced our workload'.* Site 7 HCP04: *'One of the biggest things that [LW] and her colleagues have brought to us is a greater knowledge of what is out there ... and the ability to make that connection and get people into these services ... I think fewer people as a result are unnecessarily seeking advice from GPs about things that really GPs can't help with or haven't time to'.*

could be experienced as overwhelming (Paper 2). A lack of planning when designing the LW service included failing to provide inductions for LWs, not having adequate space for them to see patients, not involving primary care team members in selecting individuals employed to be LWs in their practice or poor communication about the role and its parameters (Papers 1 and 2). This is important for 'communal specification',[49] to engender a shared understanding of what the LW role entails in a specific setting and the potential benefits from it. A lack of shared understanding could cause problems in terms of LWs receiving inappropriate referrals (Paper 2) and patient agreement to a referral (Paper 3). This may have an impact on initial and ongoing buy-in or 'internalisation'[49] from stakeholders in terms of perceived value of SP and the LW role.

Cognitive participation

This refers to the enrolment of key stakeholders and interactions that underpin a change in practice. It relates to people's understanding of their role in the innovation/programme and how invested they are in it (which will shape how much time and effort they are willing to put into its implementation). There was sometimes an absence of key individuals to drive SP forward in a practice and to act as its champion, affecting buy-in to the LW role. In such cases, the LW had to take on this championing position, which called for a confident personality and for them to be perceived as an authority by others (e.g. because of their knowledge of the local area or experience of working in the VCSE sector). There were examples in our data of GPs acting as champions of SP; individuals who had been instrumental in setting up the service in a specific manner to reflect the local needs and context. These GPs could see how SP might benefit their patient population and staff and shaped the LW role accordingly. However, comments from some GPs, as part of fieldwork, indicated that they did not see a focus on patients' non-medical problems as an appropriate endeavour for primary care, suggesting a lack of 'legitimation'[49] of the LW role.

The idea of 'enrolment'[49] from NPT extended to users/patients in our research. Data suggested that agreeing to meet with a LW could be daunting, but many patients described being at a point in their life when they did not know where else to turn so agreed to a referral (Paper 3). Nevertheless, they might need convincing that the LW was a credible source of support; this was fostered by the interaction style and knowledge of the LW and their ability to act as an anchor point (see Paper 3) when needed.

'Activation' within NPT is understood as people supporting the intervention and its delivery.[49] This could be seen in our data when LWs were invited to multidisciplinary team meetings or had the opportunity to talk to new starters in a practice about what they did.

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TABLE 7 Domains of NPT and their constituent constructs (as presented in May *et al.*[49])

NPT domains	Constituent constructs
Coherence: **'How do people work together to understand and plan the activities that need to be accomplished to put an intervention and its components into practice?'**	• Differentiation • Communal specification • Individual specification • Internalisation
Cognitive participation: **'How do people work together to create networks of participation and communities of practice around interventions and their components?'**	• Initiation • Enrolment • Legitimation • Activation
Collective action: **'How do people work together to enact interventions and their components?'**	• Interactional workability • Relational integration • Skill set workability • Contextual integration
Reflexive monitoring: **'How do people work together to appraise interventions and their components?'**	• Systematisation • Communal appraisal • Individual appraisal • Reconfiguration

Similarly, it was present when LWs received adequate supervision – although this was not always the case (Papers 1 and 2). This idea of activation relates to the next concept of collective action.

Collective action

This refers to the operational work required to support an innovation (e.g. skills, resources and interactions) and how the work around implementation does or does not get done. It relates to the degree to which the innovation fits with organisational practices and usual ways of working. This is where the ideas around discretion (Paper 2) are relevant, which connects to 'interactional workability' in NPT.[49] Discretion was used by LWs for strategic purposes and to create a conducive environment so patients felt able to open up. It was also used by LWs to accommodate, where possible, their healthcare colleagues. This could leave LWs taking on patients they did not feel equipped to support or embarking on activities that may not be considered as part of SP (e.g. organising vaccination clinics during COVID). This relates to the idea of 'skill set workability', which was described by May *et al.*[49] as work tasks being appropriately allocated to people. It also reflects the discretion LWs had (or not) to use their existing expertise and knowledge from previous jobs (e.g. of community provision and motivational interviewing). Flexibility exhibited by LWs could foster buy-in to SP from stakeholders (HCPs and patients) but might place them at a risk of feeling insecure in their role due to a lack of structure and daunted by the scope of what they could do (Paper 2), leading to job dissatisfaction.

Data suggested there was sometimes a lack of 'contextual integration'[49] of LWs into primary care. For example, a need to spend prolonged time with patients could be seen as counter to the faster-paced, shorter interaction style of HCPs. This relates to poor communication about the LW role with the wider primary care workforce, resulting in misunderstandings and lack of 'contextual integration'[49] of SP into an organisation – affecting buy-in. This could contribute to LWs not being allocated sufficient time in their week to build up knowledge of and connections with the local VCSE provision (Paper 2).

Patients in our study tended to be referred to a LW by a GP; for this to happen, GPs had to remember the LW role when a patient was before them. Furthermore, the patient had to turn up to meetings with a LW, although they might not always have the energy or capacity to do so (Paper 3). The VCSE sector also needed to develop relationships with LWs, so patients could be referred there when appropriate. As suggested in our realist review,[7] a lack of feedback loop between these different stakeholders could affect buy-in to SP in primary care. This connects to the final domain of NPT on reflexive monitoring.

Reflexive monitoring

This refers to people's ongoing assessment of an innovation or change to practice, how well they think it is working, what effects they think it is having and adaptations made to sustain its use. Our data highlighted some resistance from LWs to standardise data collection from patients and showed a lack of system to report back, especially to referrers (e.g. GPs), what had happened with a patient (Paper 2). Not all LWs had access to patients' electronic medical records to be able to document what they had done, compromising 'communal appraisal'[49] as outlined in NPT.

