

Social Prescribing in Primary Care



Development of an Austrian programme
theory based on realist evidence

Final report

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Social Prescribing in Primary Care

Development of an Austrian programme
theory based on realist evidence

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List of abbreviations

CMOC.....	Context-Mechanism-Outcome configuration
EHR	Electronic health record
GÖG	Gesundheit Österreich GmbH
GP.....	General practitioner
IPT	Initial programme theory
LW.....	Link worker
N.....	Number
NI	No information
NL	Netherlands
OSF	Open Science Framework
PC.....	Primary care
PT.....	Programme theory
RAMESES II	Realist and Meta-narrative Evidence Syntheses: Evolving Standards II
RQ	Research question
RR	Realist review
SP	Social Prescribing
T2D	Type 2 Diabetes
UK.....	United Kingdom

Executive Summary

Background and project aim

Primary healthcare is the first point of contact between patients and the health-care system. However, patients often approach primary care with health-related but non-medical problems, for which primary care practitioners may lack the time or expertise to recommend appropriate interventions. Social prescribing (SP) is an intervention that aims to improve patient access to regional, voluntary, as well as state-funded services through an intermediate referral to a link worker. In Austria, SP has been implemented across a total of 24 primary care settings since 2019. SP is a complex intervention. Theory-based perspectives, such as realist methodology, can help uncover the underlying processes by which a complex intervention is supposed to work. The output is a programme theory (PT), which explains how an intervention achieves specific outcomes through intermediate steps.

The goal of this report was to determine what realist evidence is available for each step of the Austrian SP process and what we can learn based on available realist research regarding three focused topics: vulnerable populations, workforce motivation and workload, and economic factors of SP.

**Social Prescribing (SP):
Improving care through
the inclusion of regional
non-medical services**

SP = complex intervention

**realist methodology
explains how the
intervention is supposed
to work**

**report aim:
What can we learn about
the SP-process from realist
research?**

Methods

Our methodology was based on realist reviews, with relevant steps adapted due to limited time. The Austrian ideal model of SP was used as the initial PT. Six databases were searched for realist studies (evaluations, rapid reviews, and realist reviews), and results were screened by two reviewers independently. Study quality was assessed through relevance and rigour using the RAMESES II quality standards for realist evaluations and synthesis. Study characteristics, 'Context-Mechanism-Outcome-Configurations' (CMOCs) and formal theories were extracted. The extracted CMOCs were sorted into the Austrian process model of SP and coded based on their fit to the different topics. Results were described narratively.

**relevant steps from
realist reviews adapted
for the report**

**context-mechanism-
outcome-configurations
(CMOCs) integrated into
the Austrian SP-model**

Results

A total of 13 realist studies with 257 CMOCs were included.

**13 realist studies with
257 CMOCs included**

Research question 1

Each SP step should be understood as an intermediate outcome that must be achieved before the process can move forward, ultimately leading to the final outcomes. The process begins with (1) the patient being motivated to visit the GP and take care of their health. During the consultation (2), the GP (team) will be sensitised to identify the patient's SP need. However, (3) the referral to the LW depends not only on the GP-LW relationship but also on GP-patient dynamics. Next, (4) various contextual factors influence the LW's consultation with the patient, such as differences in LW training, workload, network management, and the number of meetings required. The interplay of these factors will determine whether and how the LW can (5) refer the patient to further services. A successful referral and potential (6) regular attendance then depend on service availability, accessibility and the patient's first impressions of the service. Still, regular attendance is not guaranteed but

**each intermediate
SP step is important for
a successful intervention**

depends on continued accessibility and the fit of the service to the patient's needs. Final outcomes, therefore, hinge on the successful interaction of all prior steps. SP implementation and quality control lie outside the overall SP process but are essential for sustainable integration into practice. Moreover, beyond each step representing a transition point from one setting to the next, each step also generates its own outcomes.

Research question 2

Patients with complex needs will need effective communication about SP, potentially additional LW consultations and good service accessibility. As for workforce motivation and workload, general practitioner motivation towards the SP process depends on their involvement during the SP implementation phase and their belief in the appropriateness of the intervention. The workload of LWs will largely be determined by the time they invest into network management, the number of patients they receive from the GP and the amount of time they spend per patient. Finally, evidence on economic factors was limited. Yet, three funding priorities emerged from the analysed data: LW training and supervision, implementation and maintenance of a SP database and potential support for services.

three focus areas:

- vulnerable populations
- workforce motivation and workload
- economic factors

Discussion and conclusion

This review demonstrates which aspects of SP are already underpinned by theoretical foundations and which require further research. Furthermore, it highlights what topics could be added to the currently available SP-handbook, such as the possibility of more LW-consultations for patients with complex needs or the required flexibility of the LW-role. In addition, the PT can be used to plan future SP evaluations and to determine what monitoring measurements could be used. The presented SP-PT is intended as a conceptual proposal outlining how SP could function. Whether the assumptions hold true, needs to be determined in thorough future evaluations of the Austrian program since transferability of international studies is severely restricted because of the context-sensitivity of SP. Some limitations of our report are the limited available time, sole concentration on a holistic SP-model and that most of the included studies are from the United Kingdom. In conclusion, the developed PT is fundamental for the future development of SP in Austria.

presented programme theory fundamental for future development of SP in Austria

Zusammenfassung

Hintergrund und Ziele des Berichts

Die Primärversorgung (PV) stellt die erste Anlaufstelle für Patient:innen im Gesundheitssystem dar. Allerdings wenden sich Patient:innen häufig auch mit nicht ausschließlich medizinischen Anliegen an die PV. Social Prescribing (SP) ist eine Intervention, die darauf abzielt, die Versorgung durch die Einbindung regionaler Angebote zu verbessern. Dabei werden Personen, mit gesundheitsbezogenen, aber nicht medizinischen Bedürfnissen an Fachkräfte mit Link-Working (LW) Funktion weitergeleitet, die sie anschließend an passende, regionale Angebote weiterleiten. SP wird in einer wachsenden Zahl von Ländern umgesetzt, wobei die Implementierung je nach Kontext stark variiert. Systematische Reviews umfassen überwiegend kleine, nicht-randomisierte Evaluationsstudien mit kurzen Nachbeobachtungszeiträumen. Zwar deuten die bisherigen Ergebnisse auf positive Effekte hinsichtlich patient:innenbezogener Endpunkte hin, jedoch sind die Studien durch erhebliche methodische Heterogenität und ein hohes Verzerrungsrisiko gekennzeichnet. Eine direkte Übertragbarkeit auf den österreichischen Kontext ist nicht möglich.

In Österreich (Ö) wurde SP seit 2019 bereits in 24 Primärversorgungseinheiten bzw. Einzelordinationen implementiert. Zwei Evaluationen der Implementierungen weisen auf positive Effekte von SP hin. Außerdem hat die Gesundheit Österreich GmbH (GÖG) ein österreichisches SP-Idealmodell definiert und ein SP-Handbuch herausgegeben, das bei der Implementierung unterstützt. Zentrale Elemente von SP in Österreich sind ein holistischer Ansatz und der Vorschlag von insgesamt sechs LW-Beratungen. Das Modell umfasst außerdem vier Kernelemente von SP: Sensibilisierung, LW, Netzwerkmanagement und Qualitätssicherung.

SP ist eine komplexe Intervention. Die Komplexität einer Intervention steigt mit der Anzahl ihrer Komponenten, dem benötigten Verhalten, den involvierten Gruppen, der Flexibilität und der Interaktion dieser Komponenten. Um komplexe Interventionen zu erforschen, sind unterschiedliche Perspektiven erforderlich, darunter auch die theoretische. In der theoretischen Perspektive wird eine Programmtheorie (PT) entwickelt, die darstellt, unter welchen Bedingungen eine Intervention funktioniert. Eine Methode zur Generierung von PT sind die Realist-Methoden (Realist-Reviews und Realist-Evaluationen). Dabei werden explizite Aussagen darüber generiert, wie genau eine Intervention funktioniert. Die Beziehungen zwischen den Interventionskomponenten werden anhand von Kontext-Mechanismus-Outcome-Konfigurationen (CMOCs) dargestellt.

Ausgehend davon, dass SP in Österreich weiterverfolgt werden soll, war das Ziel des Berichts, folgende zwei Forschungsfragen (FF) zu beantworten:

FF1 – Welche Evidenz aus Realist-Studien ist für jeden Teilschritt des österreichischen SP-Prozesses verfügbar?

FF2 – Was können wir anhand der verfügbaren Evidenz aus Realist-Studien zu drei Schwerpunktthemen lernen:

- Wie und unter welchen Umständen können vulnerable Bevölkerungsgruppen von SP profitieren?
- Welche Umstände bestimmen die Motivation und Arbeitsbelastung der Beschäftigten in SP und wie?
- Welche wirtschaftlichen Faktoren treten unter welchen Umständen in SP auf und wie beeinflussen sie die Bereitstellung von SP?

**Social Prescribing (SP):
Verbesserung der
Patient:innenversorgung
durch Einbezug von
regionalen nicht-
medizinischen Angeboten**

**SP in Österreich (Ö)
seit 2021 bereits in
24 Primärversorgungs-
einheiten (PVEs) & Praxen
implementiert**

**SP = komplexe
Intervention**

**Realist Methoden:
Methode zur Erforschung
von komplexen
Interventionen durch
Generierung einer
Programmtheorie (PT)**

2 Forschungsfragen (FF):

Methoden

Das Vorgehen war angelehnt an Realist-Reviews, wobei die einzelnen Schritte aufgrund von begrenzter Zeit angepasst wurden. Für unsere initiale PT verwendeten wir das österreichische SP-Idealmodell. Die Fokusthemen der FF2 wurden in einem Stakeholder-Gespräch definiert. Die Literatursuche zur Beantwortung der FF erfolgte in sechs Datenbanken, wobei ausschließlich Realist-Studien (Evaluationen und Reviews) eingeschlossen wurden.

Nach dem Abstrakt- und Volltextscreening wurden insgesamt 13 Artikel eingeschlossen, darunter vier Realist-Reviews, zwei Rapid Realist-Reviews und sieben Realist-Evaluationen. Die Qualität der Literatur wurde anhand ihrer Relevanz für die Forschungsfragen und ihrer methodischen Rigorosität bewertet. Es wurden Studiencharakteristika, Theorien hinter den PT und die CMOCs der Studien extrahiert. Zur Beantwortung der FF1 wurden alle extrahierten CMOCs in das österreichische SP-Idealmodell eingeordnet und dieses erweitert. Zur Beantwortung der FF2 wurden die CMOCs nach den jeweiligen Fokusthemen kodiert. In beiden Fällen wurden die Ergebnisse narrativ beschrieben.

Vorgehen angelehnt an Realist-Methoden, Anpassung aufgrund von limitierter Zeit

Einschluss von Realist Studien, Bewertung der Qualität & Datenextraktion

Ergebnisse

Insgesamt wurden 13 Studien inkludiert, von denen fast alle aus Großbritannien stammten. Insgesamt gab es 257 verschiedene CMOCs. Die Artikel lassen sich in insgesamt vier Themenbereiche einordnen: den SP-Prozess, die Beteiligung an SP, die LW-Rolle und SP-Angebote. Zusätzlich wurden in acht Studien 13 formelle Theorien genannt: die Normalisierungs-Prozess-Theorie, Containment, Bindungstheorie, Emotionsarbeit, Street-Level Bureaucracy, Austauschtheorie, soziales Kapital, Selbstwirksamkeitserwartung, Patientenaktivierung, Common-Sense-Selbstregulationsmodell und nutzungsorientierte Evaluation.

Inklusion von 13 Realist Studien mit 257 Context-Mechanism-Outcome-Konfigurationen (CMOCs)

FF1

Die finale SP-PT basiert auf dem SP-Idealmodell. Dieses wurde mit den Konzepten aus der Literatur erweitert. Jeder SP-Schritt ist als Zwischenschritt zu verstehen, der zum erfolgreichen Gelingen der Intervention benötigt wird.

SP-Idealmodell als Basis für die entwickelte PT

Im ersten Schritt hat ein:e Patient:in ein gesundheitliches, jedoch kein medizinisches Problem und ist somit motiviert, die PV aufzusuchen und sich um seine/ihre Gesundheit zu kümmern (2 CMOCs). Im nächsten Schritt muss dieser gesundheitliche Bedarf von der PV identifiziert werden (6 CMOCs). Dazu wurde das PV-Team bereits seit der SP-Implementierung auf das Erkennen des Bedarfs sensibilisiert, wodurch sich die Perspektive während der Patient:innen-Konsultation verändert hat. Bevor jedoch eine Vermittlung an eine LW-Beratung erfolgen kann, müssen verschiedene Faktoren gegeben sein (35 CMOCs). Zunächst muss der:die Primärversorger:in (PV) über Wissen bezüglich SP und dem Prozess verfügen. Zudem muss aus Sicht des PV die SP-Intervention zum Bedarf der Patient:innen passen. Aus der Sicht der Patient:innen, können emotionale Barrieren diese daran hindern, die Intervention in Betracht zu ziehen. Deshalb ist es wichtig, klare und akzeptable Informationen über SP zur Verfügung zu stellen. Zusätzlich braucht es einen einfachen Weg, die SP-Beratungen zu erreichen. Die Vermittlung zu der LW-Beratung wird außerdem von der Arzt-LW-Beziehung beeinflusst (11 CMOCs). Dabei ist der Aufbau dieser Beziehung als ein wechselseitiger Prozess zu verstehen. Zur Nutzung von SP ist außerdem Evidenz zu dessen Nützlichkeit erforderlich.

Patient:in motiviert PV aufzusuchen

PV erkennt Bedarf

PV vermittelt an Link-Working (LW) Beratung

Bei der LW-Beratung steht zunächst der Aufbau einer vertrauensvollen Beziehung zwischen Patient:innen und Fachkräften mit LW-Funktion im Mittelpunkt (37 CMOCs). Bereits durch die Beratung selbst sind positive Effekte bei den Patient:innen zu erwarten. Gemeinsam wird ein personalisierter Plan für verschiedene Bedürfnisse in einem geeigneten Setting aufgestellt.

Die Ausbildung für die LW-Funktion sollte sich nach den Wissenslücken der jeweiligen Fachkraft richten (7 CMOCs). Dabei ist sowohl bei der Ausbildung als auch bei allen LW-Aufgaben Diskretion zu beachten (11 CMOCs). Dies ist bereits in der Implementierungsphase zu berücksichtigen. Die Arbeitsbelastung der Fachkräfte mit LW-Funktion hängt vom Netzwerkmanagement, der Anzahl der betreuten Patient:innen, sowie der Anzahl der Beratungen pro Patient:in ab (12 CMOCs). Dabei ist eine Balance bei der Anzahl der Beratungstermine wichtig, um einerseits die Bedürfnisse der Patient:innen korrekt erfassen zu können und andererseits keine Abhängigkeit zu erzeugen (16 CMOCs). Eine weitere wichtige LW-Tätigkeit ist das Netzwerkmanagement (23 CMOCs). Dabei muss SP als ein Versorgungsnetzwerk verstanden werden, wofür die Fachkraft mit LW-Funktion Zeit in verschiedenen Settings verbringen muss, um dieses aufrechtzuerhalten. Zur Förderung der Kommunikation in diesem Netzwerk, wäre eine gemeinsame Nutzung automatisierter Systeme vorteilhaft, damit PV und Patient:innen über vorhandene Angebote informiert sind. Gute Dokumentationssysteme zum Fortschritt der Patient:innen können das Vertrauen der PV in LW und auch SP stärken (8 CMOCs).

Für eine erfolgreiche Überweisung der Patient:innen zu regionalen Angeboten ist zunächst eine ausreichende Vielfalt solcher Angebote erforderlich (17 CMOCs). Je größer die Vielfalt, desto wahrscheinlicher lässt sich für jede Person ein passendes Angebot finden. Dabei ist zu beachten, dass fehlende Ressourcen auf Seiten der regionalen Angebote deren Teilnahme an SP verhindern könnten. Neben der Vielfalt spielt zusätzlich eine gute Erreichbarkeit der Angebote eine wichtige Rolle für die Teilnahme (15 CMOCs). Bei der ersten Teilnahme ist entscheidend, dass das Angebot den Erwartungen der Patient:innen entspricht (23 CMOCs). Die Fachkraft mit LW-Funktion kann hierzu gezielt Rückmeldungen von den Patient:innen einholen, um die Passung zu prüfen. Für eine nachhaltige Teilnahme ist es außerdem wichtig, dass die Erreichbarkeit der Angebote weiterhin gewährleistet bleibt (14 CMOCs). Eine hohe Zufriedenheit mit den Angeboten, insbesondere wenn diese zu einer Verbesserung des Wohlbefindens beitragen, fördert außerdem die regelmäßige Teilnahme. Auch die Unterstützung durch andere Personen kann die regelmäßige Teilnahme fördern. Mögliche finale Endpunkte der SP-Intervention sind eine Verringerung von Einsamkeit und Überforderung, die Verbesserung der Zukunftsaussichten, der Problemlösungsfähigkeiten und der familiären Beziehungen sowie die Erweiterung des sozialen Netzwerks (4 CMOCs).

Die Faktoren für die Implementierung (9 CMOCs) und Qualitätssicherung (6 CMOCs) von SP befinden sich zwar außerhalb des eigentlichen SP-Prozesses, sind für dessen erfolgreiches Funktionieren jedoch wichtig. Für die Implementierung von SP ist eine Absprache mit wichtigen Stakeholder:innen vorab unabdingbar. Zusätzlich sind weitere organisatorische Faktoren zu beachten, die ein erfolgreiches SP begünstigen. Zur Qualitätskontrolle wurden vor allem unterschiedliche Methoden zur Evaluierung von SP-Implementierungen besprochen.

Aufbau einer vertrauensvollen Beziehung zw. LW & Patient:in

Diskretion wichtig für alle LW-Aufgaben

Arbeitsvolumen abhängig von Patient:innenanzahl & Anzahl der Beratungen & Zeit in verschiedenen Settings für den Netzwerkmanagement

Teilnahme an Angeboten wahrscheinlicher, wenn:

- 1. größere regionale Angebotsvielfalt**
- 2. gute Erreichbarkeit von Angeboten**
- 3. Angebot entspricht Erwartungen**

weitere Faktoren:

Implementierung & Qualitätssicherung

FF2

Für FF2 wurden drei Fokusthemen bearbeitet. Zunächst wurden zu den Themen Annahmen anhand der österreichischen SP-Literatur (Handbuch und Idealmodell) getroffen, anschließend zu jedem Fokusthema passende CMOCs narrativ zusammengefasst.

1. *Wie und unter welchen Umständen können vulnerable Bevölkerungsgruppen von SP profitieren?*

Insgesamt wurden 41 CMOCs zum Thema identifiziert. In der PV zeigen sich diese Patient:innen dadurch, dass sie eher allgemeine Beschwerden aufweisen, die eine bestimmte Diagnose erschweren. Zusätzlich besuchen sie häufig die PV. Nach der Identifizierung der Patient:innen für SP ist eine gute Kommunikationsstrategie notwendig, um die Teilnahme an einer LW-Beratung zu begünstigen. Bereits während der LW-Beratung ist eine Verbesserung ihres Wohlbefindens zu erwarten. Wichtig ist es außerdem, dass vulnerable Populationen mit komplexen Problemen eine nachhaltige professionelle Unterstützung, sowie integrierte und ganzheitliche Ansätze erhalten. Eine gute Erreichbarkeit von Angeboten ist vor allem für Patient:innen mit komplexen Problemen wichtig. Durch die Teilnahme an den regionalen Angeboten kann sich ihre Ausgangslage schließlich verbessern.

2. *Welche Umstände bestimmen die Motivation und Arbeitsbelastung der Beschäftigten in SP und wie?*

Insgesamt wurden 64 CMOCs zum Thema „Arbeitsbelastung und Motivation von Arbeitskräften“ kodiert. Zur Motivation des PV-Teams gegenüber SP ist eine gute Integration von SP in die Praxis notwendig. Die Arbeitsbelastung von Fachkräften mit LW-Funktion hängt vor allem von folgenden Faktoren ab: dem Netzwerkmanagement, der Anzahl der an eine LW-Beratung überwiesenen Patient:innen und der Anzahl der Beratungen pro Patient:in. Bei der Arbeitsbelastung von Fachkräften mit LW-Funktion ist zu beachten, dass ein Gleichgewicht zwischen Diskretion und Supervision gefunden werden sollte. Zusätzlich ist die mögliche Anzahl der zu betreuenden Patient:innen bei LW abhängig von der Zeit, die pro Patient:in aufgewendet wird.