In terms of 'individual appraisal',[49] if LWs had access to appropriate supervision, they could reflect on their role during these meetings (Papers 1 and 2), or they might do this when catching up with peers. This is important because of the emotional labour that can be experienced in this role (Paper 1). LWs have been encouraged to engage in professional reflection,[28] but our data highlighted that this activity was not routine. A lack of structured opportunities for LWs to reflect on their work and data produced on it may prevent 'reconfiguration'[49] from occurring, which involves revising what is undertaken or provided in light of such appraisals.

Summary

This analysis, based on NPT, indicated important factors affecting the successful implementation of LWs into primary care, including a lack of clarity around the role and an expansion of job-related responsibilities. This could curtail the time LWs had for key aspects of the role, including making connections with VCSE organisations or groups. The above overview of NPT domains and their relationship with our data made us consider the importance of a supportive infrastructure to ensure LWs are embedded, sustained and satisfied in their job. This is considered in the final part of the findings.

Part 4: learning from our analysis about infrastructure and the link worker role

Our analysis showed key ways in which the infrastructure around the LW role in primary care contributed to outcomes outlined in the revised programme theory (see *Figure 1*) in terms of person-centred care, increasing hope and self-confidence in patients, social capital development, job satisfaction for LWs and appropriate GP usage. Here, we amalgamate what we learnt, bringing together CMOCs from each individual paper (see *Report Supplementary Material 8*). To do this, we listed these CMOCs in a Microsoft Word (Microsoft Corporation, Redmond, WA, USA) document and labelled each with 1 of the 12 constructs underpinning NPT. Doing this aided us in identifying CMOCs that were similar, which we consolidated into a single CMOC. This activity enabled us to contemplate how a supportive infrastructure around the LW role in primary care was important, for whom and why, based around four key ideas described below. We list these final consolidated CMOCs (and the related NPT construct) in *Tables 8–11*.

A supportive infrastructure around the link worker role creates environmental conditions for patients to express and contemplate their needs, resulting in person-centred care, increased self-confidence and social capital and appropriate general practitioner usage

Our data highlighted that LWs need environmental conditions to be conducive to building a relationship (connection) with patients. This means having discretion in how they communicate with patients and a recognition of the potential need for holding in certain situations. This involves showing active listening skills, taking a non-judgmental and empathic approach, communicating with patients to signal empathy and understanding (e.g. using informal language and/or local dialect). Reliability and consistency are important (e.g. phoning patients back when they have left a message, seeing patients on several occasions). This produces the circumstances in which patients feel permitted to offload, so they can then think more clearly to plan a way forward. Increased self-confidence through such an engagement might be enough to prompt patients to access external support, thereby building their social capital.

Part of this engagement with a LW might involve addressing one problem at a time, as the patient discloses a range of difficulties. Such opening up might indicate patients in need of medical support (e.g. for pain management). Some LWs involved in our study facilitated access to a GP for patients by arranging an appointment for them. Data suggested that a balance is required to prevent patients becoming overly reliant on a LW. This calls for some consideration of how to prepare patients for ending their contact with a LW. Patients can be supported in this respect if informed that they can recontact or be rereferred to the LW.

A supportive infrastructure around the link worker role enables these employees to use and build on their skills so they can make a valued contribution to person-centred care, increasing their job satisfaction

Link workers come to the post from differing backgrounds, with a range of skills and knowledge.

TABLE 8 Context–mechanism–outcome configurations on a supportive infrastructure creating environmental conditions for patients to express and contemplate their needs, resulting in person-centred care, increased self-confidence and social capital and appropriate GP usage

CMOC	Part of NPT associated with the CMOC
When a LW gives patients space to discuss their life, shows active listening skills and is empathic (C), patients feel valued and respected (M), which encourages them to open up about their needs and to be receptive to LWs' suggestions (O)	Relational integration
LWs use of informal language/local dialect (C) levels out any power imbalance between them and patients (M), making patients more receptive to what LWs propose (O)	Relational integration
When patients are able to offload their troubles to a LW (C), they enjoy meeting with this person (O) because they feel less burdened (M)	Relational integration
Having a LW who is regarded as responsive and reliable (C) makes patients feel comforted that they are not alone (M), easing their stress and anxiety (O)	Relational integration
Having the LW to talk to (C) allows a patient to verbalise their concerns (M), enabling them to think about their situation more clearly (O)	Relational integration
Together, the patient and LW develop a personalised plan of action (C), which makes the patient feel more in control of their life (O), as they start to see a clearer way forward (M)	Interactional workability
When patients who are not able to progress with a LW's suggestions are held (C), they may become more able to move forward later on (O) because they have the space to increase their self-confidence (M)	Activation
Tapering off contact with a LW gradually (C) helps the patient to prepare to move forwards alone (M) so they do not feel they have been abandoned (O)	Activation
When a patient knows they can contact the LW directly or be rereferred (C) they feel reassured (O) because they have a safety net if they need more help (M)	Contextual integration

TABLE 9 Context–mechanism–outcome configurations on a supportive infrastructure enabling LWs to use and build on their skills to make a valued contribution to person-centred care, increasing job satisfaction

CMOC	Part of NPT associated with the CMOC
When LWs allocate time to holding patients (C), this reduces their capacity to see other patients or to investigate community resources (O) because holding patients is a time-consuming process (M)	Contextual integration
When LWs can use their skills and knowledge as they see fit (C), it produces a sense of accomplishment and agency (M), contributing to job satisfaction (O)	Skill set workability
When LWs are able to shape training around gaps in their knowledge and skills (C), they feel confident to perform their job (M) so they are best able to support patients and do their role effectively (O)	Skill set workability
Having confidence to decline referrals they see as inappropriate (C), LWs feel in control of their work situation (M), meaning they can work within their capabilities and capacities (O)	Skill set workability
When working in an environment that supports autonomy and being innovative (C), LWs have scope to be creative and flexible (M); this allows them to meet individual patient needs (O)	Contextual integration

They should have the ability to decline to see patients they feel ill-equipped to assist, or to hold patients when appropriate (although holding will reduce the number of new patients LWs can see). When able to use their existing expertise in a way that allows them to contribute to patient care, it can foster job satisfaction. This can be augmented if they have the opportunities to develop skills they feel are necessary to carry out their job effectively and safely. Training they need to undertake may only come to light as they do the role. Therefore, opportunities for training should be considered as an ongoing part of supervision.

TABLE 10 Context–mechanism–outcome configurations on a supportive infrastructure allowing LWs to feel that their role is appreciated and understood, leading to job satisfaction

CMOC	Part of NPT associated with the CMOC
When GPs (and managers) appreciate the benefits of LWs being there to hold patients whose problems cannot be 'fixed' with medical interventions (C), they will give support for LWs to do so (O) because they believe it is useful to them and to patients (M)	Communal specification
When LWs accept (or are supported to accept) there are structural factors over which they have no discretionary power (e.g. housing) (C), they can be open and clear about the scope of their role (M); this avoids raising patients' expectations (O) and can uphold LWs' job satisfaction (O)	Communal specification
Making patients clear about the LW role from the outset (C) allows them to understand how this person can help (M), reducing unrealistic expectations (O)	Communal specification
Involving LWs in shaping a SP service (C) allows them to offer a realistic perspective of its scope and remit (M), so the service is set up in a way that reflects the reality of their skills, capabilities and scope of influence (O)	Communal specification

TABLE 11 Context–mechanism–outcome configurations on a supportive infrastructure for LWs to be a bridge between health and community services, creating hope among patients, enabling them to find solutions to their non-medical issues, developing social capital and reducing inappropriate GP visits

CMOC	Part of NPT associated with the CMOC
Having discretion within their role to develop connections with the VCSE sector (C) allows LWs to build an understanding of a range of available support (M), which helps them to respond to the various needs with which patients present (O)	Activation
Hearing about options available in the community from a LW (C) opens the patient's mind to possibilities (M), which encourages them to start seeking out their own sources of external support (O)	Activation
When LWs have good knowledge of a range of local support and resources, they can propose different options (C); patients are reassured that there are solutions to their problems (M), making them hopeful that they can improve their situation (O)	Relational integration
Being supported by a LW to access community groups or activities (C) enables patients to feel more connected to others (M), reducing their sense of being alone in their struggles (O)	Relational integration
Having access to a LW (C) means that patients are less likely to contact their GP (O) because they have an alternative and trusted source of support (M)	Interactional workability
LWs' advocacy role (C) could include helping patients make an appointment with their GP (O) because LWs have access to primary care staff (M)	Relational integration

A supportive infrastructure around link workers allows them to feel that their role is appreciated and understood, leading to job satisfaction

Clear communication is required on the role/remit of LWs so that staff and patients in primary care have realistic expectations. Involving LWs in the design and ongoing provision of a SP service in primary care allows them to offer a view on what the role is like to deliver on the ground.

Link workers may have to support patients experiencing structural difficulties (e.g. housing problems and unemployment). In these cases, LWs may feel the key role they can play is being a stable anchoring point, someone patients can rely on for emotional support and connectivity and for holding when required. It helps if LWs have opportunities to discuss, with supervisors and peers, the difficulties they are unable to assist patients with because they are more structural in nature, to reduce feelings of inertia and disappointment. It is important for LWs to have a network they can draw on as they assist patients with varying and often complex needs; a network that provides advice and emotional support. LWs require clarity around who is responsible for providing them with professional, clinical and personal supervision. Lack of such a network and feeling that their role is misunderstood may negatively affect their job satisfaction.

A supportive infrastructure around the link worker role means they can be a bridge between health and community services, helping patients to find solutions to their non-medical issues, developing social capital and fostering appropriate general practitioner usage

A good understanding of available community resources is key to LWs conducting their role effectively; it enables them to offer options, which the patients we interviewed said was critical to them seeing a way forward. Being presented with ideas from LWs about community support reduces the pressure and stress experienced by patients; connecting them to sources of practical as well as relational assistance enables patients to feel more able to cope with life and bolsters their social capital. Even if patients do not take up community suggestions from a LW (e.g. because they lack capacity to do so at the time), knowing there are options offers hope and could prompt them to look for their own community-based solutions. This might prevent them from turning to GPs for assistance. However, our data suggested that seeing a LW did not necessarily reduce patient contact with their GP (see *Report Supplementary Material 5*). This may, in part, be because, in some cases, LWs helped patients to access appointments with their GP.

Discussion

Our overarching research question was: *When implementing LWs in primary care to sustain outcomes – what works, for whom, why and in what circumstances?* Data highlighted how a supportive infrastructure is required to ensure LW job satisfaction, so that other staff in primary care are clear about the role, and to allow patients to receive the most from this source of support with their non-medical issues. *Table 12* outlines the principal findings related to the study's subquestions.