3. *Welche wirtschaftlichen Faktoren treten unter welchen Umständen in SP auf und wie beeinflussen sie die Bereitstellung von SP?*

Achtzehn CMOCs beinhalteten Informationen zu den ökonomischen Faktoren von SP. Die Nachhaltigkeit von SP wird durch den Einbezug von Stakeholdern bereits ab der Implementierungsphase begünstigt. Für das LW-Training und die Supervision, eine SP-Datenbank sowie für regionale Angebote sind zusätzliche Ressourcen einzuplanen. Eine längere Betreuung von Patient:innen, wenn eine Überweisung nicht möglich ist, kann eine erneute Aufsuchung von PVs möglicherweise vermeiden.

Diskussion

Die finale PT zeigt den aktuellen Forschungsbedarf zu SP-Interventionen auf. Zudem ergänzt die Auflistung der formellen Theorien einen Review aus dem Jahr 2024. Zum Großteil entsprechen die Annahmen der theoretischen PT den Ergebnissen aus den Evaluationen der österreichischen Pilotprojekte. Es bleiben jedoch noch einige Fragen offen. So ist beispielsweise noch nicht klar, wie genau die Sensibilisierung funktioniert, wie die Akzeptanz von SP in der Gesellschaft gefördert werden kann oder welche weiteren finalen Endpunkte durch SP entstehen.

Vorgehen für FF2

41 CMOCs zum Thema vulnerable Gruppen

effektive Kommunikationsstrategie & gute Erreichbarkeit von Angeboten notwendig

64 CMOCs zum Thema Motivation & Arbeitsbelastung

Arbeitsbelastung bei LW v. a. durch Netzwerkmanagement, Patient:innenanzahl & Zeit pro Patient:in

18 CMOCs zu ökonomischen Faktoren

Ressourcen notwendig bei SP-Datenbank, LW-Training & Supervision

offene Fragen zu Sensibilisierung, Akzeptanz von SP in der Gesellschaft & weiteren finalen Endpunkte

Die hier vorgestellte PT ergänzt das für Österreich entwickelte Handbuch und das österreichische SP-Idealmodell. Dabei wird die Relevanz von Sensibilisierung auch in der entwickelten PT deutlich. Zusätzlich könnte man den Aufbau einer PV-LW-Beziehung explizit im Handbuch ergänzen und anmerken, dass vulnerable Patient:innen eventuell mehr Beratungstermine benötigen werden. Aus den theoretischen Ergebnissen lässt sich außerdem ableiten, dass die LW-Rolle eher flexibel zu gestalten ist. Da es sich bei SP um eine komplexe Intervention handelt, ist jeder Teilschritt für den Erfolg der Intervention wichtig.

Zukünftige SP-Evaluationen können die Passung der Ergebnisse zur aufgestellten PT überprüfen. Auch die einzelnen PT aus den eingeschlossenen Studien können jeweils einzeln überprüft werden. Zusätzlich können die CMOCs aus der Extraktionstabelle zur Prüfung bestimmter Fragestellungen herangezogen werden. Darüber hinaus kann die PT zur Identifikation von Messwerten für das Monitoring oder zukünftige Evaluationen verwendet werden. So können beispielsweise die Belastungen in einer PV-Praxis vor und nach der Implementierung gemessen werden, ebenso wie die Gründe für die Überweisung an eine LW-Beratung oder das Vorhandensein von regionalen Angeboten in verschiedenen Kategorien. Ebenfalls kann die PT zur transparenten Planung von Evaluationen verwendet werden.

Zukünftig gilt es, die PT zu prüfen und weiterzuentwickeln. Dabei kann sich die Forschung auf den Effekt von SP auf vulnerable Gruppen konzentrieren. Passend dazu läuft seit 2025 eine randomisierte Studie zu SP in Europa. Zusätzlich können die hier extrahierten CMOCs weiter vervollständigt werden und die Extraktionstabelle als eine Art Datenbank verwendet werden.

Eine Limitation dieses Berichts war, dass nur sehr wenig Zeit zur Verfügung stand. Aus diesem Grund handelt es sich hierbei nicht um einen vollständigen Realist-Review. Dementsprechend haben wir nur Realist-Studien eingeschlossen. Außerdem entspricht die PT dem österreichischen SP-Modell und ist somit holistisch ausgelegt. Einfachere Formen von SP werden also nicht abgedeckt. Zudem handelt es sich bei dem Großteil der eingeschlossenen Studien um Studien aus dem Vereinigten Königreich, weshalb die Vergleichbarkeit der PT mit österreichischen Ergebnissen unklar ist. Schließlich gab es nur eine geringe Anzahl an CMOCs zu den von uns bearbeiteten Fokusthemen. Die Aufbereitung sollte deshalb als eine Erstbearbeitung betrachtet werden.

Fazit

Die hier vorgestellte, theoriebasierte PT ist wegweisend für weitere Entwicklungen von SP in Österreich und stellt einen ersten Versuch zur Erstellung einer umfassenden PT zu SP dar. Die PT muss allerdings nach jeder Evaluation der Implementierungen entsprechend neuer Erkenntnisse adaptiert werden.

eventuelle Ergänzungen zum SP-Handbuch: mehr Beratungstermine bei vulnerablen Patienten, Flexibilität der LW-Rolle ...

aufgestellte PT kann zur Planung von Evaluationen & für die Auswahl von Monitoring-Messwerten verwendet werden

PT soll zukünftig weiterentwickelt werden

Limitationen: Begrenzte Zeit, holistisches SP-Modell, Großteil der Studien aus dem Vereinigten Königreich

entwickelte PT wegweisend für weitere Entwicklung von SP in Österreich

1 Introduction

1.1 Social prescribing

Rising challenges in the healthcare sector demand a shift towards a more holistic approach to health [6]. Primary healthcare, as the first point of contact between patients and the healthcare system, is responsible for initial care, prevention, patient information, and multidisciplinary and integrated care [7]. A strong primary health care system can enhance the efficiency and quality of treatment throughout the entire health care system, thereby further improving health and overall productivity [7]. However, patients often approach primary care with health-related but non-medical problems, for which primary care practitioners may lack the time or expertise to recommend appropriate interventions [8].

Social prescribing (SP) is a relatively new approach to promote holistic health care and reduce the burden on primary care. It aims to improve patient access to regional, voluntary as well as state funded services and strengthen individuals' ability to manage their own health and well-being. At a broader level, SP seeks to foster health equity and economic sustainability through collaboration with community partners outside the health sector [4, 9, 10]. According to a recent definition, developed through a Delphi study, SP involves an "identifier" recognising a person with a non-medical need and either (1) directly connecting them with a non-medical, health related service, or (2) referring the person first to a "connector" or "link-worker" (LW), who in turn refers the person to local voluntary or state funded services, depending on the availability and patient need. In both cases, the referral to a health-related service constitutes the non-medical "social prescription" [9].

Generally, different modes of SP have been proposed, although adaptation is lacking: (1) signposting, (2) light, (3) medium, and (4) holistic. As the name suggests, signposting only involves signposting patients to resources that are likely to help them fulfil their non-medical health-related needs without any form of further follow-up. SP light involves referring vulnerable or at-risk patients to specific interventions. In the medium approach, a patient is first referred to a LW, who provides different forms of advice relating to nutrition, exercise, and self-care, and may signpost the patient to voluntary organisations or self-help groups. Finally, the holistic SP mode involves a formal referral from the GP to a LW, who in turn attempts to address the patient's wellbeing and health-related needs holistically, offering support on various matters, and refers the patient to services outside the healthcare system [11, 12].

The current understanding of SP originates from the UK, where a national reimbursement strategy was introduced in 2018, providing initially one LW for each primary care network. Following the NHS year plan 2019, availability of LW has spread insofar that every GP in the UK now has access to a LW [13]. Since then, implementations of SP have been observed in a growing number of countries [8, 11]. Additionally, various resources on SP are now available, one example being the implementation toolkit from the World Health Organisation [10]. Furthermore, different societies have formed, most notably the International Social Prescribing Network, with its corresponding annual conference, and the UK-based National Academy for Social Prescribing, providing opportunities for research, exchange and further development [9, 14, 15].

Primärversorgung (PV)
als die erste Kontaktstelle
für Patient:innen mit dem
Gesundheitssystem

Patient:innen wenden
sich oftmals an PV mit
gesundheitsrelevanten,
aber nicht medizinischen
Sorgen

Social Prescribing (SP):
Verbesserung der
Patient:innenversorgung
durch Einbezug von
regionalen
nicht-medizinischen
Angeboten

4 verschiedene Arten von SP:
wegweisend, leicht,
medium, holistisch

Implementierung von SP
in steigender Anzahl von
Ländern

Implementations differ considerably across health care system contexts, showcasing SP's adaptability [16]. Differences can be observed in the choice of target population (e.g., specific vs. open for all), setting (e.g., hospital vs. primary care vs. community), referral procedure (e.g., direct referral through GP, through LW, self-referral), terms used for SP (e.g., link worker, community connector, navigator), type of LW employed (existing staff vs. new workforce), in what way the service is funded and whether health technology is used in the process [15, 17]. Furthermore, depending on the community setting, a variety of patient needs, such as material (housing, financial, transportation, etc.), social (community groups, volunteering, cultural, etc.) or health needs (diet, exercise, smoking, etc.), can be addressed [15]. Most commonly, patients are referred to art, physical or social interaction activities [18].

As SP is still a relatively new approach with a wide range of applications, evidence of its effectiveness, cost-effectiveness, and impact on health equity is still emerging [15]. Recent systematic reviews mostly included small-scale project implementation studies, with sample sizes of fewer than 100 participants and generally short follow-up periods, frequently limited to the immediate post-intervention period or up to six months. Only a minority of evaluations extended beyond twelve months. Additionally, the majority of evaluations were uncontrolled before-and-after studies or descriptive reports of project implementations, with only few randomised or quasi-randomised controlled trials [18-22].

The reported effects are consistently modest yet positive, with improvements in various patient-reported outcomes, such as well-being, mental health, quality of life, and social connectedness being reported [18-22]. Furthermore, evidence suggests reductions in anxiety and depression, increased self-efficacy, and improved self-management knowledge [18, 19, 21], particularly in the context of chronic conditions [22]. Moreover, improvements in loneliness, general health, and health-related behaviours, such as physical activity, have frequently been observed [18, 19, 21, 22]. Conversely, findings regarding healthcare utilisation have been inconsistent, with reviews finding little evidence of reductions in GP consultations, hospital referrals, and emergency attendances [18, 20, 21]. Additionally, controlled trials and evaluations with longer follow-up periods failed to demonstrate sustained changes in healthcare utilisation behaviour [21].

A central theme across the reviews is the significant methodological heterogeneity and prevalence of studies with a high risk of bias. In addition, heterogeneity of interventions, reported outcomes and study design, made meta-analytic synthesis challenging, limiting generalisability [18-22]. Common shortcomings included a lack of standardised outcome measures and tools, failure to consider potential confounding factors, and poor reporting. Contextual variations (e.g., intervention duration, workforce models, and number and mode of sessions) further make it difficult to isolate the effects of SP or to determine which pathways and mechanisms produce observed outcomes [18, 23]. Finally, it should be noted that the evidence base synthesised is heavily concentrated in the UK, therefore limiting the transferability of the findings. Of the evaluations, 87 (86%) were conducted in UK settings, compared to four in Australia, nine in the United States and one in Belgium.

**Implementierung
je nach Kontext sehr
heterogen**

**jüngste systematische
Reviews inkludieren
meist nicht randomisierte
Evaluationsstudien mit
kleiner Stichprobengröße
& kurzem Follow-Up**

**tendenziell
positive Effekte bei
patient:innenbezogenen
Endpunkten, inklusive
Wohlbefinden,
psychische Gesundheit,
Lebensqualität & soziale
Zugehörigkeit**

**hohe methodische
Heterogenität & hohes
Verzerrungspotential
zwischen Studien**

1.2 Social prescribing in Austria

The subject of SP has been in focus in Austria since 2019. Following two funding calls, SP was implemented in 24 (nine in the first funding call and 15 in the second) primary health care centres or practices between 2021 and 2024 under the supervision and support of the Austrian National Public Health Institute (Gesundheit Österreich GmbH; GÖG) [5]. A new funding call, expected in 2025, will enable the first financing of the LW role and provide a nationwide basis for the intervention's implementation [5].

Two evaluations provide the first evidence of the positive effects of SP in Austria. A first, qualitative evaluation of nine pilots in 2021 focused on the lessons learned from the different implementation contexts. Similar to international experiences, the implementation in Austria differed widely in the conduct of the LW role, the approach to sensitisation, or raising awareness, and the overall SP referral pathways. Benefits were observed at various levels, such as increased awareness of patients' health-related needs by the GP (team), improved interprofessional cooperation, and general health improvements in patients [24]. A subsequent mixed-methods evaluation of 15 pilots from 2024 examined the effect of SP on different stakeholders. Positive effects were observed in most patients, who reported improved psychological well-being, increased self-esteem, and more regular physical activity. Additionally, healthcare practitioners reported having more time for individual consultations, as well as feeling mentally more at ease knowing that they could refer patients with psychological complaints. The positive effects seemed to be more pronounced in rural areas, and services involving exercise or career consultations were reported to be especially beneficial [25].

An ideal model was defined, establishing a minimum framework and a common understanding of SP in Austria [4]. Additionally, a SP handbook outlines a concise introduction to the topic, providing healthcare personnel with the necessary information for potential implementation of SP [5]. According to the Austrian SP model, the SP process is as follows (see Figure 1-1):

1. Patient with non-medical needs is recognised
2. Patient is referred to a link worker
3. Consultation with the link-worker takes place
 - a. The patient is referred to regional services
 - b. There is a feedback discussion between the LW and the patient at the fifth meeting
 - c. The result is reported back to the health care team and documented
 - d. The patient regularly takes part in the regional service

A key feature of the Austrian model is that SP does not include simple signposting to a service but is always associated with a in depth LW consultation with the patient (holistic SP model). Furthermore, the number of LW meetings has been set to a total of six meetings, with a reflection meeting on the fifth appointment with the LW. In addition, various potential exit points during the SP process were defined, at which patients might leave prematurely, such as before setting a first appointment with the LW or before the actual appointment. Furthermore, patients may exit the SP process if they can fulfil their needs through their own resources, such as their social network, or if they cannot find the right service for themselves. Finally, the SP intervention is concluded when the patient regularly participates in the service to which

**SP in Österreich (Ö)
seit 2021 bereits in
24 Primärversorgungs-
einheiten & Praxen
implementiert**

**2 Evaluationen zeigen
bereits positive Effekte,
inklusive Wohlbefinden,
psychische Gesundheit,
Lebensqualität & soziale
Zugehörigkeit**

**ö. Idealmodell definiert,
um gemeinsames
Verständnis von SP
zu schaffen**

**Merkmale von SP in Ö:
holistisches Modell,
6 Link-Working (LW)
Beratungen vorgesehen**

they have been referred. Regional services have been defined loosely and generally refer to all possible services outside the medical, nursing and therapeutic setting. Depending on the region, the services could be official consultations and support, education, health-promoting services, arts and culture services or social participation services.

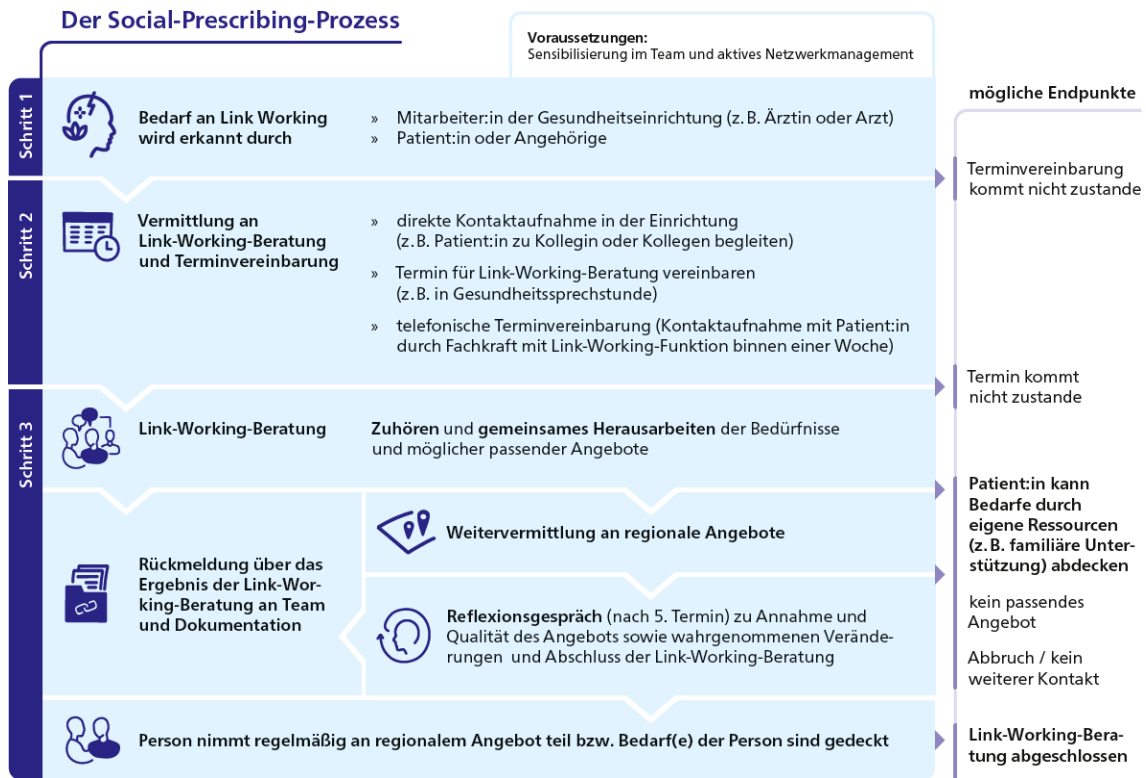


Figure 1-1: The Austrian social-prescribing process, source: [5]

In addition to the Austrian SP process, four core elements of SP were defined [4]:

- Sensitising
- Link-working consultations
- Network management
- Quality assurance

Sensitising is a prerequisite for the entire SP process. It starts during the implementation phase of SP during which the awareness of the healthcare team for non-medical, health-related needs is raised through regular activities, so that these needs can subsequently be identified and the patients referred to a LW. Link-working is the central element of SP, involving the identification of specific needs in patients referred to an LW and subsequent referral to a suitable service. Network management involves analysing, researching, and maintaining knowledge of regional services, as well as the upkeep of relationships with those services. Finally, quality assurance, as the last core element of SP, involves training, organisational development, quality assessments of potential services and regular evaluations of the SP process [4].

4 Kernelemente von SP:
Sensibilisierung, LW,
Netzwerkmanagement,
Qualitätsmanagement

1.3 Complex health interventions

Heterogeneity in how the intervention is implemented highlights SP as a complex health intervention. Intervention complexity arises from three interrelated factors: the intervention itself, the context in which it is implemented, and the interaction between these two. Key attributes of an intervention that increase its complexity are (1) the number of components, (2) the variation in behaviours and knowledge required, (3) the number of groups involved, and (4) the degree of flexibility in delivery. A second source of complexity arises through contextual factors, such as the health system, the clinical setting, cultural norms and political structures in which the intervention takes place. Finally, outcomes further depend on the dynamic interaction between the intervention and its context [26].

This framework helps explain in what way SP is a complex intervention. All SP components contribute to its complexity, such as the multiple stages the patient moves through (GP practice, link worker, other services), different actors in this chain require specific knowledge and behaviours to navigate the process, multiple groups may be involved in its delivery and, depending on individual needs, patients may be referred to a variety of services.

Merely concentrating on the question of whether a complex intervention, such as SP, “works” is insufficient for drawing conclusions that apply across implementation contexts. Instead, research on complex interventions should consider four overlapping perspectives to provide policy-relevant answers [27]:

- Efficacy perspective: Does the intervention lead to the intended outcomes under ideal settings?
- Effectiveness perspective: Does the intervention lead to the intended outcomes in real-world settings?
- Theory-based perspective: What works in which circumstances and how?
- Systems perspective: How do the intervention and the system in which it is implemented interact and change?

While efficacy and effectiveness perspectives remain important, they do not capture how the intervention changes in different contexts [26, 27]. Instead, theory-based perspectives aim to uncover the underlying processes by which an intervention is intended to lead to change and the circumstances required to trigger these processes. Their output is an explicit programme theory (PT), which explains how an intervention achieves specific outcomes through intermediate steps. It consists of two components: a theory of change (What is going to happen?) and a theory of action (Why this leads to change) [28, 29]. This PT can promote a shared understanding of the intervention and identify uncertainties that require further research. With further evaluations of the interventions in different contexts, the PT can be refined, allowing for better implementations across contexts [27].