TABLE 12 How data we collected and analysed answered the subquestions set out for the study

1. How are LWs being implemented and used in primary care?	Findings highlighted the diverse ways in which LWs have been implemented in primary care in England. This includes variation in the number of patients seen, frequency and length of contact, how they are employed (directly through primary care or the VCSE sector), whether they are part of a bigger SP team, their backgrounds (professional and personal experiences) and how much time they have in their working week to develop connections with VCSE organisations. This variation stems from discretion exercised by commissioners/primary care teams/LWs. These stakeholders may have differing views of what SP is and who it can help. These assumptions may not always be communicated or shared across stakeholder groups. In the sites we visited for the study, clear strategic planning around the role was not always evident. Managers were often hands-off, leaving a degree of discretion to LWs that was interpreted by some as 'vagueness'. Data highlighted that LWs may come into primary care with little knowledge of this setting, unaccustomed to its cultural norms. Our data showed how a clear introduction to the LW role was important for patients and for healthcare staff
2. What factors contribute to LWs working, for whom and in what circumstances?	LWs may be able to adapt to working in a health setting by operationalising discretion, so they can use their skills and feel useful to a practice. Some patients were helped by a LW through simple signposting, yet a straightforward connection to external support was unusual. This was because patients often entered into SP with a cumulation of life challenges at a point when they felt overwhelmed and unable to cope. If it was in their scope to do so, LWs might hold these patients until they were ready to engage with community resources or while they were waiting for support in the VCSE sector to become available. Having space and permission from a LW to express their needs and offload enabled patients to feel they were not alone. This might give them the confidence to then take strides to access support in the community, thereby developing their social capital. For some patients, the therapeutic relationship they felt with a LW was the key benefit they recalled from SP
3. What is required to further optimise patient outcomes?	As noted above, stakeholders may have different perceptions of what SP is and who LWs can help. When setting up a SP service in primary care, an open discussion is required about what is expected and what is workable to develop the right implementation infrastructure and to use fair and meaningful metrics to assess SP's impact. Consideration needs to be given to who is involved in such discussions (e.g. representatives from the VCSE sector). These discussions should not be a one-off event. Regular reflection on the LW role and how it fits into a practice/PCN is important for its sustainability, and to ensure that it is implemented in a way that is most likely to bring positive benefits for patients, and to retain LWs in their role
4. What impact do LWs have on patients and on service use?	This depends, to a degree, on what is prioritised. If the priority is number of patients seen by a LW each week, this may have consequences in terms of: (1) quality of interactions, (2) LWs' capacity to engage with complex or vulnerable people who find it difficult to access traditional services and (3) LWs' ability to make connections with different VCSE providers. Our data showed we should not necessarily expect a decline in GP consultations from patients being referred to SP (see *Report Supplementary Material 5*). A better outcome is that patients receive the right support, at the right time, which may include being rereferred to their GP for assistance with medical needs. Coholding of patients between different members of the primary care team may be the best way to help an individual and to ensure that the emotional load does not fall on a LW's shoulders

Through the research, we have brought to the surface nuances and variations in the LW role, which may be hidden or not discussed as part of everyday practice. Our research highlighted challenges with scaling up and rolling out a new role in an established institution like NHS primary care. We would argue that some of our findings are relevant to and reflect other posts introduced as part of the ARRS. For example, research on paramedics in primary care described issues related to expectations and uncertainty around this role, the need for clinical supervision and the importance of good interpersonal skills from these professionals to build trust with patients in a short time frame and to connect with colleagues in primary care.[50] A report by the King's Fund[51] on ARRS suggested a lack of universal understanding of these roles or attention given to fostering cultural change to support and enable those undertaking them to feel part of primary care. In a qualitative study, Jones *et al.*[52] observed that variation in how ARRS roles are used and understood across PCNs meant that what these roles looked like differed depending on local interpretations. These authors noted that although ARRS roles might be valued, evidencing the difference they made in primary care could be difficult in terms of saving GP time. Another qualitative study noted that the ease with which these new roles were integrated into primary care varied and was shaped by the employment models used (e.g. through primary care or subcontracting to other organisations), space available to accommodate these extra staff and difficulties experienced if these staff served more than one GP practice.[53]

Workforce development, expansion and delegation are a common part of the healthcare landscape, partly to manage workforce shortages. This includes vertical substitution, which occurs when paraprofessionals (with less training or expertise or autonomy) take on tasks previously associated with other roles.[54] This has happened with LWs, who are now adopting a holding role that other HCPs (including GPs) offered previously. In addition, some LWs involved in our study were taking on cancer care reviews and medication reviews with support from GPs. Critical discussion is needed to decide if and how these roles should continue.

Looking at our data using NPT enabled us to understand the varied ways in which the LW role is delivered. Another team previously drew on NPT in a qualitative study on the implementation of LWs in Scotland by using it to examine the differences between practices where the role had been partially or fully integrated.[55] This study highlighted that the latter were more likely to commit to proactive community networking activities and had staff with a clear understanding of the LW role. Like our research, it also found that reflexive monitoring was missing across both type of practices.

Drawing on NPT helped us to explain some of the factors affecting LW retention, which could jeopardise the sustainability of SP in primary care. A survey completed in 2020[56] by members of the National Association of LWs found that a third of respondents were contemplating on leaving their role. Quality of supervision was identified as a key reason, a finding reported in other studies.[57] Disquiet has been expressed about a lack of clear career trajectory or progression in this role.[20,57] In addition, increasing pressures on LWs, as the demand for their role and complexity of cases increases, has been noted.[21] It is a job that involves listening to and trying to support people in difficult situations, which can be emotionally draining.[25,58] Hence, supervision should be a priority to ensure that LWs do not suffer burnout and leave their job.

Patient and public involvement

The study was supported by a committed PPI group consisting of six individuals. We met with this group on seven occasions during the project (see *Figure 2*). In between meetings, we received feedback from group members on the items produced for the study – participant information sheets, abstracts for conferences and initial ideas developed from the data. They also sent us information about SP in their own GP practice or information they had seen in the media on this topic.