Interventionskomplexität steigt mit zunehmender Anzahl von Komponenten & involvierten Gruppen, benötigten Wissen, Grad an Flexibilität & Interaktion dieser Faktoren

SP = komplexe Intervention

4 Perspektiven bei Forschung zu komplexen Interventionen

theoretische Perspektive: Programmtheorie (PT) zeigt, unter welchen Bedingungen eine Intervention funktioniert

1.4 Realist methodology

One possible way to examine the PT behind an intervention is to employ a realist methodology [26]. Realism is a philosophy of science, situated between positivism and constructivism. It acknowledges the existence of reality beyond the capabilities of our observation, while also postulating that our observations can still improve the understanding of this reality over time, because possible interpretations will be constrained by reality [29]. Realist evaluations and reviews are approaches to evaluating the evidence of complex interventions by making the theoretical and often implicit mechanisms behind an intervention explicit. The overall aim of realist reviews or evaluations is the refinement of the PT by uncovering why, for whom, in what context, and in what way a particular intervention might work [30, 31]. While realist evaluations develop a PT through analysing primary data, realist reviews do so through an iterative review of the literature.

From a realist perspective, PTs are explicit statements about how change resulting from an intervention will occur. Without a PT, the intervention can be considered a “black box”: change may be observed, but it is unclear which elements of the intervention triggered the change [28, 32]. Furthermore, a distinction exists among different types of theories within realist methodology, such as the initial programme theory (IPT), refined PT, middle range theory and substantive theory. While an IPT is a rough sketch of how one initially believes the intervention under examination to work, the refined PT is the result of the realist review or evaluation, which has been adapted based on the analysed data. Middle-range theories are theories that are empirically testable and at the same time general enough to be applicable across a variety of cases. Finally, substantive theories are already existing theories from other disciplines [29].

A PT can be expressed narratively or visually, for example, through a diagram. The relationships between program links are expressed through middle-range theories, which are noted as **context, mechanism, and outcome configurations** (CMOCs) [31, 32]. CMOCs can be understood as testable propositions that formulate how certain contexts (C) trigger mechanisms (M), which in turn result in particular outcomes (O) [12]:

- Contexts are the settings which may or may not trigger a particular mechanism. They should not be viewed too restrictively and can include, among others, (1) individual people in an intervention, (2) relationships between different people in an intervention, (3) the location of the intervention, or (4) the surrounding infrastructure.
- Mechanisms are hidden, context-sensitive causal forces used to explain the relationship between contexts and outcomes. They are generally unobservable, not describable, nor measurable and operate on a different level from the outcome, which they produce. Various constructs can constitute mechanisms, depending on the intervention or processes being examined. They can constitute powers and liabilities, forces, interactions, processes or (classically) reasoning and resources [29, 33].
- Outcomes are understood as proximal outcomes that result from specific combinations of contexts and mechanisms and include both intended and unintended outcomes.

**Methode zur
Generierung von PT:
Realist-Methoden
(realistische Methoden)**

**PT nach Realist-Methoden:
explizite Aussage darüber,
wie eine Intervention
unter bestimmten
Kontextbedingungen
Veränderungen hervorruft**

**Darstellung von
Beziehungen zwischen
Interventionskompo-
nenten durch Kontext-
Mechanismus-Outcome-
Konfigurationen (CMOCs)**

A realist review can be conducted in five overlapping and iterative steps, as outlined by Pawson et al. (2005) [34]. The first step consists of clarifying the scope of the review. In this step, the review question is identified, the purpose of the review is refined, and the key theories of the intervention are articulated and explored. The second step involves searching for evidence. Different search methods are relevant for a realist review, such as exploratory background searches, purposive searches for evidence to test focused PTs and final, focused searches at the end of the review process. The appraisal of primary studies and data extraction follow in the third step. In addition to formal appraisal methods, the literature used for realist reviews is assessed based on rigour and relevance of each reference. Furthermore, different types of data may be extracted from various sources, depending on the type of information the source contributes to the PT. Data are extracted, coded, and analysed using CMOCs to identify patterns (semi-regularities). During the fourth step, evidence is synthesised, and a conclusion is drawn, based on the purpose of the review. Here, contradictory evidence can provide insight into the influence of different contexts. Finally, the conclusions are disseminated, implemented, and evaluated during the fifth step by testing them in particular contexts.

**Realist Review (RR):
5 überlappende &
iterative Schritte**

1.5 Project aims and research questions

Given the complexity of SP interventions and current plans to further implement and develop SP in Austria, it is important to construct a theoretical PT based on the Austrian ideal SP model, utilising realist methodology. Accordingly, this report sought to address two overarching research questions (RQ):

- RQ1 – What realist evidence is available for each step of the Austrian SP process?
- RQ2 – What can we learn, based on available realist research, regarding three focused topics:
 - How and in what circumstances can vulnerable populations benefit from SP?
 - What circumstances determine workforce motivation and workload in SP and how?
 - What economic factors arise under what circumstances are apparent in SP and how do they influence the provision of SP?

This work aims to provide theoretical knowledge on the conditions likely to facilitate or hinder the successful implementation of SP and positive outcomes, to support a potential nationwide implementation of SP. The report also aims to provide a thorough, theory-based foundation for designing SP in different contexts. In contrast, this report does not aim to review the evidence on the effectiveness of SP, as it is important to first understand how SP works as a complex intervention in different contexts and what factors determine its success.

2 Forschungsfragen (FF)

Ziele des Berichts

2 Methods

To answer our RQs we concentrated on the theory-based perspective of complex intervention research: what works in which circumstances and how? Because conducting a full realist review was not feasible within the available timeframe, we instead focused on synthesising evidence from previous realist research and integrating it into the Austrian SP model. Still, relevant steps of a realist review were adapted (scoping, evidence selection, data extraction, and synthesis) [34] and the results reported according to the Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) II publication standards [35]. Furthermore, given the iterative nature of realist methodology and the anticipated refinement of our review focus, we refrained from publishing a protocol a priori.¹

Vorgehen angelehnt an Realist-Methoden, Anpassung aufgrund von limitierter Zeit

2.1 Process of developing the initial programme theory

During the initial scoping of the literature, we identified evidence on SP in Austria and selected the Austrian process model of SP as the foundation of our IPT. Additionally, we had initially planned to incorporate findings from existing realist reviews on SP into our IPT but changed our focus considering the time limitations for this project. Instead, we incorporated realist findings into the final PT. See Figure 2-1 for a list of considered key documents.

**initiale PT:
österreichisches
Idealmodell von SP**

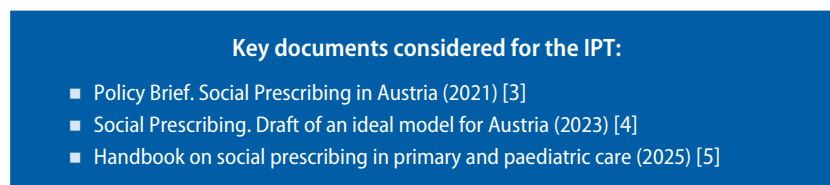


Figure 2-1: Key documents of the Austrian SP intervention from GÖG considered for our initial programme theory

Further, in a meeting with funders and coordinators of SP in Austria, we identified three specific topics of interest, which were the focus of our second RQ:

**2te FF:
3 Fokusthemen**

- How and in what circumstances can vulnerable populations benefit from SP?
- What circumstances determine workforce motivation and workload in SP and how?
- What economic factors arise under what circumstances are apparent in SP and how do they influence the provision of SP?

¹ The process of defining exact RQs and adapting steps from the realist methodologies was iterative. Details on how we adapted our process are reported in the Appendix: Refinement of the research question.

2.2 Literature search

After our initial scoping of the literature, a systematic search was conducted between 4th and 16th of June 2025 in the following databases:

- Medline via Ovid
- Embase
- The Cochrane Library
- PsycINFO
- CINAHL
- HTA (INAHTA)

systematische Suche
in 6 Datenbanken

The Medline search strategy is provided as an example in the Appendix. The other searches are published on OSF (osf.io/te9j2).

Suchstrategien auf OSF

The titles and abstracts were screened by one reviewer (JK). To ensure consistency, a random 30% sample was independently screened by a second reviewer (RS). Discrepancies were discussed and resolved through consensus. Full-text screening was conducted independently by both authors. As we adapted the focus of our review after the initial title and abstract screening, the literature was re-screened for realist studies (reviews and evaluations) on SP. Following consultation with our information specialist, we decided not to run a new search, as the existing search string was deliberately broad and primarily focused on primary care and SP, and was therefore judged sufficient to capture most relevant studies. The inclusion criteria of our new approach were subsequently refined, shifting from an unrestricted approach to publication types to a targeted focus on realist studies (evaluations, reviews, and rapid reviews). Table 2-1 details the final inclusion and exclusion criteria.

Abstrakt- &
Volltextscreening,
Einschluss von
Realist-Studien

Table 2-1: Inclusion and exclusion criteria for systematic literature search

	Inclusion	Exclusion
Population	No restrictions	
Intervention	Social prescribing (synonyms: community referral, link worker; well-being coach, community connector, social prescribing specialist, health trainer)	“light touch” social prescribing/signposting, clinical navigation, navigator
Control	No restrictions	
Outcome	No restrictions	
Setting	Primary care	Community nursing, hospital setting
Language	English, German (no country restriction)	Any other language
Publication date	2015-2025	Before 2015
Publication type	Realist studies (evaluations, reviews, rapid reviews)	Any other study types

In addition to the formal search, the reference lists of the included articles were screened by both authors independently for further literature and discussed afterwards. In addition, a Google Scholar alert (Search for key words “Social prescribing” AND “Realist”) was set to identify literature published during the review process. Because of the limited available time frame, no further searches were conducted based on our new understanding of the PT.

weitere Suchstrategien

2.3 Study selection

A total of 1.441 records were identified through the systematic search. After deduplication, 1.094 references remained, of which three were identified through other methods. Of these, 1.079 were excluded after title and abstract screening. Of the 18 full-text articles assessed for eligibility, 13 articles were included in the review. These included four realist reviews, two rapid realist reviews and seven realist evaluations. The flow diagram of the selection process is shown in Figure 2-2.

insgesamt 13 Artikel eingeschlossen, darunter 4 RR, 2 Rapid RR & 7 Realist Evaluationen (RE)

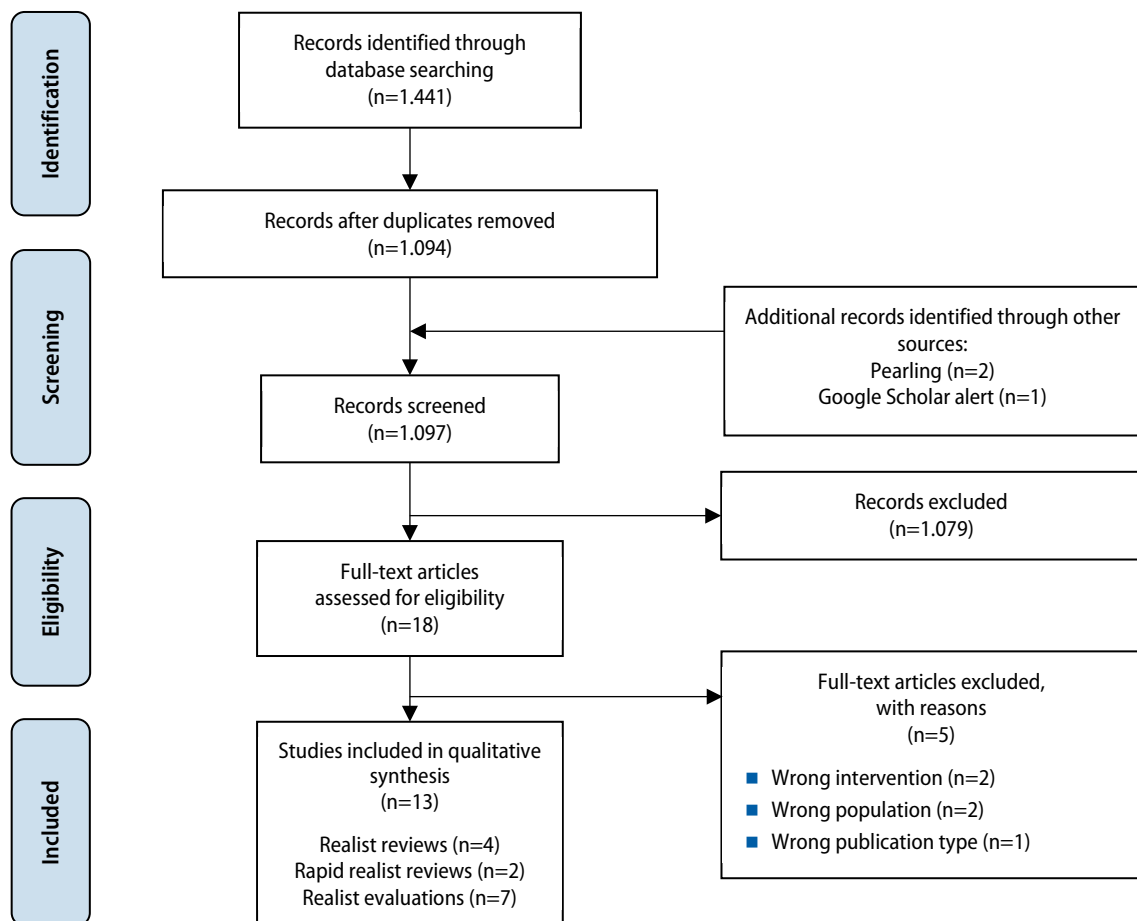


Figure 2-2: PRISMA flow diagram

2.4 Data extraction and quality appraisal

We assessed relevance by comparing the SP model in the articles with the Austrian model. Therefore, we excluded articles which primarily focused on signposting models of SP and/or primarily recruited participants outside the primary care sector. Rigour in a RR is judged based on credibility and trustworthiness. The rigour of the included realist studies was assessed using the RAMESES II quality standards for realist evaluations and the RAMESES II quality standards for realist synthesis [36]. The assessments were conducted by both researchers independently. The results were compared and discussed only when studies received a rating of “inadequate” in any of the items. No study was rated as overly inadequate, and as all studies could further contribute to the development of the refined SP theory, we decided not to exclude any based on these assessments.

Study characteristics (study date, first author, country, availability of the protocol, objective, potential conflict of interest), CMOCs, formal theories and recommendations identified in the articles were extracted into an Excel file. One author (JK) extracted all information, while another author (RS) verified for consistency and correctness. Each CMOC was assigned an identifier consisting of the first letter of the first author’s name, the last digits of the publication year and a continuous number reflecting the order of the CMOC in the original paper (e.g. the CMOC stems from Gorenberg et al, 2023 and is mentioned first, then it was coded as “G23_01”).

**Bewertung der Literatur
nach Relevanz &
Rigorosität**

**Extraktion:
Studiencharakteristika,
Theorien, CMOCs**

2.5 Data synthesis

For the first research question, all identified CMOCs were sorted into the different steps of the Austrian process model of SP by one author (JK) and reviewed by a second author (RS). Where necessary, new concepts that were not part of the original model were added to the overview. After the initial sorting into the process, the CMOCs were arranged into thematic categories within each step. Each step and concept was then described narratively. CMOCs that related to specific settings or populations were generalised as they can be potentially applied/tested in other settings. However, as transferability might be limited in these CMOCs, they have been marked with an *.

For the second research question, the CMOCs from the first research question were coded according to their fit into any of the three topics of interest (Populations, LW workload and economic factors). A narrative summary, focusing specifically on factors associated with the three topics of interest, was derived.

**FF1:
Einordnung
identifizierter CMOCs
ins ö. SP-Idealmodell**

**FF2:
Kodierung der CMOCs
nach Fokusthema**

3 Results

3.1 Study characteristics

A total of 13 realist studies were included in the review, of which four were realist reviews [12, 37-39], two were rapid realist reviews [40, 41], and seven were realist evaluations [1, 2, 42-46]. The publication dates of the studies ranged between 2018 and 2025. Except for one study from the Netherlands [40], all the other articles were conducted in the UK. Of the UK articles, one realist review was from Wales [38], while the other eleven studies were from England [1, 2, 12, 37, 39, 41-46]. All included studies provided information on whether the authors had any conflict of interest. Three studies indicated a potential conflict of interest [1, 43, 45] given that some of the authors were involved in SP projects, while the authors from the remaining ten studies stated that they had no competing interests to declare. In addition, nine of the studies published a protocol of their study design a priori [1, 2, 12, 37-39, 42-44] while four studies did not report a protocol [40, 41, 45, 46]. The number of CMOCs defined by each study ranged from three to 40. Across studies, a total of 257 unique CMOCs were identified.

**13 Studien inkludiert,
12 davon aus der UK**

The number of articles included in the four realist reviews and two rapid realist reviews ranged from 4 to 143, and the number of CMOCs ranged from four to 40. Generally, all articles focused on literature concerning SP. While all studies included different study designs, one article excluded unpublished literature [40] and another articles lacking a description of findings or of the evaluation design [38]. Three studies only included articles written in English [12, 40, 41], and one article further included studies in Spanish and French [39]. One article excluded literature from countries outside the OECD [40], and another article only included literature with a UK focus [12]. An age of the population above 18 was set as an inclusion criterion by two articles [12, 39], while one study focused specifically on older adults aged 60 years or older [41]. This article also focused on literature concerning cultural settings to which people might be referred to from SP and different well-being outcomes, while the other articles focused more generally on SP. The study characteristics of the (rapid) realist reviews are detailed in Table 3-1.

**RR:
zw. 4-143 Artikel
eingeschlossen,
CMOC-Anzahl zw. 4-40**

Of the six realist reviews, three served as a basis for realist evaluations. The realist review by Tierney et al. 2020 [12] was the basis for four realist evaluations [1, 2, 42, 43]. Further, the rapid realist review from Calderón-Larrañaga et al. 2021 [39] served as the basis for the realist evaluation of Calderón-Larrañaga et al. 2023 [44], and finally, the rapid realist review by Tierney et al. 2022 [41] served as the basis for the Gorenberg et al. 2023 realist evaluation [46]. Only one realist evaluation was not preceded by any (rapid) realist review [45] (Table 3-2).

**3/6 RR als Basis
für 6 RE**

Table 3-1: Study characteristics of included (rapid) realist reviews

First Author, Year [Ref]	Aim	Type	Country	Population (age)	N of included Articles	N of CMOCs	Focus
Bos, 2024 [40]	Guiding principles & mechanisms for embedding SP	Rapid RR	NL	NI	22	31	SP Implementation
Elliott, 2022 [38]	How/why SP evaluations work; good practice & improvement areas	RR	UK	NI	83	6	SP Evaluation
Tierney, 2022 [41]	Role of cultural sector in SP for older adults, esp. during Covid-19	Rapid RR	UK	Older adults (60+)	42	18	Tailoring
Calderón-Larrañaga, 2021 [39]	Define 'good' practice in SP; enablers & barriers	RR	UK	Adults (18+)	140	4	Frameworks/SP archetypes
Husk, 2020 [37]	What is known about referral & uptake methods	RR	UK	NI	143	40	Enrolment; Engagement; Adherence
Tierney, 2020 [12]	How connector schemes work, for whom, why and in what circumstances	RR	UK	Adults (18+)	118	24	Stakeholder buy-in

Abbreviations: CMOC ... Context-mechanism-outcome configuration; N ... Number; NI ... No information; NL ... Netherlands; RR ... Realist review; SP ... Social prescribing; UK ... United Kingdom

Table 3-2: Overview of (rapid) realist reviews and corresponding realist evaluations

(Rapid) Realist Review	Associated Realist Evaluation
-	■ Bertotti, 2018 [45]
Tierney, 2020 [12]	■ Tierney, 2024a [43] ■ Tierney, 2024b [1] ■ Westlake, 2024 [42] ■ Tierney, 2025 [2]
Calderón-Larrañaga, 2021 [39]	■ Calderón-Larrañaga, 2023 [44]
Tierney, 2022 [41]	■ Gorenberg, 2023 [46]

All realist evaluations were conducted in the UK. The four realist evaluations [1, 2, 42, 43], resulting from the Tierney et al. 2020 realist review, were based on the same collected data from seven LWs situated in GP practices across various settings in England. They conducted focused ethnographies over a three-week period and interviews with seven LWs, 61 patients, 93 voluntary sector professionals and further interviews with 41 patients and the LWs after a nine-to-twelve-month follow-up. The authors of the Calderón-Larrañaga et al. 2023 realist evaluation [44] analysed quantitative electronic health record data from primary care and conducted interviews with eleven primary care clinicians, eleven social prescribers, 13 community organisations and eight SP users who were at high risk of type 2 diabetes. Their study was situated in Tower Hamlets, a borough in East London. For the realist evaluation by Gorenberg et al. 2023 [46], the authors conducted interviews with 28 adults aged 60 or above and 25 cultural sector staff. Lastly, Bertotti et al. 2018 [45], focused their evaluation on an English SP pilot situated in the London borough of City and Hackney. They conducted two quantitative electronic surveys and interviews with different stakeholders, such as 17 patients who used SP, three community organisations and two commissioners. The number of CMOCs in the realist evaluations ranged from three to 26. The study characteristics of the realist evaluations are detailed in Table 3-3.

alle RE aus der UK,
4/6 REs basierend auf
derselben Stichprobe,
zw. 3-26 CMOCs

Table 3-3: Study characteristics of realist evaluations

First Author; Year [Ref]	Aim	Country	Methods	N of CMOs	Focus
Tierney, 2025 [2]	Factors shaping LW integration into primary care	UK	Ethnography & interviews	16	LWs place in PC
Tierney, 2024a [1]	How patient buy-in to SP and the LW role is established	UK	Ethnography & interviews	26	Patient buy-In
Tierney, 2024b [43]	Use of discretion by LWs in practice	UK	Ethnography & interviews	15	(Micro-)discretions
Westlake, 2024 [42]	Explore the concept of “holding” and its impact on patients & LWs	UK	Ethnography & interviews	24	Holding
Calderón-Larrañaga, 2023 [44]	SP for high-risk patients; T2D prevention	UK	EHR data & interviews	4	Prevention of T2D in high-risk communities through SP
Gorenberg, 2023 [46]	Role of cultural sector in SP for older adults (esp. Covid-19 context)	UK	Semi-structured interviews	18	Tailoring cultural offers
Bertotti, 2018 [45]	Experience of a large SP pilot in City & Hackney	UK	Surveys & interviews	3	Overarching process of SP

Abbreviations: CMO ... Context-mechanism-outcome configuration; EHR ... Electronic health record;

LW ... Link worker; N ... Number; NI ... No information; NL ... Netherlands; PC ... Primary care;

RR ... Realist review; SP ... Social prescribing; T2D ... Type two diabetes; UK ... United Kingdom

Note: More information regarding methods can be viewed in the published extraction sheet on OSF (osf.io/te9j2).