After each PPI meeting, we summarised our discussions and what we had learnt/taken away as key points for consideration as a research team on our study web page. During meetings, group members engaged in different activities to reflect and feedback on specific elements of the study. Some activities involved thinking in a realist way using micro-theories or 'if … then … because' statements. Members of the PPI group were forthcoming in sharing their views and opinions. For example, they helped us to think about different ways of perceiving 'holding' and highlighted how, for potential patients, knowing what training had been undertaken by LWs was important. From these discussions, we developed with this PPI group a document outlining various training opportunities available for LWs. This has been reported in a blog.[59]

One member of the PPI group produced a blog[60] about being involved in the research. Others said they were more than happy to comment on study-related documents but did not have the confidence to write something for public view. Alternatively, they were unsure whether anyone

FIGURE 2 Meeting with our study PPI group.

would read a blog, therefore they were not convinced that it was worth the effort of composing one.

The PPI group included PPI co-applicant Tony Meacock – a regular attendee at monthly study team meetings, in addition to PPI meetings. He was a reliable source of feedback and advice. *Table 13* provides reflections from Tony on his involvement in the research team.

In addition to the study PPI group, we talked to a PPI group in the north of England with an interest in health services research. This group consisted of a range of individuals from different ethnic and socioeconomic backgrounds. The first time we attended this group (in summer 2022), we garnered their thoughts on the project in general. They talked about terminology (patients not understanding what is meant by SP or confusing the term LW with language translation services in health care), what training LWs undertook and how referrals were made to a LW. They also discussed the potential barriers to people engaging with a LW, which they related to issues around equality, diversity and inclusion (e.g. patients not speaking English and a lack of culturally appropriate community services).

At the second meeting (in summer 2023) with this group, we discussed the concept of holding. Those attending mentioned LWs showing empathy in a space where people could talk about a range of issues and where they could be vulnerable. Group members were also interested in diversity within the LW workforce and the cultural competences of these employees. They felt that a lack of such competence may mean that certain patient groups would not engage with SP; they highlighted the need for LWs to receive cultural competence training. It was suggested that future research could focus on this issue of the ethnicity of LWs and how this interplayed with the background and engagement of patients in SP.

Equality, diversity and inclusion

We purposively sampled cases/sites that differed in terms of socioeconomic status of the area served and part of the country they were based in (see *Table 4*) to ensure diversity. LWs acting as cases were all female (reflective of the predominance of women in this workforce), and only one was not White British. We did include a range of healthcare staff and VCSE representatives in the study (see *Table 5*), and we involved patients who ranged in age, gender and ethnicity (see *Table 6*).

We worked with our PPI group to ensure that we developed study materials that were clear and understandable. Conversations with this group challenged our thinking about the data and the development of key concepts. They prompted researchers to explain their findings in plain English. This was also the case when we engaged with a second PPI group (see above) that was not as familiar with the idea of SP and involved people from a range of socioeconomic and ethnic backgrounds. They helped us to understand how findings might be interpreted by people

TABLE 13 Patient and public involvement co-applicant Tony Meacock's reflections on being part of the research team

How I came to be part of the team	*I enjoyed working previously on some knowledge exchange events with members of the team (Stephanie Tierney, Kamal Mahtani and Amadea Turk) about the cultural sector's role in SP. This had been a good experience, so when I was asked if I was interested in being a co-applicant on this study, I was more than happy to agree. I was interested in SP due to experiences I had with my mother when she was diagnosed with dementia. Doctors focused on medication and attendance allowance, but there was a lack of other support. It was only when we started working with Age UK that we accessed additional ways to support her. We were able to find clubs and events for her to go to, which gave her the boost she needed. This highlighted to me the potential benefit of SP. At the time, this was not an option at my mother's GP practice, but having someone like that to connect her to activities in the community would have been helpful. Lots of people like my mother, and people with mental health problems, can fall through the cracks; just throwing drugs and nursing support at them is not enough. They need help with managing their well-being and how to live a better life.*
Learning about SP from being part of the study team	*The LW role seems to have evolved since starting the study – for good or bad. The role is very broad but is not always well defined. Risks associated with this have come through in the research (e.g. LWs 'holding' patients indefinitely or feeling overwhelmed by their job). A clear job description is required, which may be different from site to site, depending on local circumstances. There needs to be freedom to create the role to support local demand but also some framework about how far LWs can go in their role. The role seems to be shaped by how a LW's employer sees it and the particular background someone comes into it with; because it is an ill-defined role, this can happen. This means LWs need a good manager to take care of them. If this is lacking, LWs may be left not knowing where accountability lies, where responsibility begins and ends, putting them in a difficult position. The research highlighted that not every LW had a good manager and steps were not always taken to fit them into the (primary care) team. For example, it was not always clear who their point of contact in a GP's practice was and they might not be invited to team meetings. Without a good network or support, the LW and patients they support could be at risk. This means that safeguarding needs to be considered to protect the LW and patients.*
Learning about the research process	*The importance of involving a range of sites in the study was important and the research team did well in achieving this. This included finding GP practices that served both poor and more affluent areas, which allowed the team to develop recommendations from across different sites. I was surprised that it was sometimes difficult to talk to more senior people (in primary care). They did not always seem aware of the problems LWs might be experiencing. However, there were some GPs who were receptive and wanted to learn from the research. It was also surprising that it was a struggle to get back in touch with some patients. This was the case even though the researchers had excellent listening skills and an ability to put into words what they found in a clear way for lay people. LWs seemed keen to be involved in the research, which was a mechanism for them to share about their job, something they might not get to do through other structures. They seemed to value having someone (the researcher) to hear about what they were doing.*

from a non-medical background or not immersed in health services research.

Our study team consisted of men and women and people from different ethnic backgrounds. It included researchers with a disability and individuals who varied in their research experience – from early career through to senior academics. All had the opportunity, at monthly meetings, to contribute to the study's execution, analysis and dissemination. We also came together at the end of the project as a team to develop this synopsis.

Impact and learning

Knowledge exchange events

Towards the end of 2023, the research team carried out knowledge exchange events – in Birmingham, Exeter and Sheffield. A description of these events can be found in *Report Supplementary Material 7*. As part of these events, we were asked by some people attending whether our data suggested differences between LWs in a VCSE setting compared to being employed directly through primary care. Our reflections on this can be found in *Report Supplementary Material 9*.

Lessons learnt for future research

In this section, we reflect on the approaches we took within the study, providing learning points for others embarking on a similar area of research.

Being with link workers in their everyday work settings

The ability to be with LWs (through fieldwork), where they carried out their daily activities, was invaluable. It enabled us to build rapport with staff, especially with LW 'cases', who said they enjoyed having the researcher present to talk about their role, to reflect on what they did and to offload about the challenges they experienced in the job. We believe that is why we did not struggle with finding professionals to talk to; researchers' presence in a practice helped them to become known and trusted entities. It also provided us with contextual information (e.g. seeing where a surgery was located and getting a feel for the local geography). Observing LWs meeting with patients helped us to understand their interaction style, types of patients they worked with and different approaches they used.

Fieldwork called for curiosity from researchers and an ability to make short notes that they expanded on as soon as possible after an observation period. It brought to the fore parts of the LW role taken for granted or that were challenging. This might come from seeing things (e.g. the room a LW was allocated and how staff talked to them) and from informal conversations (e.g. in a staff kitchen and in the car park). Three weeks were selected as a time frame. Researchers felt that by the end of week 2, they had a fairly clear picture of the setting and had managed to talk to a number of people (although many interviews were conducted remotely after fieldwork).

Overall, fieldwork enabled us to surface factors shaping the implementation of LWs in primary care, which could then be explored in more detail during interviews. This approach to data collection cannot be undertaken lightly or quickly. It calls for rapport building with gatekeepers and participants. Lead researchers on the project had several meetings with sites and LWs prior to data collection to be clear about the research and to answer any queries. These initial conversations also provided us with an early understanding of how services differed.

Recruiting and interviewing patients

We asked LWs to invite patients to be involved as participants in the study; they may have selected individuals who they felt had benefited most from SP. We found a range of perspectives from patients, although they were generally positive or neutral about the LW role. Most patient interviews were conducted by telephone or Microsoft Teams. This could make it more difficult to develop a rapport. Furthermore, it could be emotionally draining for researchers, at times, bearing witness to the difficulties people were experiencing without being in the same physical space. One of the researchers developed a poem that was informed by the feelings she encountered by listening to a particular patient's story (see *Report Supplementary Material 10*). We could have extended fieldwork to 4 weeks, to carry out face-to-face interviews with patients. Sitting in a patient's home, interviewing them there, would have given us a glimpse into their world. However, this would have made the project more expensive. A face-to-face interview in WP1 may have made it easier to reinterview patients 9–12 months later; we did struggle to contact and arrange a follow-up interview with some patients. However, for site 7, where interviews with patients were mainly face to face, we did not see an increased rate of patients taking part in a second interview compared to other sites (which may have been because these second interviews were carried out remotely).

Questionnaires with patients

We selected two questionnaires to use with patients. The ONS4, a well-being measure, consists of four short questions on life satisfaction, how worthwhile someone feels their life is, happiness and anxiety.[36] This is something that LWs have been advised to use by NHS England.[61] The second measure was the General Self-Efficacy Scale,[37] which assesses people's belief in being able to cope with stressful or challenging demands. From the review we undertook,[7] we concluded that development of self-efficacy, through engaging with a LW and community assets, was central to improvements that might transpire for an individual involved in SP.

We found administering these questionnaires harder than anticipated. After patients had talked about the difficulties experienced in their life, including mental health problems and trauma, asking them questions on these questionnaires (e.g. about whether they felt life was worthwhile or if they felt able to overcome difficulties in life) could be distressing and some patients struggled to answer. Therefore, these questionnaires were not completed with all patients. It may have been easier to administer these questionnaires if patients had been interviewed in person, when we could have judged their non-verbal responses to questions and more easily expressed sympathy. Details on these measures can be found in *Report Supplementary Material 6*.

Link workers who were involved

The LWs who formed our cases were all women, and most defined as White British. At a PPI group meeting, it was noted that the ethnicity of the LW may have an impact on the approach they took when working with individuals from different backgrounds and their understanding of cultural sensitives. There has been limited research on LW gender and patient experiences, although papers included in our earlier realist review[7] did suggest that some men preferred opening up to a woman about their non-medical needs.

General practitioner usage data

We attempted to collect data from practices around patients GP usage; this was to explore what these data might offer in terms of understanding and contributing to our research question. All but one of the sites provided us with this information, highlighting that it is possible to access it. Number of patients seen by each LW over the fieldwork month ranged from 12 to 34. We did not identify strong patterns of GP usage either going up or down; there was considerable variation, with some patients appearing to see their GP less in the 6 months after referral to a LW, and others seeing their GP more.

We were unable to say whether any changes in a positive direction were due to a patient meeting with a LW. For example, some patients had significant medical problems requiring clinical attention and regular consultations with a GP, but they may have had their non-medical needs eased through meeting with a LW. It should also be noted that data were on patients referred to a LW. This did not mean they had subsequently engaged with a LW, or how often they had seen this person, which could have an impact on whether they also made appointments with their GP.