The focus of the different studies can be loosely grouped into four groups: The first group of studies focused on the SP process more generally, such as on the definition of a general SP structure [45], a SP framework/archetypes that define “good” and “bad” SP [39], the implementation of SP [40] and SP evaluation [38]. Further, three studies focused on the engagement/buy-in of different stakeholder groups into SP [1, 12, 37]. One study focused on expected outcomes of SP for high-risk communities [44]. Three studies examined the LW role and their different functions further [2, 42, 43]. Finally, two studies focused on the services (specifically cultural services) provided through SP [41, 46].

4 Themenbereiche:
SP-Prozess & Outcomes,
Engagement, LW-Rolle,
SP-Angebote

Substantive theories help to further explain the relations found in PTs. Eight of the included studies mentioned substantive theories the background section [40], as contributions to PT development [12, 41-43], or as part of the discussion [37, 38, 45]. Their use spanned five SP areas: implementation [40], the LW role [42, 43], SP services [41], how SP generates outcomes in patients [12, 37, 45] and SP evaluation [38]. In total, 13 distinct substantive theories were identified, while “patient activation” and “self-efficacy” were mentioned in more than one study. Table 3-4 provides an overview of concepts and related theories of realist studies that discussed substantive theories.

13 formelle Theorien
in 8 Studien

Table 3-4: Concepts and substantive theories discussed in realist studies

Main examined concept	Relevant substantive theories	Use of theories
Theories relating to the SP implementation phase		
SP implementation [40]	■ Normalisation theory	Mention theory in background to define embedding
Theories relating to the LW role		
Holding [42]	■ Emotional containment ■ Bowlby's attachment theory ■ Emotional labour	Relate theories to PT
LW discretion [43]	■ Street-level bureaucracy	Relate theory to PT

Main examined concept	Relevant substantive theories	Use of theories
Theories related to SP services		
Tailoring [41]	■ Social exchange theory	Relate theories to PT
Theories relating to how SP generates outcomes in patients		
Enrolment, engagement, adherence [37]	■ Bandura's model of self-efficacy ■ Leventhal's common-sense model of illness	Relate theories to results in discussion
Buy-in [12]	■ Social capital ■ Patient activation	Relate theories to PT
SP process [45]	■ Social cognitive theory ■ Self-efficacy ■ Motivation ■ Patient activation	First theory in background as underlying concept of SP, other theories in discussion
Theories related to SP evaluation		
SP evaluation [38]	■ Utilisation-focused evaluation	Relate theory to results in discussion

Abbreviations: LW ... Link-worker; PT ... Programme theory; SP ... Social Prescribing.

Normalisation theory was used to define embedding as a process in SP implementation from which an intervention is incorporated into practice to the point that the intervention becomes “routine practice” or “invisible” [40].

Normalisierungs-Prozess-Theorie/Normalisierung

Concerning the LW role, the theories of **emotional containment** and **attachment** help explain how the LW task of “holding” supports patients in managing difficult emotions and preventing overwhelm, often while waiting for referrals to services which will support them. At the same time, the concept of **emotional labour** highlights potential adverse well-being outcomes for LWs, as consultations require them to regulate their own emotions to align them with role expectations [42]. Another concept relating to the LW role is that of discretion. The substantive theory connected to discretion is **street-level bureaucracy**, which describes how individuals shape their roles in response to work stressors and demands on their time beyond policies, thereby better aligning their tasks with their goals and values [43].

Containment, Bindungstheorie, Emotionsarbeit, Street-Level Bureaucracy

Tailoring services refers to adjusting services to the needs and preferences of patients. **Social exchange theory** describes how tailoring involves the possible benefits and costs of different intervention participants, such as LWs, patients and service staff [41].

Austauschtheorie

Different theories were used to describe in what way SP can generate outcomes in patients. Social cohesion, as part of **social capital**, is the prerequisite for trust towards the LW. Through the consultation with the LW, social capital (resources from social connections) as well as **self-efficacy** can develop. Social capital and self-efficacy are both postulated to **activate the patient, leading to motivation** to manage their health, ultimately resulting in positive well-being outcomes for the patient [12, 45]. **Bandura's model of self-efficacy** further helps explain how patients' willingness to enrol in SP depends on their confidence in managing their own health. Finally, **Leventhal's common sense model of illness** illuminates how patients might differ in their perception of service effectiveness [37].

soziales Kapital, Selbstwirksamkeitserwartung, Patientenaktivierung, Common-Sense-Selbstregulationsmodell

Finally, regarding SP evaluation, **utilisation-focused evaluation** highlights how evaluations will be more valuable if intervention participants are able to develop a sense of ownership towards the intervention. Therefore, patient and public involvement should be considered in the evaluation design [38].

nutzungsorientierte Evaluation

3.2 RQ1 – Developing a social prescribing programme theory

The basis for our PT of SP was the Austrian process model as defined by GÖG. To reiterate, it consists of generally three steps (see Figure 3-1):

1. The identification of the need for SP through either someone from the GP surgery or the patient themselves
2. The referral to the LW
3. The LW meeting, which includes the documentation of the results to the GP, the referral to regional services, a reflection meeting with the patient and the regular attendance of the patient in the service

We further extended this structure with conceptual steps identified from the included literature. The presentation of the results follows the general process of SP as a patient would be experiencing it. The overview of the final PT, which details all SP steps and relevant concepts is illustrated in Figure 3-1.

Each SP step should be understood as an intermediate outcome that must be achieved before the process can move forward, ultimately leading to the final outcomes. The process begins with (1) the patient recognising the need to visit the GP. During the consultation (2) the GP (team) will be more or less sensitised to identify the SP need in the patient. However, (3) the referral to the LW depends not only on the GP-LW relationship but also on GP-patient dynamics. Next, (4) various context factors influence the LW's consultation with the patient, such as differences in LW training, workload, network management, and the number of meetings required. The interplay of these factors will determine whether and how the LW can (5) refer the patient to further services. A successful referral and potential (6) regular attendance then depend on service availability, accessibility and the patient's first impressions of the service. Still, regular attendance is not guaranteed but depended on continued accessibility and fit of the service to patient need. Final outcomes, therefore, hinge on the successful interaction of all prior steps. SP implementation and quality control lie outside the overall SP process but are essential for sustainable integration into practice. Moreover, beyond each step representing a transition point from one setting to the next it also generates its own outcomes. Full details on contexts, mechanisms and associated outcomes can be found in the original CMOCs in the appendix Table A-1 to Table A-9. The following section provides a more detailed description of each SP step and connected concept.

**Basis der SP-PT:
ö. SP-Idealmodell**

**Erweiterung des Modells
mit Konzepten aus der
Literatur**

**jeder SP-Schritt
für Erfolg wichtig**

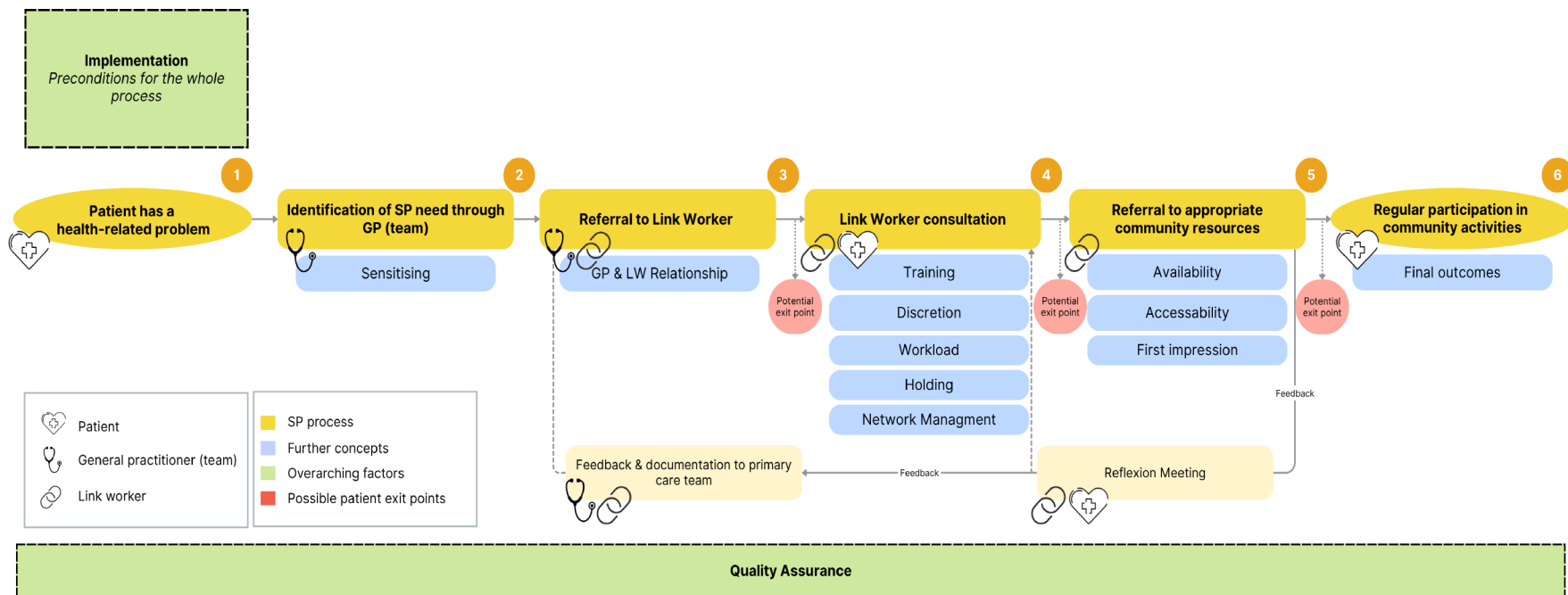


Figure 3-1: Overview of refined programme theory as SP process steps, further related concepts and overarching factors

1. Patient has a health-related problem

Before the SP process can start, the patient needs to arrive at the GP setting with a health-related, but non-medical need. Two CMOCs are related to this initial step and can be viewed in Table A-1 in the appendix. Here the corresponding CMOCs are provided through their IDs (e.g. T20_24, W24_09).

For the patient to make an appointment with a GP, they need to be activated to manage their health and, therefore, motivated to seek information on how to deal with their health-related problem (T20_24). In addition, the patient might not be able to share their problems with their social network and may consequently feel overwhelmed (W24_09). These two factors are illustrated in Figure 3-2.

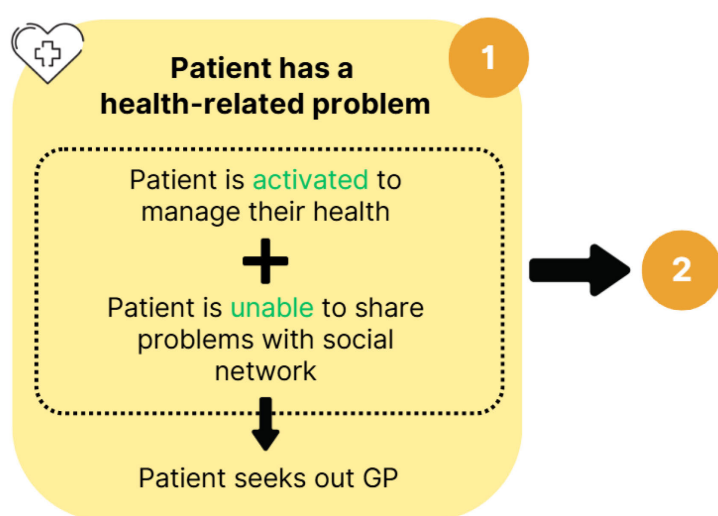


Figure 3-2: Factors prevalent in a prerequisite step of social prescribing

2. Identification of SP need

During the meeting with the GP, the patient's health-related but non-medical need, must be recognised by the GP, for them to be able to refer the patient to a LW and therefore start the SP process (Figure 3-3). Six CMOCs related to factors associated with this identification (Table A-3).

For patients to be identified by the GP, the GP and their team needs to be sensitised. Sensitising refers to the process of educating GP staff about SP, enabling them to recognise health-related non-medical problems and to refer patients to SP [5]. Sensitising of the GP team starts from the outset of SP implementation and remains a continuous process throughout the duration of the intervention. During sensitising, staff need to receive clear information about the service, so they have an understanding of SP generally (B18_05) and the LW role and what can be expected from it (T25_04). Information needs to be transparent and accessible, so health care workers can recall details about the service when confronted with a patient who might benefit from it (T20_04).

When sensitising is successful, it will trigger the process of SP through a cultural change. Where they may not have previously recognised the need for social interventions for some frequently visiting patients or those with a range

**2 CMOCs
zum ersten Schritt**

**Patient:in motiviert
PV aufzusuchen**

**6 CMOCs zur Identifikation
von SP-Bedarf**

**Sensibilisierung schult
Allgemeinärzt:innen,
um nicht-medizinische
Gesundheitsprobleme
zu erkennen**

**Sensibilisierung ab
SP-Implementierung**

**veränderte Perspektive
der Kliniker:innen durch
Sensibilisierung**

of comorbidities (B18_02; B18_03), who might have been advised a medical approach, the change in GP's perspective would now lead them to adopt a different focus during their consultation with the patient (B18_01; B24_06).

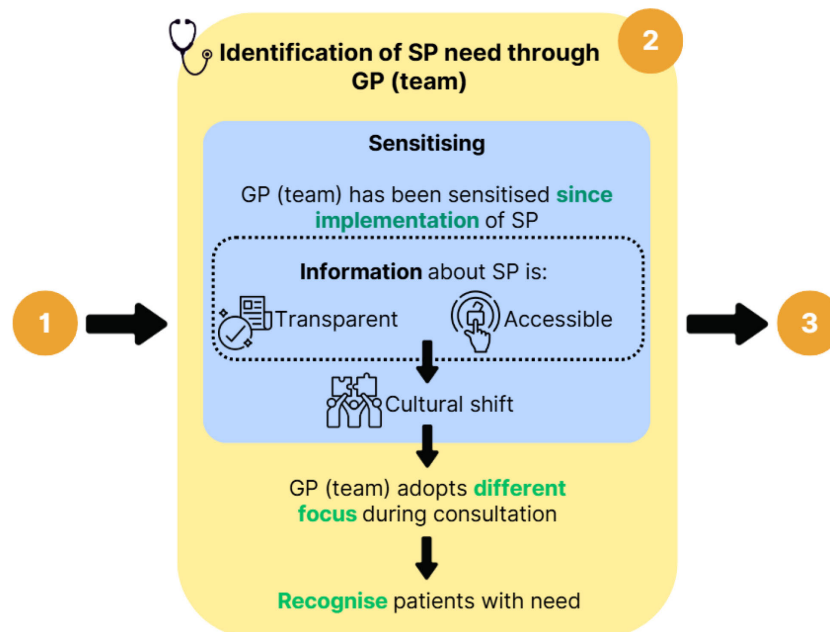


Figure 3-3: Factors prevalent in the second step of social prescribing: Identification of social prescribing need

3. Referral to link worker

A total of 35 CMOCs, were identified for the step of referral of the patient from GP to LW (Table A-4). For the patient to be referred to the LW, certain circumstances should exist for the patient as well as the GP (Figure 3-4).

**35 CMOCs
zur Überweisung
zur LW-Beratung**

General practitioner factors

For the GP to refer the patient to a LW, different factors come into play. First, the GP needs to believe and trust that the intervention itself is effective (H20_13; H20_14). This belief and trust might be supported by robust data monitoring and feedback structures (H20_33) as well as experiences with and knowledge about the services themselves (H20_09). Further factors to consider are the resources required for the referral to a LW. The availability of resources, including knowledge about the service, accessible information (e.g., through a database), and time, will influence the choice for or against a referral (H20_11). Other supporting factors are a flexible referral process (H20_27) and smooth communication lines, without any administrative hurdles (H20_36). Referral is also more likely if the intervention is presented as cost-effective (H20_30) and corresponds to practice-level delivery priorities (H20_12).

**Faktoren bei
Allgemeinmediziner:innen:
Wissen zu SP & Vertrauen
in dessen Wirksamkeit
& flexibler Prozess**

As GPs also decide what type of treatment would be appropriate for the patient, referral to a LW is more likely if other viable options have already been exhausted (H20_18) or when they believe that the intervention complements the current treatment (H20_19). Furthermore, the GP might assess the readiness (motivation and/or health condition) of the patient to be referred to SP through formal or informal means before considering the referral (H20_15). The beforementioned knowledge and trust in the service will also influence how comfortable the GP feels in referring the patient to non-medical services (H20_16). Here, knowledge about the legality of liability might come into play (H20_17). For patients with acute mental health issues, who might not be able to access traditional services, referral to a LW could be considered to provide them with some initial support (B24_18).

Patient factors

Some initial emotional barriers might be present in the patient during the referral, which will need to be understood and addressed. Some patients with non-medical health-related needs might have been experiencing isolation for a long time prior to the referral. They will expect the GP to address the problem in a medical way and may not be used to non-medical approaches (B24_05). It might also demotivate patients, who expect a medical service, if the primary health care team is not yet proficient in explaining the approach to patients and tends to present it as a self-management solution. This scenario might result in the early drop-out of some patients (B24_04). Accordingly, for the patient to be receptive to the idea of referral to a LW, and therefore to the participation in SP, the patient needs to already have a base level of motivation (H20_07). This motivation might stem from being not satisfied with the current care or other available care options (H20_01), or the patient might feel desperate to seek any type of solution due to difficult life circumstances (T24a_02). At the same time, the patient needs to believe that the proposed referral will satisfy their health-related needs (H20_02). Especially in patients who might be experiencing symptoms of anxiety or depression, this motivational threshold will be important to surpass, and GPs might find it challenging to persuade them to try SP (B24_14).

To support the patient in the decision to accept the referral and see a LW, SP should be presented in an acceptable way that matches the patient's needs and expectations of their own problem (H20_08). As uncertainty about how a LW can help might make patients reluctant to engage and, therefore, could mean that they do not make an appointment (T24a_01), clear information about the service should be provided (T25_07), preferable from a trusted, familiar GP (B24_08; T20_07; T24a_03). A referral from a health care practitioner in particular will provide credibility to the LW role (T24a_04) and can be further supported with a formal prescription document (H20_26).

Patients need to further believe that they can access the LW (H20_05). The LW can support this by contacting the patient directly after the referral and providing emotional and/or practical support, which might help the patient overcome any internal barriers (B24_22). The LW being located in the GP practice will also likely support access (B18_10). Some information regarding available services, such as whether there are tester days, how often they might need to attend, whether there are any fees connected to the services and whether these services are appropriate and/or effective, will further support the patient's willingness to be referred (H20_03).

**andere
Behandlungsmöglichkeiten
ausgeschöpft,
hohe Bereitschaft der
Patient:innen & Vertrauen,
dass SP dem:der
Patienten:in nützt**

**Patient:innenfaktoren:
emotionale Barrieren
& potenziell initialer
Widerstand gegen
nicht-medizinische
Aktivitäten**

**klare & akzeptable
Informationen zu SP**

**gute Erreichbarkeit von &
Zugang zu LW-Beratungen
notwendig**

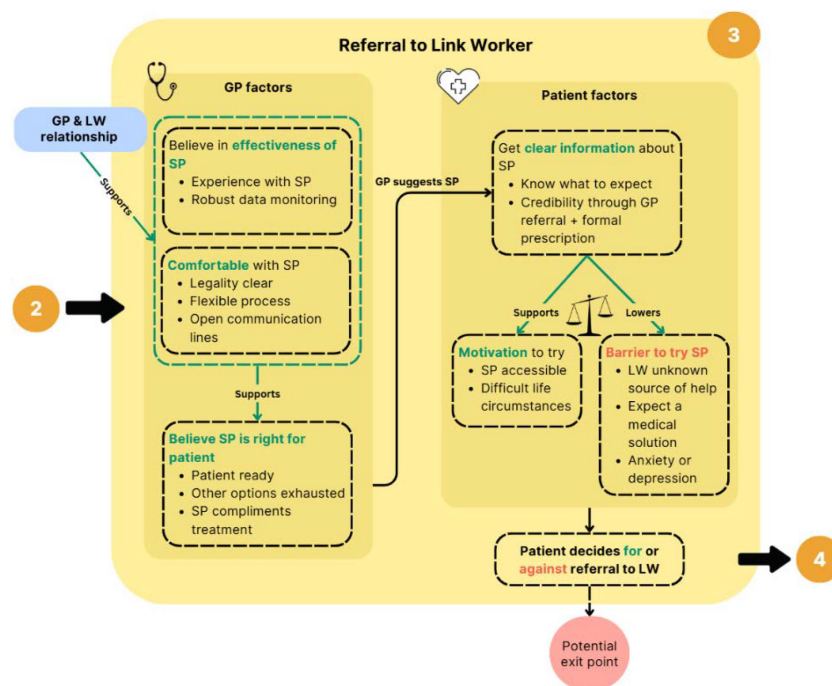


Figure 3-4: Factors prevalent during the GP consultation that determine LW referral

GP and LW relationship

Eleven CMOCs related to factors associated with the LW and GP (staff) relationship (Table A-5).

Since SP is a relatively new concept, one of the LW's roles is to build trusting relationships with the primary care staff to be seen as credible and competent (B24_20). But the responsibility of building a trusting relationship should not fall completely on the LW but should be regarded as a two-way process (T25_15). To support the integration of LWs into the primary care team and improve understanding of their role, they might participate in primary care meetings (T25_05; T25_06), or the GP team could provide them with a suitable workspace in the practice and opportunities to build connections with the practice staff (B24_27). Conversely, it could cause ambiguity if the LW is accountable to multiple primary care practices (T25_02). Finally, timely support and supervision of the LW role by the primary care staff can help LWs manage the emotional burdens they may experience from interacting with patients and assist them in adjusting to changing circumstances (T25_16; W24_13).

For SP to be utilised by stakeholders and for LW to be valued by GPs, there should be evidence that SP provides benefits and is useful to the primary care practice, such as through potentially diverting patients from contacting the GP for non-medical issues (T25_09; T25_08; W24_24).

4. Link worker consultation

Factors relating specifically to the meeting between LWs and patients were addressed in 37 CMOCs (Table A-6, Figure 3-5 depicts the general consultation and the interdependence of other LW factors are visualised in Figure 3-6).

11 CMOCs
zur Ärzt:in–LW Beziehung

Aufbau einer
vertrauensvollen
Beziehung als
wechselseitiger Prozess

Evidenz zur Nützlichkeit
notwendig, um die
Nutzung von SP zu fördern

37 CMOCs
zur LW-Beratung

Building a trusting relationship during the LW consultation is an important factor which ensures that the LW can understand the patient's circumstances and is therefore able to suggest activities or services that are fitting (B24_07). For patients to develop trust towards the LW and open up to them, the LW needs to provide the patients with space, empathy, and actively listen to what they share about their lives (T24a_05; W24_06). Active listening and appropriate responses make the LW appear reliable and responsive and supports the development of trust from the patient to share their concerns, which in turn eases their stress and anxiety (T24a_15; W24_07). Further factors promoting trust between the LW and the patient might be the usage of the patient's local language or dialect (T24a_06).

Aufbau einer vertrauensvollen Beziehung zw. Patient:in & LW-Berater:in

This connection can already create positive outcomes in the patient by making them feel valued through the attention they receive from the LW and prompting them to make changes to not disappoint the LW (T24a_09; T24a_24). The conversations with the LW help patients to consider their own well-being, supporting them to feel less alone and prompting them to have a more positive outlook (T20_12). Being able to offload their troubles to a LW they trust, patients can feel cared for, unburdened and less alone, which makes them able to cope better with their problems and feel enjoyment when talking to the LW (T20_18; T24a_07; T24a_08; W24_01). The patient is further encouraged to build social connections, which in turn increases their confidence and resilience, and provides them with the feeling that they can cope with life (T20_14). The LW should also be willing to advocate for patients, making them feel less alone with their struggles (T24a_16). This could include helping patients make appointments with their GP, since the LW likely has a direct link to the primary care staff (T24a_17). Furthermore, the LW's assistance with financial pressures reduces the daily pressures the patient feels, making them less anxious (T24a_13).

positive Effekte bereits durch Beratungsaktivitäten erkennbar

Seeing patients in a timely manner after the referral, prioritising relationship building in the initial sessions, and LWs providing their time, skills and knowledge, helps the patients be more receptive to the proposed solutions (T20_06; T20_13; W24_04). Sharing this knowledge provides patients with strategies to cope with their everyday lives (T24a_14). In addition, being presented with various options from available community services, exposes patients to different possibilities and encourages them to seek out other sources of external support (T24a_22). Further, by tailoring the proposed solutions, by judging readiness, matching solution to patient values and presenting them in a sensitive manner, supports the patient in being open to try these solutions, as they feel understood and not pressured to engage in activities (T24a_12; T24a_21; W24_10). A co-produced, personalised plan of action, with realistic goals, could encourage the patient's agency, provide them with a sense of achievement and make them feel more in control of their life and well-being (B18_14; T20_22; T24a_11; T24a_26).

gemeinsame Erstellung eines personalisierten Plans

Especially patients with complex and/or multiple needs will require an empathic, non-imposing LW with a good knowledge of available services (B24_15). For those patients, meeting with the LW will provide a setting to share their problems and therefore diffuse experienced stress and put them into perspective (W24_02), representing a first positive outcome for the patient from the SP process. To avoid overwhelming patients with complex needs, a step-by-step approach might be considered (W24_03).

Schritt-für-Schritt-Ansatz bei komplexen Problemen

Finally, the setting or type of meeting (e.g. face to face, rather than via telephone) with the LW needs to be appropriate for both the patient and the LW

Art des Settings bei LW-Beratung relevant

to fully engage and focus on building a relationship (B18_08; W24_08). The atmosphere and overall process of the discussion will support the patient in feeling valued and listened to, enabling them to openly discuss their needs (T20_11). The ability and knowledge to contact the LW themselves and the possibility of re-referral will provide patients with reassurance in case they might need more help in the future (W24_16). In the long term, this possibility of contacting an alternative (non-medical) form of support might also mean that the patient is less likely to contact the GP (T24a_18).

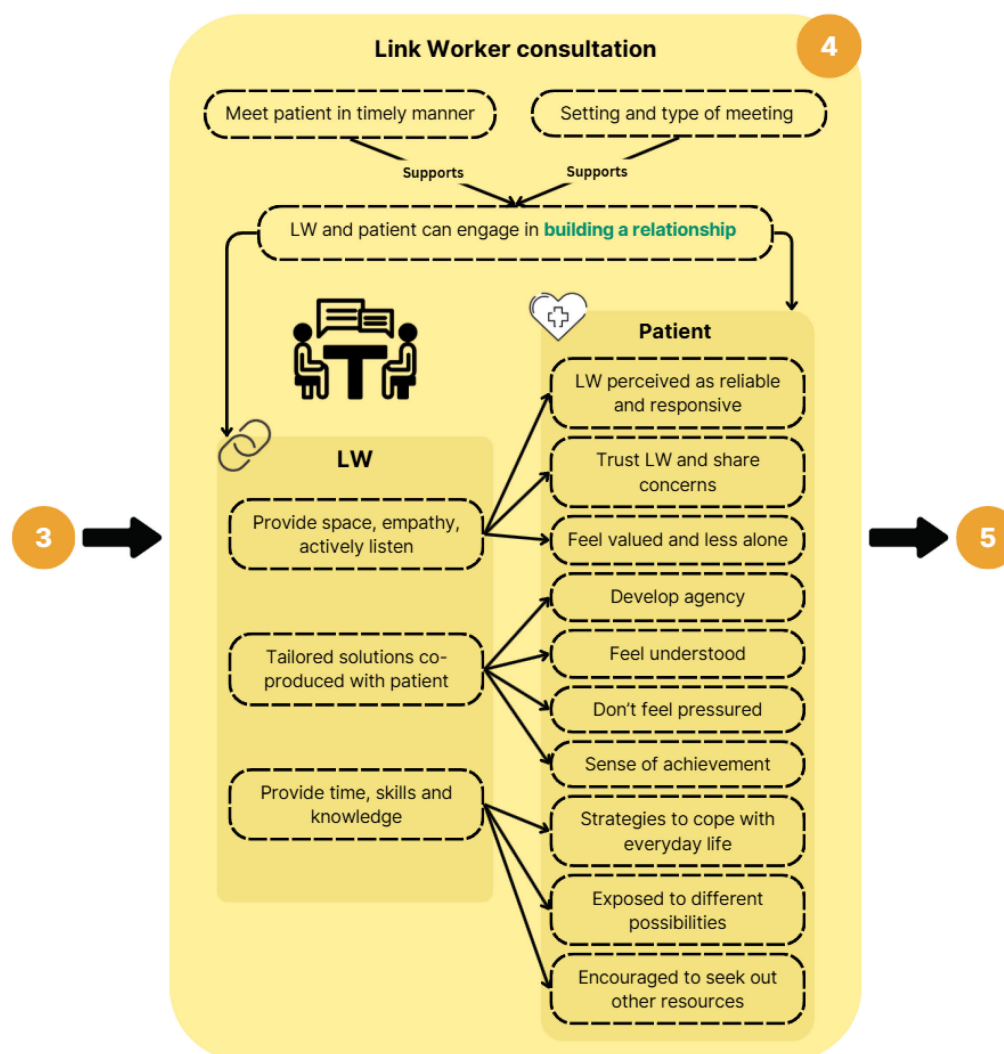


Figure 3-5: Factors relating to the LW consultation

LW training

LW training was specifically addressed by seven CMOCs (Table A-7).

As SP is a highly variable intervention, LWs will likely benefit from an educational background in psychology, psychotherapy, coaching, or experiences in the voluntary sector (B24_16), as well as a wide range of coaching skills and knowledge of clinical symptoms (B18_11). However, since the LW may come from different professional backgrounds, they should be supported to

7 CMOCs zu LW-Training

Gestaltung des
LW-Trainings entlang
der Wissenslücken

shape their training around gaps in their knowledge so they can confidently and effectively manage their role and support patients (T24b_07; T25_14). One aspect to consider is that LWs might require training in and clear standards on how to effectively work with patients, especially with patients with complex needs or mental health issues, to protect themselves and the patients they are working with (B24_19; B24_29; W24_12). On an individual level, LWs need adequate time, resources, and supervision to feel supported and reduce the emotional burden of their role. Such support enables them to sustain their responsibilities and reduces the likelihood of turnover (W24_23).

LW discretion

LW discretion is defined as the freedom to choose how to act in a particular situation [43]. A total of eleven CMOCs related to this category (Table A-7).

LW discretion already starts during the implementation of SP into practice. Involving LWs during the initial planning stage allows them to shape their services according to their available skills and capabilities (T24b_15). The standardisation of LW services in the GP practice without prior consultation with the LW will mean that the role is not tailored to their skills and they therefore cannot contribute their knowledge in the best way (T25_01). The same applies to the process of building a connection and relationship with the voluntary and community service sector. Allowing for LW to build this network according to their own judgment, supports a deeper understanding of what services are available and in what ways they could benefit different patients (T24b_04).

Discretion further matters for the different backgrounds that LW come from. Since the LW role can be assumed by different professionals, they will draw on their own knowledge, skills and beliefs, and therefore differ in how they execute their role (T24b_06). Applying discretion in this regard will contribute to their sense of agency and job satisfaction (T24b_03). Furthermore, it will provide them with the ability to respond to different patients and their needs, accordingly, prompting a sense of value and sharing of their problems (T24b_02). Explicitly supporting the autonomy of LWs in how they might conduct their role allows for creativity and flexibility in handling different patient needs (T24b_14). This not only applies to how they interact with patients and how they create the environment that facilitates this interaction (T24b_01), but also decisions regarding holding (W24_22) or declining certain referrals because these lie outside their capabilities (T24b_08). Lastly, it is important for LWs to accept that there are structural factors beyond their control. Being open about these factors is best in avoiding raising unrealistic expectations in patients (T24b_05).

LW workload

Twelve CMOCs related to the LW workload, comprising topics such as work environment, time management, data collection, and burnout (Table A-7).

A supportive environment, including a manageable number of referrals, peer assistance, supervision and job security, supports confidence and feelings of safety in LWs and provides them with some boundaries regarding their work tasks, creating a setting in which they can effectively function in their role (T20_05; T24b_11). Furthermore, effective communication, possibly in the form of explicit guidelines, might provide LWs, especially those who prefer clear structure, with confidence in their actions and minimise risks for themselves, as well as patients (T24b_10; T24b_12; T24b_13).

**11 CMOCs
zur LW-Diskretion**

**Diskretion bereits in
Implementierungsphase**

**Diskretion wichtig
für alle LW-Aufgaben**

**12 CMOCs
zur LW-Arbeitsbelastung**

**Faktoren, die
LW-Workload eingrenzen**

LW workload depends on the number of referrals they must handle. LWs need sufficient time to properly understand each patient's problem (W24_18) before they can refer them to the appropriate service, which at the same time reduces the overall number of patients they can see (W24_19). LWs risk burn-out and low job satisfaction from supporting patients with health-related needs, particularly if they believe that they must accept all patients that are referred to them but are unable to do so (T24b_09) or when they must hold patients for an extended amount of time (W24_21). A safe space where they can share their experiences amongst peers will be valuable in the prevention of a potential burnout (B24_17). It the success of link working is solely judged based on whether a patient was referred or not, LWs might not be able to focus sufficiently on person-centred care (T25_12). Consequently, if the LW is required to collect data, they need to understand why it is necessary and how it might benefit the patient, to be inclined to do so (T25_11).

**Arbeitsvolumen
abhängig von
Patient:innenanzahl
& Anzahl der Beratungen**

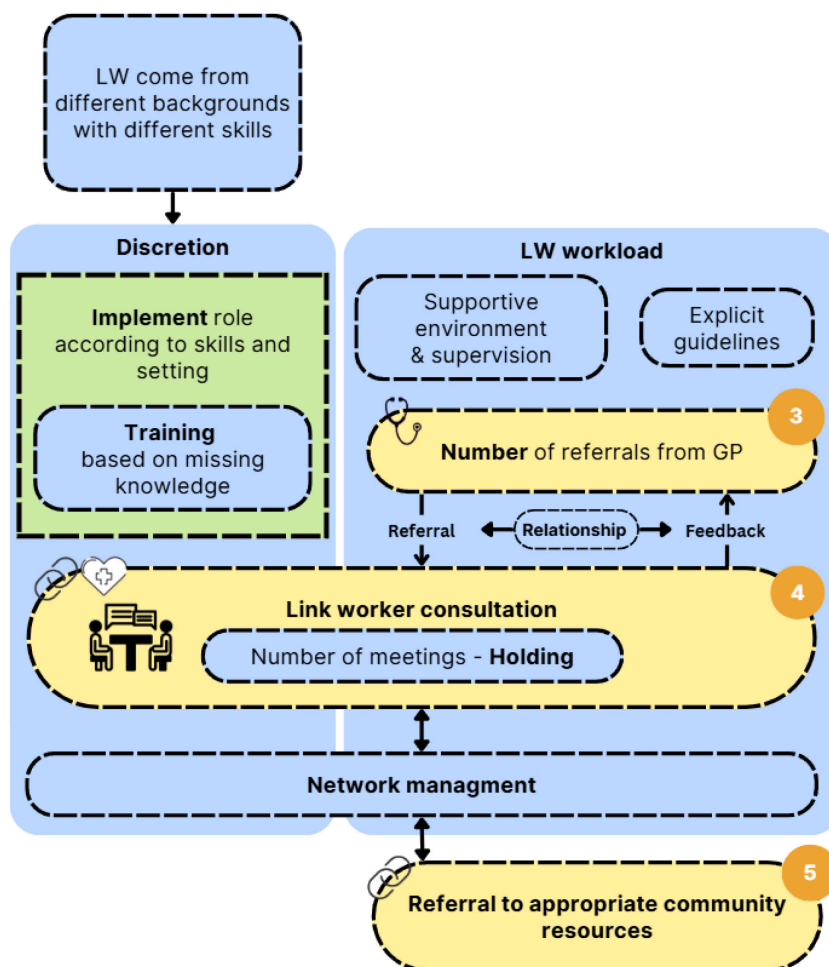


Figure 3-6: Factors relating to LW training, discretion, holding and network management

Number of meetings – Holding

Factors relating to the number of meetings between the LW and patient were addressed in 16 CMOCs (Table A-7).

**16 CMOCs
zur Beratungsanzahl**

Multiple contacts with the LW, before a patient is referred to a service, make the referral to an appropriate service more likely (B18_07; H20_28). A short-term or time-limited support might not be enough for patients with more complex needs, vulnerability, or fluctuating care needs, highlighting a need for a more flexible, open-ended LW service delivery to ensure a more personalised and contextually sensitive support (B24_13; C23_02; C23_03; T20_19). LWs might also decide to keep trying to support a patient if they are unable to connect them to a service (W24_14). Keeping contact might increase the patient's confidence and provide them with motivation when attendance is only possible at a later time (B19_09; W24_05; W24_15). It might also mean that patients won't return to the GP and helps patients not to feel alone with their problems (T20_21; W24_11). However, there could also be some unintended consequences of prolonged support. Some patients could develop a type of dependence and will be unwilling to stop seeing the LW (W24_17). Further, LWs might experience frustration when they can't make progress with a patient and feel like they can't fulfil their task (W24_20). Gradually tapering off meetings and informing patients that they can be referred to the LW if required can increase a patient's confidence in their own ability and prevent them from feeling abandoned (T24a_19; T24a_20).

Network management

Network management is one of the core tasks of the LW and consists of researching available regional health-related services and maintaining contact with those services [5]. A total of 23 CMOCs related to this topic (Table A-7).

To appropriately support patients with substantial clinical care needs, integrated approaches across different service providers are important (C23_04). Patients' needs might change over time, which could necessitate a move between different settings and sectors. Therefore, SP shouldn't be regarded as a linear referral pathway but more as a care network (B24_12). The successful integration of GP and community services, and therefore increased referrals towards them, requires the building of new referral pathways and relationships, which can be supported by boundary-spanning work of the LWs (B24_10; T20_10). Knowledge of the available community services is required for the LW to provide patients with different options that match their needs and expectations, enabling them to handle their problems and possibly improve their situation (T22_01*; T24a_10). It is therefore important that the LW spends time in the GP practice and the community services to be able to understand the culture and language used in these settings. Connecting in that way and demonstrating their knowledge and skills means that both settings will regard the LW as a credible intermediary and therefore develop mutual trust and collaboration between the settings (G23_14*; T20_08; T20_09). These relationships include the provision of feedback on patient outcomes to GPs by LWs, so GPs get an understanding of the progress of referred patients (B24_03). At last, the relationship between GPs and community services will strengthen over time as they work together, which will further improve GP's trust and continued usage of these services (B24_09).

As the provision of SP depends on the community services available, it is important to not overlook their key role in delivering SP services (T25_03). Constructive collaboration between the LW and the community sector further enhances the possibility that the service provision improves (G23_11*). It is helpful if the LWs themselves come from the community in which the SP service is implemented (B24_11).

**gute Balance nötig,
um Bedürfnisse richtig
zu erfassen & keine
Abhängigkeit zu erzeugen**

**23 CMOCs zum
Netzwerkmanagement**

**SP als
Versorgungsnetzwerk
zu verstehen**

**LW muss Zeit in
verschiedenen Settings
verbringen**

**Wichtigkeit der
regionalen Angebote**

Besides relationship management, the sustainability of SP services depends on the availability of shared resources and systems that can improve the communication between different providers. Shared, automated systems between the GP, LW and the community services make referring easier and faster, preventing the patient's disengagement (B24_28; B24_30). In addition to shared systems, it is further important to determine what kind of patient information can be shared among all parties involved (B24_31).