Implications for decision-makers

For SP to be delivered successfully in primary care, and to allow for its sustainability, our data suggested that the following need to be considered by decision-makers:

- Defining the role: Our research showed that a shared understanding of the LW role is not automatic. This has implications for the scope and remit of LWs. A clear definition should be created, at a local level, involving key stakeholders (LWs, primary care staff, VCSE and patient representatives). It should not be considered a one-off process; there should be opportunities for these stakeholders to review and revise the role definition at regular time points. The role must be defined and understood in the context of the changing wider primary care workforce. In particular, agreement is needed at a local level on:
    - How much discretion LWs have around: (1) time spent with patients; (2) how often patients are seen; (3) where patients are seen; (4) type of referrals accepted; (5) training provided/accessed; (6) feedback and data collected and shared.
    - Whether it is acceptable/appropriate for LWs to support patients for a prolonged time (i.e. to assume a holding role). If so, this should be communicated when they take up their post and should be considered in terms of supervision provided and LWs' expected caseload.
    - How much time will be spent on seeing individual patients and how much time will be spent in the community, researching what is available to connect patients to and developing community provision when required.

- Resources (time, people and finances): Our data highlighted that investing time in planning was essential when implementing the LW role into primary care, so everyone involved, including patients, were clear about the 'rules of engagement' for SP (which may vary from setting to setting). Introducing such a role into primary care needs to be followed by regular reflexive monitoring to ensure it is delivered in a way that meets the requirements and resources of all stakeholders. Clarity on responsibilities of the supervisory role is needed. LWs require supervision around patient cases and also on their own well-being. Supervision should include opportunities for LWs to reflect on their training needs and to access training when required. Practice resources include space for LWs to see patients or to have private conversations with them. Ideally, this should be a non-clinical space to reflect the non-medical focus of the support provided. Adequate resources (especially financial) are also required for VCSE organisations employing LWs and for VCSE groups/activities/services that patients are connected to as part of SP.
- Social determinants of health and well-being: Addressing non-medical factors affecting health is central to SP. LWs' presence in primary care should help to challenge simplistic views of health as being separate from patients' socioeconomic circumstances. SP brings to the fore wider determinants of health and illness, and it can foster a rebalance away from too much medicalisation of patients' difficulties. For this to transpire, LWs need adequate time to develop connections with VCSE organisations that they can refer patients to. This means striking a balance between how many patients LWs are expected to see versus the time they spend on learning about/connecting with local community services.

A fuller set of recommendations from the study is listed in *Report Supplementary Material 1* based on the data we collected and analysed and our knowledge exchange events. These recommendations include a section on the implications for technology and its role in SP.

Research recommendations

The issue of meaningful measurement in SP requires attention – moving beyond simple metrics such as number of patients seen in a month. GP usage as an outcome measure is problematic.[62] Our data showed that patients referred to SP did not necessarily reduce their GP usage. Future research could explore why some patients visit their GP more or less after referral to a LW. Part of this work could explore how this is shaped by patients being 'held' (or not) by a LW. We found that even if patients did not go on to connect with VCSE groups or organisations, having a LW listen to their concerns, take seriously their non-medical issues and propose options in the community filled them with a sense of hope; involving them in planning their own solutions increased patients' self-confidence. These areas of instilling hope, developing self-confidence and fostering social capital may be more appropriate outcomes for LWs to be measured against.

The research highlighted how LWs are at risk of leaving their role because of an unsatisfactory infrastructure. This has implications in terms of recruiting new staff and the LW departing with a range of connections in the community that could take time for their replacement to establish. It also fractures the connection patients develop with an individual LW. More focus on understanding LWs' intention to leave their role is warranted, which is being covered in a parallel NIHR-funded project (SPCR Award 678) that some authors of this report are conducting.[63]

More research focusing on the VCSE sector's role and buy-in to SP is required; in particular, consideration of its capacity and how it is to be resourced/reimbursed as part of SP. There is limited robust cost-effectiveness research on SP and the LW role. Hence, more detailed economic evaluation is needed; we believe this is part of another NIHR project (NIHR134066).

Discussions we had with PPI groups during the project underlined a need for further research on LWs' understanding of people from different backgrounds, especially from varying ethnic communities, and the delivery of cultural competence training for these employees. The support provided by LWs to underserved communities is a further area for future research.

Conclusions

Our realist evaluation built on and extended findings from a previous realist review. It involved collecting a range of data around seven LWs based in different parts of England. Data highlighted that those designing and managing SP services should consider aspects of a supportive infrastructure that enable outcomes related to: (1) patients (social capital, self-confidence, hopefulness and person-centred care); (2) LWs (job satisfaction); (3) the broader healthcare system (reducing inappropriate healthcare usage) to transpire. This calls for greater attention to: (1) defining the scope/nature of the role in a specific setting; (2) being cognisant of resources required (including supervision and training); (3) thinking beyond a medical lens of health and illness, engaging with the VCSE sector as a key player in the delivery and sustainability of SP.

Additional information

CRediT contribution statement

Stephanie Tierney (**https://orcid.org/0000-0002-2155-2440**): Conceptualisation (equal), Data curation (equal), Formal analysis (equal), Funding acquisition (equal), Investigation (equal), Methodology (equal), Project administration (lead), Writing – original draft (lead), Writing – reviewing and editing (equal).

Geoff Wong (**https://orcid.org/0000-0002-5384-4157**): Conceptualisation (equal), Formal analysis (equal), Methodology (equal), Writing – reviewing and editing (equal).

Debra Westlake (**https://orcid.org/0000-0002-6927-5040**): Formal analysis (equal), Investigation (equal), Writing – reviewing and editing (equal).

Amadea Turk (**https://orcid.org/0000-0002-5139-0016**): Formal analysis (equal), Investigation (equal), Writing – reviewing and editing (equal).

Steven Markham (**https://orcid.org/0000-0002-0564-3158**): Formal analysis (equal), Investigation (equal), Writing – reviewing and editing (equal).

Jordan Gorenberg (**https://orcid.org/0000-0002-2723-8786**): Formal analysis (equal), Investigation (equal), Writing – reviewing and editing (equal).