**gemeinsame Nutzung
von automatischen
Systemen**

Information about available services should also be provided to the GP and patients (H20_20). Different options influence the ease of displaying available services and the difficulty of updating the information. While it is possible to update a database, its upkeep is harder and requires ongoing maintenance. In contrast, booklets are easier to show to patients but more complicated to update (H20_21; H20_22). It is helpful if the collation of services is handled by the LW, which also increases the likelihood that GPs know about the service; however, introducing an additional step in the pathway can also create a potential exit point for patients (H20_23). Taster or training days led by LWs can inform GPs of different available services, making them more likely to refer patients (H20_24; H20_25).

**Informationen zu
vorhanden Angeboten
für PVs & Patient:innen**

Documentation and feedback to GP

Documentation of patient referral and feedback to the GP was addressed in eight CMOCs (Table A-7).

**8 CMOCs zur
Dokumentation**

For the documentation and feedback process to work accordingly, the patient needs to feel safe about their connection with the LW, since they might be disclosing sensitive issues not yet discussed with their GP (T20_20). If this connection is in place, robust and appropriate documentation and feedback from the LW about individual patients supports the ongoing engagement of the GP with SP (B18_04; H20_50; T25_10) through increasing their belief and trust in the service and by supporting their drive for high-quality patient care (B24_01). Feedback structures further provide GPs with knowledge of whether a referral to the LW was appropriate (B18_06). With feedback structures in place and growing experiences with the intervention, the GP is more likely to act as an advocate for the service (H20_10). However, a fair balance must be found between data monitoring and evidence collection. If the focus is placed too much on the collection of formal evidence, patients' needs might be neglected (B24_02).

**effektive
Dokumentations- &
Feedbacksysteme
unterstützen
Vertrauen zu SP**

5. Referral to appropriate community services

Availability of services

A total of 17 CMOCs related to service availability. Most of which focused specifically on older adults and the cultural sector (Table A-8, Figure 3-7).

17 CMOCs zu Angeboten

For appropriate services to be available for a variety of patient needs, there needs to be a wide range of local activities that the LW needs to be aware of and that are accessible for patients (B18_13; B18_19; T20_01). LWs also need to understand the needs and expectations of the patients they are facing (B18_15; G23_06*). A choice of different types of activities also increases the chance that patients will find an activity that they consider suitable for themselves (H20_31). It might also help if activities offer taster sessions and if they tailor their services to the referred patient's needs (H20_32; H20_38). Warning patients in advance that finding a beneficial service might take some time can increase the likelihood that they will be willing to try out different offers

**größere regionale
Angebotsvielfalt
→ höhere Passgenauigkeit**

(G23_02*). A reason why patients might be inclined to participate in an offered service is that they might perceive it as an opportunity they normally wouldn't have access to (G23_33*).

The availability of services also depends on the voluntary sector. A community service's commitment to support public well-being provides its staff with the right circumstances to invest resources into trying SP (G23_12*). Limited resources, on the other hand, restrict how much services commit to SP, as they might not be sure whether they can offer the right support (B18_20; G23_15*). Clear boundaries in how the services will be organised and supported in the development of offers will decrease potential fears of user dependence and diminishing resources (G23_16*). Emotional support structures for the staff providing services might help mitigate potential burnout (G23_17*). A consultation between patients and services considering participation in SP supports the development of services that can best fulfil patient needs and are acceptable to them (G23_13*). Furthermore, acceptance of SP might increase when voluntary service providers are supported in their endeavour to deliver their services professionally (G23_34*).

Accessibility of services

A total of 15 CMOCs related to the accessibility of services, including topics such as general access, transport to services, availability of buddy schemes, and service description (Table A-8).

For patients to be more likely to attend services, they need to be accessible in terms of costs, location, availability of transportation and broad eligibility criteria (B18_16; H20_37). In addition to objective factors, patients should also believe that they will be able to access the services (H20_06). Experiencing entry delay will likely decrease attendance (H20_34). Accessibility (e.g. broad eligibility criteria and proactive approaches) might be especially important for higher-risk populations, such as those from lower socio-economic status or with comorbidities (C23_01). Presenting services with detailed information, in an appealing way that makes them sound accessible and relating them to the patient's needs will increase the likelihood that patients understand in what way the service might help them and therefore will be more likely to accept the referral (G23_01*; G23_03*; G23_05*; H20_29). In addition, support in attending services, especially the first session, can be provided through the LWs (well-matched) buddy schemes, or through supported transit to the service. Supported attendance might decrease possible feelings of loneliness and stress, increase enjoyment and provide a sense of security (G23_07*; G23_08*; H20_40*; T24a_23). Furthermore, tailoring the services to the populations attending might increase the perception of accessibility and therefore attendance (G23_35*). Sometimes patients, who are not yet comfortable with certain activities, such as activities involving other people, will need initial services to prepare them (B24_21).

Attending a service

Twenty-three CMOCs related to factors associated with a patient attending a service (Table A-8). Importantly, most of the CMOCs that were categorised in this topic apply to elder people and the cultural sector setting specifically and might apply differently in other populations and settings. Corresponding CMOCs are marked with *.

**fehlende Ressourcen
bei regionalen Angeboten
verhindern Teilnahme
an SP**

**15 CMOCs
zur Zugänglichkeit
von Angeboten**

**einfache Zugänglichkeit/
Erreichbarkeit von
Angeboten erhöht die
Wahrscheinlichkeit einer
Teilnahme**

**23 CMOCs zur
Teilnahme an Angeboten**

A positive first impression of the activity is important. The patient is more likely to maintain adherence if the service matches their expectations and they feel welcome to participate, putting them at ease (G23_22*; G23_24*; H20_46). A professional and consistent delivery of the service, through an appropriate leader, further helps to reassure the patient (B18_18; G23_23*; H20_35). In addition to the first impression, a stimulating and engaging service environment might offer the referred patient a distraction from daily life (B18_17; G23_18*; G23_19*). Places that are beautiful and well-tended, quiet, and might offer opportunities to socialise, such as cafés, help patients relax, immerse themselves in the surroundings, feel connected and facilitate social interaction (G23_20*; G23_21*; G23_25*; G23_27*; G23_28*). Additionally, being able to experience or learn new things that might be outside one's own comfort zone could increase the patient's confidence (G23_29*). Furthermore, autonomy in how the patients engage with the service could contribute towards their enjoyment of the service (G23_30*; G23_31*) and might make it more likely that they will re-attend, even if they did not like it at first (G23_32*). Attending social activities helps patients distract themselves from their difficulties and develop a new mindset of confidence and motivation to manage their own health (T20_15; T20_23). This developed motivation, in turn, helps them adhere to the service (H20_39). Group activities further provide opportunities to support one another, increasing self-reliance and social engagement (B24_23).

Through contacting the patient after they attended the service and getting feedback, LWs can assess whether the service is a good fit for the patient, or whether other options need to be considered (G23_10*).

**Teilnahme
wahrscheinlicher,
wenn Angebot
Erwartungen entspricht**

**Feedback an LW zur
Beurteilung der Passung**

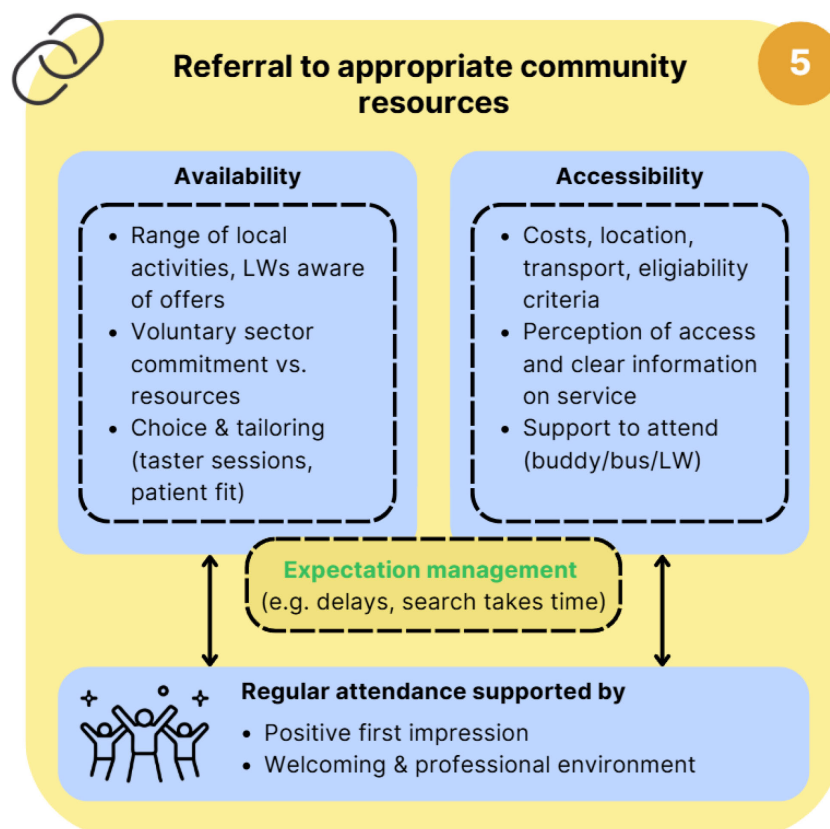


Figure 3-7: Factors related to the referral to appropriate community resources.

Supporting regular attendance

Fourteen CMOCs related to factors that might increase regular service attendance in patients (Table A-8, Figure 3-8).

Some external context factors that affect patient adherence to the service are their continued accessibility (H20_45; H20_54) and the skills of the service leader (H20_44). Adherence may further be affected by a patient's satisfaction with the service, fulfilment, improvement of their health-related needs (H20_51; H20_53), their motivation to attend this service (H20_52) and whether the activity continues to meet their expectations (H20_47). Factors, such as the duration, frequency and regularity of the service, will further influence adherence, depending on whether these suit the patient's needs (H20_49). Specific end goals or targets might also increase adherence, depending on patient preference (H20_42).

In addition, keeping contact and receiving encouragement from a trusted person to keep attending the service, even if the patient's first experience was not to their liking, might help with perseverance (G23_04*; H20_41). This could partly also be supported by other group members (H20_48). Some services might also consider evaluating their offers to make them more suitable for patients being referred through SP (G23_09*; H20_43). With a patient's regular attendance, the official process of SP is completed, and the patient is no longer part of the intervention process itself.

Final outcomes

Only four CMOCs related to outcomes that lie beyond the immediate SP pathway (Table A-8).

Some outcomes that persist beyond the SP intervention include patients feeling less alone and overwhelmed with their life, which makes them have a more positive outlook and improve their relationships with their family and friends (T20_16; T24a_25). A positive outlook might also mean that they are better able to find different solutions to new or still existing problems (T20_17). Services with a continuous social component might also help patients to maintain and further expand their social network (G23_26*).

**14 CMOCs zur
regelmäßigen Teilnahme**

**unterstützende Faktoren:
Erreichbarkeit,
Zufriedenheit,
Verbesserung des
Wohlbefindens**

**Unterstützung
durch andere Person**

**4 CMOCs zu
finalen Endpunkten**

**Linderung von Einsamkeit,
bessere Aussicht auf
Zukunft**

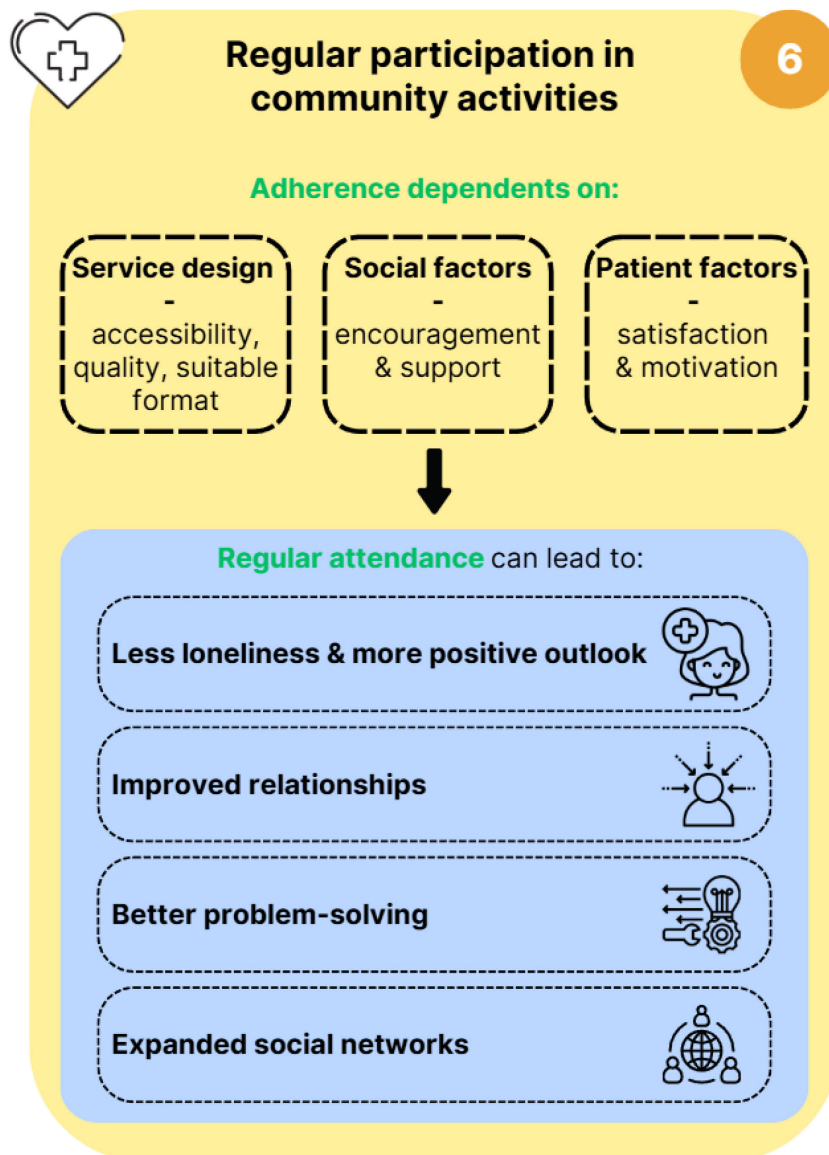


Figure 3-8: Factors related to patient adherence and final outcomes

6. Factors outside the direct SP process

Implementation

A total of nine CMOs applied to the topic of SP implementation (Table A-9, Figure 3-9).

The first aspect relates to the consultation of influential figures and key stakeholders. When influential figures understand in what way SP might benefit patients, they will be supportive of this intervention when discussing it with key stakeholders (T20_02). Key stakeholders, furthermore, need to be consulted on how to best fit SP and the LW role into the existing practice systems. Doing so facilitates a smooth integration of the intervention and ensures buy-in (T20_03; T25_13). A collaborative approach across all relevant stakeholders needs to be supported by strategic project management and risk

9 CMOs zur SP-Implementation

Absprache mit wichtigen Stakeholdern

preparation. Otherwise, coordination challenges may disrupt and delay the implementation and delivery of SP services (B24_26).

Other contextual factors that support a holistic, relational and re-distributional SP practice, are a trustful, supportive and transparent interaction between different stakeholders (C21_02), a fitting policy context that supports bottom-up policy making, stable funding and appropriate monitoring systems (B18_12; C21_04), organisational factors such as resource adequacy, training opportunities and accessibility of care (C21_03) and stakeholder characteristics such as buy-in, vocation and knowledge (C21_01).

**weitere organisatorische
Faktoren die erfolgreiches
SP begünstigen**

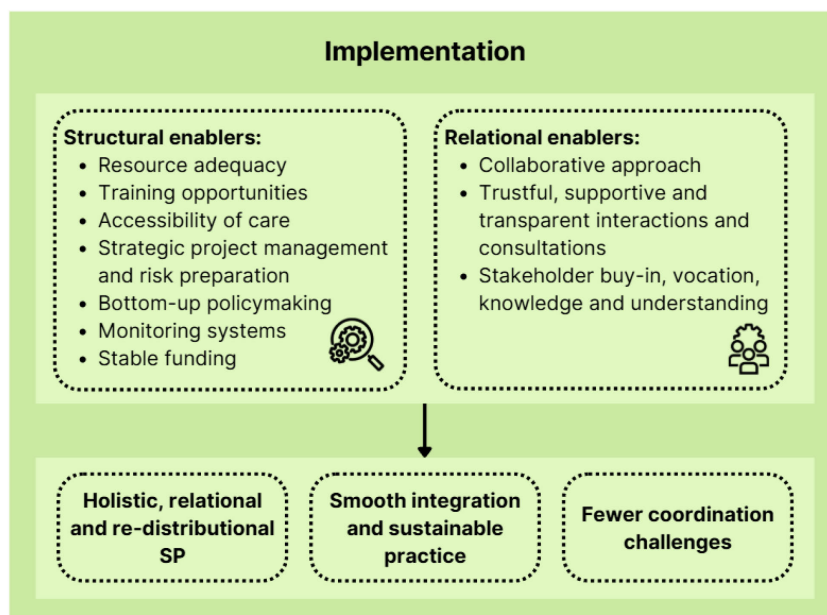


Figure 3-9: Factors relating to SP implementation

Quality assurance

For the quality control of SP, there were a total of six CMOCs that were focused on the evaluation of the SP implementation (Table A-9, Figure 3-10).

Generally, the evaluation of complex interventions such as SP requires mixed teams with different expertise and perspectives (E22_01). Furthermore, it requires multiple sources of data to triangulate findings (E22_05) and strong contextual knowledge of the intervention to best align the research questions and evaluation design (E22_02) to increase the evaluation's acceptability, coherence and trustworthiness. Having predetermined aspects of the evaluation might minimise the quality of the findings, since researchers might not be able to make decisions regarding the execution of the study (E22_03). When mixed methods sequential designs are used for data collection, prior data can inform subsequent stages, allowing for a deeper understanding (E22_04). Lastly, a lack of integration of different data types (such as qualitative and quantitative) while reporting intervention results might lead to a fragmented understanding of how the intervention works (E22_06).

**6 CMOCs zur
Qualitätskontrolle**

**unterschiedliche
Methoden zur Evaluation
von SP-Implementationen**

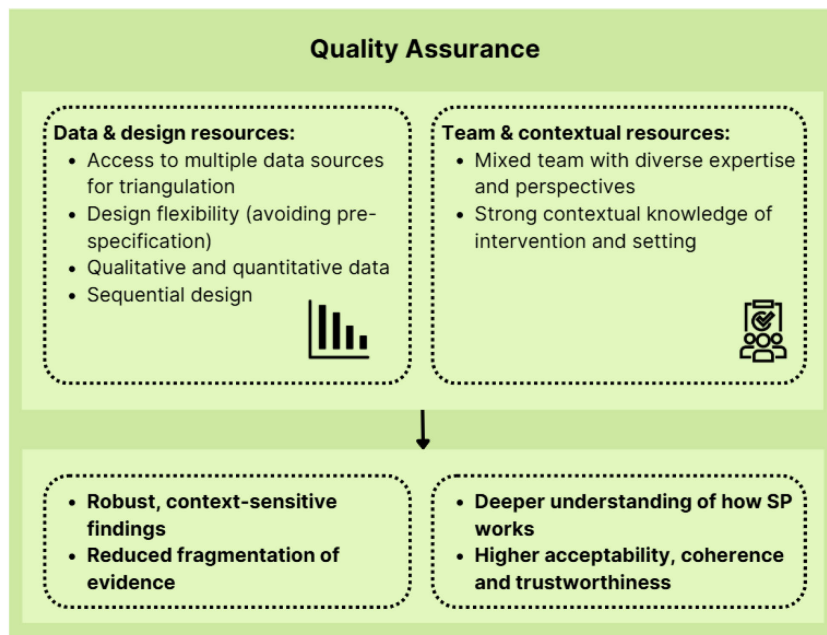


Figure 3-10: Factors relation to SP quality assurance

3.3 RQ2 – Topics of interest

RQ2 focuses on the three topics defined as areas of interest during our consultation with stakeholders: populations benefitting from SP, motivation and workload associated with SP and economic factors. We drew on assumptions derived from sources within the Austrian SP process model and supplemented them with relevant CMOCs from our identified literature.

FF2: Fokus auf 3 Themen
 → Annahmen aus dem SP-Idealmodell als Ausgangslage

3.3.1 Vulnerable populations

While our assumption, based on the Austrian SP handbook, was that SP benefits various populations, it is anticipated to particularly benefit older individuals, people with chronic illnesses, disadvantaged groups, individuals facing multiple burdens and those with lower health literacy [5]. Therefore, we focused on CMOCs that help illustrate how patients with complex needs would benefit most in the SP process and what factors need to be considered. Following the general SP process, a patient path is illustrated. A total of 41 CMOCs related to patients with complex needs.

41 CMOCs dazu, wie vulnerable Population SP erfahren

The patient to be referred to SP presents with broad complaints and a variety of comorbidities, which complicate the establishment of a specific diagnosis and may result in more frequent visits to the GP than average (B18_03; B24_06). Although the patients are ready to manage their health (T20_24), they might initially feel reluctant to try SP, as they expect to be treated in a medical way (B24_05). However, patients might agree to see a LW because they are desperate for any type of solution, or they feel they do not have any other choice due to difficult life circumstances or because they are unsatisfied with

Patient:innenaufkommen: allgemeine Beschwerden, schwierige Diagnose, häufiger Besuch bei PV

their current care (H20_01; H20_07; T24a_02; T24a_03). They might also feel overwhelmed because they are not able to share their problems with their social circle (W24_09). Furthermore, GPs might want to refer patients to SP services if they feel like these patients might not receive appropriate support (e.g., due to long waiting times or specific eligibility criteria) from traditional routes of support (e.g., mental health services) (B24_18).

To support patients who are initially reluctant to accept the referral, the GP will need an effective communication strategy, so SP appears acceptable and matches their expectations of care (B24_04; H20_08). For this, GPs could already provide information on services that are accessible, clearly described, and appear relevant to the patient's needs, so that patients may already anticipate potential benefits (H20_02; H20_03; H20_05).

**effektive
Kommunikationsstrategie
notwendig**

Following the referral to the LW, patients with multiple and complex needs will especially benefit from empathetic LWs with good knowledge of the regionally available services (B24_15). The consultation with the LW will likely already result in some beneficial outcomes for the patient, such as increased confidence and resilience (T20_14) and a reduction in stress and anxiety (T24a_13; W24_02), as they feel less alone with their struggles (T24a_16) and encouraged to find their own sources of support (T24a_22).

**positive Endpunkte
für Patient:in bereits
während LW-Beratung**

Importantly, a step-by-step approach might be necessary for patients with multiple problems to avoid overwhelming them (W24_03). This means they may require sustained professional support and integrated and holistic approaches that are sensitive to their particular context and fluctuating needs (B24_13; C23_02; C23_03; C23_04; G23_06*; T20_19). Patients with complex problems might not be able to immediately move forward with LW's suggestions, or they might require time to find the right service for them. Therefore, continuous meetings with the LW might reassure them that there will be a change in the future (G23_02*; W24_05). Consequently, if meetings just end for "dependent" patients after a set number of meetings, they might return to the GP for further support (T20_21). To prevent this, a gradual tapering of contact with the LW might be advised, allowing patients to prepare themselves and to move forward autonomously (T24a_19).

**nachhaltige professionelle
Unterstützung &
integrierte, ganzheitliche
Ansätze**

As with accessing the LW, accessibility of services plays an important role in whether the patient can participate in a service. The patients' belief that they can access the service will be necessary for them to participate regularly and maintain adherence (C23_01; H20_06; H20_54). This belief can be supported by providing information regarding accessibility of services, such as available forms of transportation, service schedules and fees (H20_37). It can also take the form of active support, such as assisting the patient with their first transit to the activity, or through a phone call from the LW, or a buddy system (H20_40). The information provided should be in a form that the patient understands and showcase how the service relates to them (G23_01*; G23_03*). It might also be helpful if the patient's adherence is supported through either regular follow-up or in case the patient drops out (H20_41).

**gute Erreichbarkeit von
regionalen Angeboten**

Lastly, through participation in SP and connection to local services, patients may strengthen their ties with their social network, which can contribute to improvements in their initial life situation (T24a_25).

**Verbesserung der
Ausgangslage**

3.3.2 Workforce motivation and workload

For the second focus question, we were interested in factors that relate to the motivation of GP teams in adopting SP and in factors that contribute to the workload and training of LWs. A total number of 64 CMOCs related to this topic.

For a smooth integration of SP into primary care, a consultation with diverse stakeholder groups will be necessary during the implementation phase, so that SP as a service is understood (T20_02), appropriate strategies for different scenarios developed (B24_26) and fit into the practice in a way, that make it easy to use for GPs and their teams (T20_03; T25_13). Additionally, adoption of the service can potentially be further supported if it is marketed as cost-effective (H20_30) and as useful for diverting patients from seeking out practitioners for non-medical, health-related needs (T25_08). Alternatively, the belief in the service can be supported through the GP's positive experiences with it (B24_20).

Three interacting aspects of the LW role influence the LW's workload:

- The time they spend in different settings
- The number of referrals they receive
- And the time they spend per patient

To develop trust with different stakeholders and to be able to facilitate the work between primary care and voluntary services, the LW will need to spend considerable time in both settings, conducting network management (B24_10; T20_08; T20_09; T20_10) [5]. The building and managing of this connection should be viewed as a two-way process (T25_15). GP practices can encourage it by providing the LW with a welcoming environment (e.g., a space to conduct their work) or other practice resources (e.g., access to relevant databases) (B24_27). Its development is further supported through positive experiences with the SP intervention (B24_09; H20_13; H20_14; H20_16; H20_17), and feedback and communication (B24_03; H20_36; H20_50; T25_10), possibly through an automated documentation system, regarding the referrals themselves and the feedback about patient outcomes (B24_28). Factors that hinder the development of trust include the LW being accountable to multiple GP practices (T25_02) or frequent staff turnover in GP practices (B24_08). Importantly, positive experiences with SP will lead the GP to refer more frequently to the LW (B18_04; H20_10; T25_09), creating a self-amplifying referral loop.

As there will be limits to how much, and how many patients a LW will be able to help (B24_17), ongoing support and supervision with clear role boundaries and work expectations from the GP team (T20_05; T24b_10; T24b_11; T25_16) are necessary for LWs to better manage patient risk and emotional burdens (W24_13; W24_23), while still allowing for discretion (See chapter LW discretion). Knowing about the boundaries of their work can provide LWs with a sense of what factors they cannot control. This, in turn, helps LWs to manage patients' expectations of what they can and cannot provide (T24b_05). Conversely, a balance needs to be found when providing guidance and structure, because pressure to fulfil practice indicators and gather evidence could distract LWs from providing person-centred care (B24_02; T25_12). A lack of structure or guidelines can lead to uncertainty and create a potential risk for patients as well as the LWs themselves (T24b_12; T24b_13).

64 CMOCs zur Motivation & Arbeitsbelastung von Arbeitskräften

nahtlose Integration von SP in die PV-Praxis notwendig

3 Faktoren, die LW-Arbeitsbelastung beeinflussen

Netzwerkmanagement: Aufbau & Pflege von Beziehungen mit PVs & regionalen Angeboten

Balance zwischen Diskretion & Supervision

The amount of time LWs spend with each patient before connecting them with other services will influence the number of referrals they can handle (W24_19). Importantly, if LWs believe that they must accept every referral, they may feel like they are failing in their role when they no longer have the capacity to take on additional patients (T24b_08; T24b_09). Longer holding times or a higher number of meetings per patient will decrease the number of patients they can support and increase the risk of burnout if the work is emotionally taxing (W24_21). At the same time, LWs will need sufficient time with each patient to develop trust (B18_07) and understand their needs to refer them to a fitting service (T24a_21; W24_18). Although LWs might want to hold patients, if they cannot connect them to a service (W24_11), longer holding times might cause dependence in some patients (W24_17) and cause frustration in LWs if they feel that they are not achieving what is expected from them (W24_20).

**mögliche
Patient:innenanzahl
abhängig von benötigter
Zeit pro Patient:in**

3.3.3 Economic factors

Finally, we analysed in what way the available CMOCs included information regarding economic factors of SP. A debated assumption of SP is that through the referral of patients towards a LW and consequently to services outside the medical system, there would be less burden on primary care [5]. Therefore, we collected any CMOCs that related to cost or sustainability factors. A total of 18 CMOCs could be identified with this focus.

**18 CMOCs
zu ökonomischen
Faktoren von SP**

The sustainability of the intervention depends on whether the service is used by stakeholders (T25_09), which is supported by the integration of these stakeholders during the implementation of SP, the relationship between them and positive experiences with the service (see Chapter 3.3.2). Furthermore, a policy context that supports bottom-up and coherent policy-making, stable funding, and suitable monitoring will support the implementation of a sustainable SP intervention (B18_12; C21_04).

**Förderung der
Nachhaltigkeit von SP
durch Einbezug von
Stakeholdern ab
Implementation**

Three areas of capacity and resourcing could be identified from the included CMOCs. First, sufficient resources for the training and supervision of LWs need to be allocated to support LWs in the provision of their services and reduce the likelihood of them leaving the job (W24_23). Second, databases for the SP intervention, which feature available services, might increase the cost of SP, as they will need to be built and maintained, but they will make it easier to have an overview of available services and provide information to patients (H20_20; H20_22; H20_23). This, in turn, might make a referral to a LW from the GP more likely (H20_11; H20_33). Third, limited resources in services could make service providers reluctant to participate in SP, since they are unsure whether they can provide the referred patients with the right support (G23_15*).

**Ressourcen notwendig für:
LW-Training & Supervision,
SP-Datenbank,
regionale Angebote**

Lastly, SP is regarded as an opportunity to lessen the burden on the health care system by providing patients with services to fulfil their non-medical, health-related needs. Consequently, SP shouldn't be seen as a linear pathway, in which patients reach a destination, but instead as a care network with different actors. Patients might return to different settings within the network, depending on their current needs, which means that there should be ongoing and bidirectional coordination between different providers (B24_12). Especially patients with complex and fluctuating needs, will likely require ongoing professional support (T20_19). If a LW is unable to connect a patient to

**SP als Möglichkeit,
die Belastung des
Gesundheitssystems
zu verringern, durch
Dienstleistungen,
die nicht-medizinische,
gesundheitsbezogene
Bedürfnisse erfüllen
...**

a service within a specific time frame, they might try to continue with meetings to prevent the patient from returning to the GP (W24_11). As patients could become somewhat dependent on the LW (W24_17), a gradual tapering of contact might be helpful, so as not to make them feel abandoned (T24a_19). Furthermore, providing the patient with information that they can be re-referred to the LW if necessary, might further support them in ceasing contact with the LW (T24a_20; W24_16) and make patients less likely to contact the GP due to non-medical needs (T24a_18).

... „Holding“ (Halten)
von Patient:innen,
wenn Überweisung
nicht möglich

4 Discussion

Social prescribing (SP) has gained considerable momentum internationally as a strategy to address non-medical but health-related needs through community-based support. Recent implementation efforts in Austria reflect this global trend. As a complex intervention whose effectiveness depends on how contexts, mechanisms, and outcomes interact, a robust theoretical foundation is necessary to guide further implementation. Therefore, this report pursued two complementary objectives. First, we constructed an overarching programme theory (PT) rooted in the Austrian model of SP and informed by international realist research. The PT helps identify facilitators and barriers for successful SP design and implementation and examines how these factors function. Second, we examined three focus areas for planning and sustaining SP in Austria: the experiences of vulnerable patients with SP, workforce motivation and workload, and economic factors.

Projektziele:

FF1: umfassende PT

**FF2: Untersuchung von
3 Fokusfragen**

4.1 Summary of findings

Regarding **RQ1**, our findings illustrate the interdependence of various steps throughout the SP pathway and what factors contribute to the GP (teams), patients, LWs, and service providers successfully navigating through the SP process. Starting with a patient who is activated to manage their health and the GP (team) who changed their perspective and consultation style through sensitising, the patient is identified to have a health-related non-medical need. Actual referral to a LW depends on the GP's belief in SP as an appropriate intervention, as well as the patient's ability to overcome barriers to the referral. Once engaged, discretion in how the LW handles their role shapes all relevant LW tasks, such as training, patient "holding" and network management. Importantly, there needs to be a balance of having enough time to understand the patients needs and preventing a possible patient dependence. Several positive well-being outcomes are already expected during this consultation phase. Finally, referring the patient to a service requires the availability of a variety of services tailored to different needs and the accessibility of these services, while sustained patient engagement depends on services meeting their expectations and producing positive outcomes.

FF1:

**SP = komplexe
Intervention mit
wechselseitigen
Teilschritten**

Turning to **RQ2**, we discussed key factors relating to three topics of interest: the experience of patients with complex needs, GP motivation and LW workload, and evidence on economic factors.

3 Fokusthemen für FF2:

Patients with complex needs will likely present with comorbidities, unspecific diagnoses and frequent GP visits. The way SP is presented to them will be especially important for their engagement. Furthermore, LWs might need a longer time with them to sufficiently define their needs and find acceptable services. Finally, sustained participation further requires continuous service accessibility.

**1. komplexe Fälle erfordern
klare Vermittlung,
mehr Zeit & zugängliche
Angebote**

GP motivation towards the SP process largely depends on their involvement during the SP implementation phase and their belief in the appropriateness of the intervention. Furthermore, trust in the SP process can be fostered by LWs through effective network management, and spending time in the GP's office. With growing trust in the LW, GPs are more likely to refer patients to SP. The workload of LWs will be largely determined by the time they invest into network management, the number of patients they receive from the GP and the amount of time they spend per patient. The more patients they receive, the less time they can spend per patient.

Evidence on economic factors was limited, yet the findings highlight key conditions for an environment that supports sustainable SP. Furthermore, three funding priorities emerged from the analysed data: LW training and supervision, implementation and maintenance of a SP database and potential support for services. Potential financial support for services might be necessary, as providers lacking sufficient resources on their own might be reluctant to participate in SP. Importantly, SP shouldn't be regarded as a linear path with a destination, but as an ongoing care network.

**2. PV-Vertrauen
& -Motivation hängen
von Einbindung &
Überzeugung ab;
enge Zusammenarbeit
fördert Überweisungen,
beeinflusst Arbeitslast**

**3. begrenzte ökonomische
Evidenz; Finanzierung
für LW-Schulung,
SP-Datenbank &
Anbietersupport (zentral
für SP als fortlaufendes
Versorgungsnetz)**

4.2 Integration with existing theory and evidence

This review demonstrates how realist findings concerning one intervention type can be combined into one comprehensive framework, making transparent which aspects of SP are already underpinned by theoretical foundations and which require further research. While the overarching PT captures the SP process step by step, the underlying PTs remain valuable for exploring specific issues, such as stakeholder buy-in, LW discretion or SP implementation. Although this overarching PT may appear similar to an "optimal SP pathway" [18], it should be understood as a synthesis of current theoretical findings rather than a prescriptive model. Depending on the context of the implementation, different aspects of the PT might be important, while others are not. In addition, the results of the second RQ highlight how the collection of CMOCs into a type of database along the SP path can be used to identify the current knowledge for a specific topic of interest and used to construct an initial PT [47].

**PT zeigt Forschungsbedarf
bei SP-Interventionen**

Furthermore, the overview of substantive theories provided in the study characteristics contributes to the accumulation of evidence on SP. A scoping review from 2024 identified eleven distinct theories used for the development and evaluation of SP intervention studies. The theories were categorised into those explaining patient outcomes, differences in outcomes and the implementation of the intervention [48]. Only a few of the substantive theories identified in the scoping review were also available in the included realist evaluations and reviews. Future research can further integrate the theories presented there in the overall SP PT to deepen the understanding of how and under which conditions SP works.

**Liste mit formellen
Theorien ergänzt Review
von 2024**

The theoretical results correspond closely with practical evaluation findings in Austria. For instance, complexity in patient needs was associated with higher numbers of LW consultations. Especially patients with physical, psychosocial, legal, or intimate partner difficulties often required more meetings and a stepwise approach. Furthermore, the evaluation confirms that some patient

**theoretische PT von SP
entspricht Ergebnissen
aus Evaluationen**

outcomes are already observable through the LW consultation itself and that participation in SP improves the patient's ability to access their own social network [25]. Likewise, the heterogeneity of the LW backgrounds further highlights the importance of LW discretion in how they conduct their role [24].

Nevertheless, several questions remain unresolved. The theoretical process of how sensitising GPs to non-medical needs works, the acceptance of SP by the community in which it is implemented, and the impact of SP on final patient and system outcomes, such as improvements in health and wellbeing, or reduced pressure on the medical system, have received comparatively little attention in realist studies. For instance, findings from the Austrian evaluation indicated that although accessibility of SP services was lower in rural settings, acceptability was relatively high and developed through word of mouth [25]. This suggests that the success of SP in rural settings might depend strongly on assistance with transportation to services, or buddying schemes, while the theoretical basis for acceptability in rural settings still needs to be developed.

offene Fragen:
Sensibilisierung,
Akzeptanz von SP,
finale Endpunkte ...

4.3 Implications for practice and policy

Some practical implications can be derived from our results

The Austrian ideal model and handbook provide a structured pathway for SP implementation, defining both the steps of the process and four core elements: sensitising, link-working consultations, network management, and quality assurance [4, 5]. Our realist synthesis builds on this foundation by offering additional insights into the mechanisms through which these elements operate in practice. These findings can serve as a resource for further developing the Austrian model.

PT ergänzt
öst.-Handbuch zu SP

The Austrian model identifies sensitising as a prerequisite for SP. Our results support this and demonstrate how sensitising unfolds, through adjustments in GP consultation style, increased awareness of non-medical needs, and a growing belief in the value of SP. As demonstrated in the results, the GPs conviction regarding the appropriateness and benefits of SP heavily influences the decision to refer patients. Our findings suggest that sensitising could be further strengthened by practical approaches such as training in active listening, structured case vignettes, and continuous exchange between GPs and LWs.

Wichtigkeit von
Sensibilisierung in PT
ersichtlich

Furthermore, our findings suggest that a positive GP and LW relationship seems to be a key basis for referrals to SP. Although current Austrian SP documents imply that a positive relationship between LWs and the GP team is encouraged, this could be further supported by embedding it explicitly in guideline documents alongside additional practical advice on how to achieve this, and by providing systematic support during each implementation. GPs should ideally provide the LWs with a welcoming environment and supervision, while LWs should consider the relationship with GPs as part of their network management or sensitising tasks. In addition, several potential patient barriers to referral acceptance have been identified and could be addressed in future implementations.

weiter Fokus sollte auf
LW-PV-Beziehung gelegt
werden

Since one of the SP aims is to promote health equity, it should be acknowledged that patients with more complex needs will likely require a higher number of LW consultations to identify their specific needs and to subsequently address them step by step. This requirement could also be added to SP guid-

mehr Beratungsbedarf
bei vulnerablen
Patient:innen

ance to raise awareness among stakeholders and to mitigate potential LW overwhelm. Currently, the Austrian handbook outlines six consultations with the LW before referring the patient to a service. Additionally, positive outcomes experienced during the LW consultation itself suggest that the success of SP does not solely depend on the referral of patients to other services. Instead, patients with complex needs may benefit from longer holding times, whereas others may feel their needs have already been met during the consultation phase and therefore disengage before referral. Our results, therefore, suggest that flexibility and discretion in how LWs conduct these meetings are equally important.

Finally, our findings complement the model by emphasising the relational components of link-working. Trust-building, holding, tailoring, and the sensitive presentation of service options, while avoiding dependence, all shape whether patients feel understood and remain engaged. Furthermore, it was not possible to strictly define the exact tasks or training needs of LW's in each SP context. As LWs will come from a variety of backgrounds, their approach to their role will naturally differ beyond adhering to defined tasks and certain quality standards. Therefore, LW discretion should be encouraged, and the LWs supported as needed. Allowing for discretion may also support trust from the GP (team), as they will have to work closely together with the LW, which in turn facilitates referrals to the LW and successful implementation of the SP process. Flexibility in the LW role is also a prevalent topic in the original Austrian documents. Although certain educational backgrounds and training criteria are listed, it is acknowledged that the exact role will depend on the LW's educational background and situational context factors [5].

The overview of all contextual factors associated with the entire SP process and all related concepts showcases the complexity of SP as an intervention. Furthermore, it highlights that studies on efficacy or effectiveness do not provide information on how the intervention can be applied in different real-world contexts. Instead, the progression in SP from one step to the next depends on myriad intermediate outcomes and decisions, each of which can either support or hinder the progression to the next step. Moreover, there is currently little realist evidence on how SP ought to achieve final outcomes in patients or the overall healthcare system. While research into final outcomes is warranted, measuring SP success could instead focus on intermediate SP steps, such as successful referrals to LWs and the availability of appropriate services in a community setting.