Joanne Reeve (**https://orcid.org/0000-0002-3184-7955**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Caroline Mitchell (**https://orcid.org/0000-0002-4790-0095**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Kerryn Husk (**https://orcid.org/0000-0001-5674-8673**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Sabi Redwood (**https://orcid.org/0000-0002-2159-1482**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Tony Meacock: Conceptualisation (equal), Writing – reviewing and editing (equal).

Catherine Pope (**https://orcid.org/0000-0002-8935-6702**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Beccy Baird (**https://orcid.org/0000-0002-9976-5446**): Conceptualisation (equal), Writing – reviewing and editing (equal).

Kamal Mahtani (**https://orcid.org/0000-0002-7791-8552**): Conceptualisation (equal), Data curation (equal), Formal

analysis (equal), Funding acquisition (equal), Investigation (equal), Methodology (equal), Writing – reviewing and editing (equal).

Data-sharing statement

Due to the consent process for data collection with participants, no data can be shared except for quotations in reports, journal articles and presentations. All data requests should be sent to the corresponding author.

Ethics statement

Ethics approval was secured from East of England – Cambridge Central Research Ethics Committee (Ref: 21/EE/0118). This was provided on 4 May 2021.

Information governance statement

The University of Oxford is committed to handling all personal information in line with the UK Data Protection Act (2018) and the General Data Protection Regulation (EU GDPR) 2016/679. Under the Data Protection legislation, the University of Oxford is the Data Controller, and you can find out more about how we handle personal data, including how to exercise your individual rights and the contact details for our Data Protection Officer here: https://compliance.admin.ox.ac.uk/individual-rights.

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This synopsis was published based on current knowledge at the time and date of publication. NIHR is committed to being inclusive and will continually monitor best practice and guidance in relation to terminology and language to ensure that we remain relevant to our stakeholders.

Publications

Papers (to date) from the research

Morse DF, Sandhu S, Mulligan K, Tierney S, Polley M, Chiva Giurca B, *et al*. Global developments in social prescribing. *BMJ Glob Health* 2022;**7**:e008524.

Westlake D, Tierney S, Wong G, Mahtani RM. Social prescribing in the NHS-is it too soon to judge its value? BMJ 2023;**380**:699.

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Tierney S, Westlake D, Wong G, Turk A, Markham S, Gorenberg J, *et al*. The consequences of micro-discretions and boundaries in the social prescribing link worker role in England: a realist evaluation. [published online ahead of print September 11 2024]. *Health Soc Care Deliv Res* 2024. https://doi.org/10.3310/JSQY9840

Tierney S, Wong G, Westlake D, Turk A, Markham S, Gorenberg J, *et al*. Patient buy-in to support from a social prescribing link worker – creating hope (connecting with), giving direction (connecting to) as part of person-centred care: findings from a realist evaluation. [published online ahead of print September 25 2024]. *Health Soc Care Deliv Res* 2024. https://doi.org/10.3310/ETND8254

Conference presentations/seminars (to date/planned) from the research

Three knowledge exchange events – in Birmingham, Exeter and Sheffield (see main document)

Tierney S, Westlake D, Wong G, Markham S, Turk A, Gorenberg J, Mahtani K. *Fitting in or Belonging: Emerging Findings from a Realist Evaluation of Social Prescribing Link Workers in Primary Care*. Presentation at BJGP Research Conference, London, March 2023.

Westlake D. *The Interview*. Presentation at SAPC Conference, Brighton, July 2023.

Tierney S. *Social Prescribing and Its Potential Role in Supporting People with Chronic Pain*. Presentation at Oxford Health BRC Pain Conference, Oxford, March 2024.

Tierney S. *Insights into Latest Research Findings on the Complexities Shaping Social Prescribing Practices, Opportunities and Challenges for Effective Implementation in Primary Care Settings*. Panel Session at the National Association of Link Workers Conference, Birmingham, May 2024.

Tierney S, Westlake D. *Implementation of Social Prescribing Link Workers in Primary Care: Investigating a Person-Centred Intervention Aimed at Addressing Health Inequalities*. Workshop at HSRUK Conference, Oxford, July 2024.

Tierney S, Westlake D. *Holding and Discretion as Part of the Link Worker Role: Building on Findings from a Multi-Site Study Conducted in England*. Workshop at Canada's Social Conference, Toronto, September 2024.

Study registration

The study is registered as research registry in 2021 (www.researchregistry.com/browse-the-registry#home/registrationdetails/5fff2bec0e3589001b829a6b/).

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About this synopsis

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List of abbreviations

ARRS	Additional Roles Reimbursement Scheme
CMOC	context–mechanism–outcome configuration
GP	general practitioner
HCP	healthcare professional
LW	link worker
NPT	Normalisation Process Theory
PCN	primary care network
PPI	patient and public involvement
SP	social prescribing
VCSE	voluntary–community–social–enterprise sector
WP	work package

List of supplementary material

Report Supplementary Material 1
Proposed recommendations from the research

Report Supplementary Material 2 List of items to be included when reporting realist evaluations (as outlined in RAMESES)

Report Supplementary Material 3
Example of questions asked in interviews

Report Supplementary Material 4 An overview of groups that helped us in this research

Report Supplementary Material 5 GP usage data per site

Report Supplementary Material 6
Patient questionnaire data

Report Supplementary Material 7
Knowledge exchange events in Birmingham, Exeter and Sheffield

Report Supplementary Material 8
Context-mechanism-outcome configurations from the three papers submitted from the project

Report Supplementary Material 9
Employment though primary care networks versus voluntary-community-social-enterprise sector

Report Supplementary Material 10 Poem written by a researcher after hearing a difficult life story from a patient interviewee

Supplementary material can be found on the NIHR Journals Library report page (https://doi.org/10.3310/KHGT9993).

Supplementary material has been provided by the authors to support the report and any files provided at submission will have been seen by peer reviewers, but not extensively reviewed. Any supplementary material provided at a later stage in the process may not have been peer reviewed.

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