**LW-Rolle flexibel
zu gestalten**

**SP = komplexe
Intervention – jeder
Teilschritt für Erfolg
wichtig**

4.4 Implications for future evaluations

The proposed PT can also be used to guide future implementations and evaluations of SP in Austria. While a PT outlines how an intervention is expected to work, it does not guarantee that an intervention will function the same way in different settings. This means that future evaluations can test the PT by examining whether the expected CMOs occur. This approach enables confirmation or refinement of the theory. Furthermore, the PT allows for examination of where in the chain of the SP process an implementation might have been unsuccessful, and, ideally, why. Comparing the PT with data can further help determine whether expected outcomes are achieved. Future evaluations should therefore present results in ways that highlight how implementations

**zukünftige Evaluationen
können Passung der PT
überprüfen**

and outcomes differ between contexts, such as rural versus urban settings or team practices versus private practices and between different patient groups. Ideally, before collecting and analysing such data, explicit statements should be made about expected outcomes in given contexts, based on the PT presented, to allow systematic comparison between theory and evidence.

In addition, the individual PTs from the included studies can be selected to test their assumptions in the Austrian context. For example, three different types of patient buy-ins were proposed depending on the complexity of a patient's needs in one PT (Figure A-1 in the Appendix) [1]. Some patients will already know what they need, and in this case, they will likely prefer a rapid referral to a specific service that fulfils that need. Other patients, particularly those with complex needs, may not know where to start. These patients will likely benefit most from exploring their needs with the LW and co-creating a strategy. Lastly, some patients with complex needs may experience internal or external barriers to change. For these patients, their buy-in will depend on the LW acting as an anchor point and supporting them until they are ready to make changes. Another PT presents how LW integration might be categorised into “bolting on”, “fitting in”, or “belonging” (Figure A-2 in the Appendix) [2]. For both cases, specific Austrian cases could be examined to determine whether similar patterns hold, or additional, context-specific categories emerge.

The CMOCs from each included paper were extracted verbatim, grouped into a comprehensive SP framework and synthesised in the results section. Furthermore, the individual CMOCs are provided in the data extraction sheet, as well as in the individual papers, and can be used in cases where specific theories ought to be tested, or if the exact contexts, mechanisms and outcomes of each SP step and concept are of interest.

Finally, the here presented PT for the whole SP process can be used to guide the choice of measurement indicators for routine monitoring and more comprehensive evaluations. As the PT highlights important variables throughout the whole SP process, it also helps to define, which intervention steps might need routine monitoring, as well as which aspects of the intervention fall within the responsibility of the different intervention stakeholders. Decisions regarding routine monitoring require selecting a manageable number of measures and clarifying whether the focus lies on the effectiveness, relevance or efficiency of the intervention. Ideally, some of these indicators should provide information for ongoing monitoring as well as for evaluation purposes [28]. The PT can guide these decisions by highlighting the most important outcomes of the intervention, covering both implementation processes and intermediate and final outcomes, and by indicating which of these best capture intervention success.

On the implementation level, relevant factors include whether a variety of accessible services for different needs categories are available, whether vulnerable populations are present in the setting, and whether GP (teams) experience a high burden of unmet patient needs. Regarding the SP process itself, key outcomes to monitor could be whether and how GPs identify patients with need, whether they refer them to a LW, whether patients accept the referral, and how often and how long patients and LWs meet. It is equally important to assess LW accessibility and the availability of appropriate services for patients.

In addition to process measures, GP workload and burden should be tracked. This could include the number of patients, consultation frequency, and time per consultation before and after SP implementation. This would help to de-

**einzelne PT aus
eingeschlossenen
Studien können im
österreichischen Kontext
getestet werden**

**CMOCs in der
Extraktionstabelle
verfügbar**

**PT zur Identifikation
von Messwerten für
Monitoring o. Evaluationen**

**Beispiel-Messwerte:
Identifikation von
Patient:innen,
Überweisung an LW ...**

**Messung der
PV-Belastung vor & nach
SP-Implementation**

termine whether SP reduces strain on GPs, including whether patients who were frequent visitors are now being referred and visit practices less frequently or whether the opposite is true and attendance increases. Another discussion point is whether SP should be accountable for regular service participation beyond the referral and assistance in participation of the first session.

Next to the already collected measures reported in the needs and referral documentation [49], further useful measures could include the reasons for referrals to the LW and whether the referral was accepted by the patient, whether some patients report relief already during LW consultations, and the type and range of services that are available in a particular SP community. Finally, monitoring whether SP reaches vulnerable groups, which is already part of current documentation, remains an important aspect of assessing equity and reach.

Furthermore, the PT can be used to plan programme evaluations. Using the PT has the advantage that it can make the process of generating hypotheses and choosing what to measure more transparent. It can further assist in deciding on evaluation type, identify whether assumptions defined in the PT are met through outcomes or whether there are other theories that need to be explored and help establish a monitoring system and highlight areas in need for further investigation [28]. Concerning the use of the PT to plan evaluations, PT can help identify the right timing and purpose, key questions, the information needed to answer the key questions as well as inform evaluation design and data collection methods.

**weitere Indikatoren:
Gründe für Überweisung,
Vorhandensein von
Angeboten ...**

**PT zur transparenten
Planung von Evaluationen**

4.5 Recommendations for future research

Our findings highlighted various areas for further research. First, the proposed PT will need to be further developed through testing the findings in future evaluations of the Austrian SP implementations. In addition, the transferability should be examined further in other countries to assess flexibility and identify context-specific adaptations. More country- or setting-specific details can further enhance the PT proposed here. For example, while sensitising is a fundamental concept in the Austrian SP model, it has so far received little attention in realist research on SP. Future realist studies can examine how the process of sensitising helps GPs with identifying patients who could benefit from SP and in what way sensitising might relate to other already discussed topics, such as “buy-in”.

Furthermore, another future research priority could be vulnerable patient groups and the extent to which they benefit from SP. So far, the here included studies have examined some aspects of SP for older people [41, 46], as well as for people with a high risk for type 2 diabetes [44]. Other possible groups could be patients who are affected by poverty, people who experience multiple stressors, people with lower health literacy or people from ethnic minorities [5]. Similarly, the PT could be enriched with PTs specific to different service types, such as exercise programmes, arts-based, or community services. Lastly, there remains a lack of evidence on how SP is expected to contribute to overarching outcomes on the individual, systems or policy levels.

The collection of all CMOCs on SP in a type of database can be used as a source of inspiration for the design and utilisation of such a database [47]. Future research can further develop this database and incorporate newly

**Weiterentwicklung
& Überprüfung der PT**

**Forschung zu
vulnerablen Gruppen**

**Verwendung
& Weiterentwicklung
der CMOC-Datenbank**

identified CMOCs into the current overview. Our second research question highlights how the database could serve as a foundation for developing specific IPTs by extracting fitting CMOCs.

Lastly, there is currently a large, ongoing European study, that began in January 2025 and is expected to last five years. A total of 22 institutions from eleven countries are participating. The study aims to first adapt SP based on the needs of three vulnerable populations (older people living alone, refugees and first-generation immigrants and LGBTIQ+ people) as well as testing the intervention in a randomised controlled trial. Furthermore, the project aims to conduct a comparative qualitative study in five countries, based on different levels of implementation. The results provided here of our second RQ can be used as a first theoretical basis to inform future PT development based on the study's results.

Ausblick:
randomisierte,
europäische Studie zu SP
seit Anfang 2025

4.6 Strengths and limitations

Some limitations must be acknowledged, considering this report:

First, both SP and realist methodology have been gaining in popularity in recent years. Therefore, several realist reviews and evaluations were already available when we started our work. In addition, SP has already been implemented in some Austrian primary care settings. The first challenge was to integrate all the available information from both sources into one cohesive PT. Since only a limited amount of time was available to prepare this report, conducting a comprehensive realist review would not have been feasible. Instead, we drew on CMOCs from previously published realist studies on SP to construct an overarching PT and to extract specific CMOCs relevant to our focus questions. This further meant that we did not consider evidence from other study types.

Second, the focus on the Austrian-defined process of SP means that we did not integrate lighter forms of SP, such as signposting, into our PT overview. Additionally, we only focused on SP models with a LW. Despite this, our overall SP PT could potentially be adapted to lighter forms of SP, by extracting CMOCs that primarily relate to lighter SP forms from the database.

Third, while our original IPT stems from an Austrian process model of SP, most of our included literature was from the UK. The question therefore remains, whether the connections described here also apply to the Austrian context. Some realist CMOCs, for instance, such as GPs being more motivated if SP is presented as cost-effective, will need to be examined for application in the Austrian context. Despite this, even if they might not have been developed for the Austrian context, since the processes are broadly similar, the CMOCs relatively general and the refined PT flexible, we believe that combining these theories and CMOCs provides us with a solid foundation for refining SP practices to facilitate successful uptake by patients and acceptability by professionals involved.

Lastly, only very limited CMOCs applied to each of our focus questions, which is why our results regarding these topics were very limited. Future research into each individual question will hopefully provide a deeper insight into these topics.

Limitationen:

1. kurze Bearbeitungszeit
– Einschluss von nur
Realist-Studien

2. PT entspricht ö SP-Modell
– nur holistisch

3. Großteil der Studien
aus der UK
– Vergleichbarkeit
mit Ö offen

nur wenige CMOCs
zu Fokusthemen

5 Conclusion

Our findings reconfirm the complexity of SP, showing that numerous factors are required for successful practice and implementation. Many conditions need to be fulfilled at the individual level of the practitioners involved, such as motivation, trust and knowledge, as well as specific communication skills, and at the level of patients addressed, such as acceptance, trust and adherence. However, successful SP also requires sufficient resources at a system level, such as enough time for LWs for complex cases or a high caseload, resources for training and supervision, a documentation system, and an adequate variety of accessible, affordable services that patients can be referred to. While the complexity of the intervention prevents robust claims being made about improvements in final patient health and well-being outcomes, the report presents a range of solid, theory-based indicators that can inform future evaluations of the success of social prescribing from various perspectives.

For future rollouts of SP in Austria, the details on the mechanisms behind each step and how they may be influenced by contextual factors may help adapt the model to different contexts and for specifying some practice elements in more detail. The findings illustrate how patients, GPs, LWs and service providers interact to shape the SP pathway, while highlighting factors associated with complex patient needs, LW workload, and economic evidence. The theoretical findings presented here largely correspond with empirical evaluation findings and indicate priority aspects for future SP practice, evaluations and research.

This report represents a first attempt to develop an overarching PT by integrating realist evidence and the Austrian ideal model. Although the process as presented in this review stems specifically from the Austrian model of SP, the PT is formulated in a way that could be adapted for use in other settings. However, its transferability remains to be examined. The review also showed which topics in SP are well developed and in which aspects the current theory is saturated enough to consider testing different aspects of it. To our knowledge, this is the first attempt to synthesise realist findings on SP in this manner, further proposing how a CMOC database might be developed and used for specific interventions.

**theoriebasierte PT
wegweisend für weitere
Entwicklung von SP in Ö**

**Adaption der PT im Verlauf
der Implementierung**

**erster Versuch einer
umfassenden PT zu SP**

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Appendix

Refinement of the research question

- Our initial RQs based on our published project protocol, were as follows:
 - RQ1 – What are the theoretical mechanisms of SP based on the Austrian ideal model?
 - RQ2 – What outcomes can be expected in which contexts, and for which target groups?
- As one of the initial steps in a realist review is to define an IPT based on a scoping of the literature, we aimed to base our IPT on the Austrian ideal model of SP, supplementing the model with findings from realist studies, before conducting a realist review. However, given limited time available, we adapted our method to include only the Austrian ideal model in our IPT. The realist studies were used to refine the PT and are therefore part of the final PT.
- Furthermore, the three focus topics of our second RQ were determined through discussion with our stakeholders after the project protocol was published. Due to specific project deadlines, it was not possible to conduct the discussion prior to publication.

Search strategy Medline

Database: Ovid MEDLINE(R) ALL <1946 to June 03, 2025>		
No	Search strategy	Results
1	community health workers/	7,227
2	medical receptionists/	162
3	receptionist?.ti,ab.	566
4	reception staff.ti,ab.	103
5	reception personnel.ti,ab.	0
6	(health* adj (assistant? or aide? or advisor? or adviser? or advocate? or co-ordinator? or coordinator? or connector? or officer? or facilitator? or liaison or broker? or coach* or promoter?)).ti,ab.	8,401
7	(community adj (assistant? or aide? or advisor? or adviser? or advocate? or co-ordinator? or coordinator? or connector? or officer? or facilitator? or liaison or referee* or refer?al* or broker? or coach* or promoter? or agen*)).ti,ab.	3,196
8	link work*.mp.	240
9	healthy living coach*.ti,ab.	0
10	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9	19,305
11	exp Social Prescribing/	25
12	social prescri*.ti,ab.	626
13	sign post*.ti.	19
14	sign?post*.ti.	219
15	((sign post* or signpost* or path* or guided or guiding or refer*) adj5 (service? or system? or care? or healthcare or patient? or community* or support)).ti,ab.	423,005
16	((sign post* or signpost* or path* or guided or guiding or refer*) adj5 (group? or club? or selfhelp* or self-help or education or learning or exercise? or physical activity)).ti,ab.	99,664
17	11 or 12 or 13 or 14 or 15 or 16	507,457
18	10 and 17	1,518
19	(active* adj3 (signpost* or sign post*)).ti,ab.	9
20	18 or 19	1,525
21	limit 18 to "reviews (best balance of sensitivity and specificity)"	142
22	(realist adj (review* or evaluation*)).mp.	1,716
23	18 and 22	15

24	21 or 23	151
25	general practice/	16,678
26	family practice/	67,937
27	general practitioners/	11,946
28	physicians, family/	17,609
29	physicians, primary care/	4,779
30	Primary Health Care/	98,855
31	Office Visits/	7,502
32	(ambulatory adj3 (care or setting? or facilit* or ward? or department? or service?)).ti,ab.	22,008
33	((general or family) adj2 (practi* or physician? or doctor?)).ti,ab.	142,026
34	primary care.ti,ab.	156,753
35	primary health care.ti,ab.	28,450
36	primary healthcare.ti,ab.	11,730
37	clinic?.ti,ab.	475,482
38	visit?.ti,ab.	279,196
39	((health* or medical) adj2 (center? or centre?)).ti,ab.	176,530
40	Community Health Services/	33,837
41	community.ti.	197,145
42	(community adj3 (service? or care or health*)).ti,ab.	108,280
43	22 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42	1,391,800
44	20 and 43	1,111
45	24 or 44	1,157
46	limit 45 to yr="2015 - 2025"	781
47	Developing Countries/	84,125
48	(Africa or Caribbean or West Indies or South America or Latin America or Central America).hw,ti,ab,cp.	274,399
49	(Afghanistan or Albania or Algeria or Angola or American Samoa or Armenia or Armenian or Azerbaijan or Bangladesh or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brazil or Brasil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Cuba or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timor or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia Republic or Georgian Republic or Ghana or Gold Coast or Grenada or Guatemala or Guinea or Guinea-Bissau or Guam or Guiana or Guyana or Haiti or Honduras or India or Maldives or Indonesia or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Lebanon or Lesotho or Basutoland or Liberia or Libya or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldavia or Moldovan or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or Nicaragua or Niger or Nigeria or Pakistan or Palau or Palestine or Panama or Papua New Guinea or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Romania or Rumania or Roumania or Rwanda or Ruanda or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Senegal or Serbia or Sierra Leone or Sri Lanka or Ceylon or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or Syria or Principe or South Sudan or Tajikistan or Tadjhikistan or Tadjikistan or Tadjhik or Tanzania or Thailand or Timor-Leste or Togo or Togolese Republic or Tonga or Tunisia or Turkey or Turkmenistan or Turkmen or Tuvalu or Uganda or Ukraine or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Vietnam or Viet Nam or West Bank or Yemen or Zambia or Zimbabwe or Rhodesia).hw,ti,ab,cp.	3,549,406
50	((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (countr* or nation? or state? or population? or world)).ti,ab.	157,542
51	((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj (economy or economies)).ti,ab.	1,200
52	(low* adj (gdp or gnp or gross domestic or gross national)).ti,ab.	417
53	(low adj3 middle adj3 countr*).ti,ab.	40,421

54	lmic.ti,ab.	4582
55	lmics.ti,ab.	11,103
56	third world.ti,ab.	3,224
57	lami countr*.ti,ab.	53
58	transitional countr*.ti,ab.	185
59	47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58	3,797,005
60	45 not 59	713
61	limit 60 to yr="2015 - 2025"	477
62	remove duplicates from 61	472

Extracted Context-Mechanism-Outcome Configurations

Table A-1: Overview of CMOCs IDs and corresponding references

ID	Reference
B18	Bertotti, 2018 [45]
B24	Bos, 2024 [40]
C21	Calderón-Larrañaga, 2021 [39]
C23	Calderón-Larrañaga, 2023 [44]
E22	Elliott, 2022 [38]
G23	Gorenberg, 2023 [46]
H20	Husk, 2020 [37]
T20	Tierney, 2020 [12]
T22	Tierney, 2022 [41]
T24a	Tierney, 2024a [43]
T24b	Tierney, 2024b [1]
T25	Tierney, 2025 [2]
W24	Westlake, 2024 [42]

Table A-2: CMOCs related to patient initiating health behaviour

Patient has non-medical health-related need	
ID	CMOC
T20_24	The patient is activated to manage their health (C) so is motivated to seek information about how to do this (M); consequently they make appointments to see their GP (O)
W24_09	Patients who are unable to share their concerns with family or friends in their social network (C) can feel overwhelmed (O) because they feel alone with their problems (M)

Table A-3: CMOCs related to GPs identifying SP need in patients

Identification of SP need by GP	
ID	CMOC
B18_01	GP skills: Overly clinical training influences referral numbers (C), Interaction between GP and patient (M), leads to the referral to the SP coordinator (O).
B18_02	Time at each consultation (C), Interaction between GP and patient (M), leads to the referral to the SP coordinator (O).
B18_03	Range of co-morbidities led to difficult diagnosis (C), Interaction between GP and patient, leads to the referral to the SP coordinator (O).
B24_06	Elderly, frequent flyer clients have a tendency to ring up the GP with general and broad complaints. Traditionally these complaints would have been responded to medically (C). These issues are not being recognized that these complaints are more social in nature rather than medical (M). Means that GPs/SP services are starting to ask these frequent flyers differently with non-medical questions. Cultural change is created (O).
Sensitising	
T20_04	Accessible, transparent information about the service is available for HCP (C). Their understanding of the link worker role is strong (M), so they are clear about what to expect and recall it when faced with a situation where a link worker could help (O).
T25_04	Primary care staff receive clear information about the LW role (C). They understand what these employees can do (M). So refer people who could benefit (O).

Table A-4: CMOCs related to the referral of the patient to the LW

Referral to LW	
ID	CMOC
GP factors: Believe in effectiveness of SP	
B18_05	Recognition of social prescribing as a brand (C), Interaction between GP and patient (M), leads to the referral to the SP coordinator (O).
H20_09	IF the GP knows (database/contacts/colleague/professional network/coordinator/study protocol/provider contact/time to learn) about the activities THEN they may be more likely to provide referral.
H20_10	IF GPs experience (visit or trial/reputation/previous experience (through feedback, short concluding summaries)) the intervention THEN they are more likely to (a) refer, and (b) act as advocates in the practice.
H20_13	IF the GPs personal belief (knowledge/experience) is that the intervention or process is effective THEN they are more likely to refer.
H20_14	Sub to H20_13: IF the GP trusts (delivery/capacity/reliability/mechanism/accredited) the intervention (feedback/experience) THEN they are more likely to refer.
H20_33	IF there is robust data monitoring and feedback to the GP THEN they are more likely to refer.
GP factors: Resources available	
H20_11	IF the GP has the resources (database/time/knowledge) to refer THEN they may be more likely to refer.
GP factors: Comfortable with SP process	
H20_16	IF the GP is comfortable in the role (duty or ability to address 'non-medical' issues/trying SP) of referrer to SP THEN they are more likely to refer.
H20_17	Sub to H20_16: IF the GP is comfortable with the legality of liability for the intervention (feedback/experience) THEN they are more likely to feel comfortable in the role.
H20_27	IF the referral process is flexible (i.e. '3+') THEN the GP has more options to be more responsive. OR IF the GP has a protocol to follow THEN the GP may feel more confident to refer.
H20_30	IF the activity is demonstrated/marketed as cost-effective THEN the GP practice is more likely to adopt as an option.
H20_36	IF the lines of communication are open and smooth (i.e. admin/clerical hurdles) THEN the GP will (a) know the providers and (b) be responsive to referral.
H20_16	IF the GP is comfortable in the role (duty or ability to address 'non-medical' issues/trying SP) of referrer to SP THEN they are more likely to refer.
GP factors: Believe SP is right for patient	
B24_18	SP services for acute MH issues (e.g. acute crisis like suicide) Professionals are still searching for which clients are most suitable to SP services (C). Some professionals feel a sense of responsibility for taking on clients (e.g. those with acute MH needs) who would otherwise not be taken up by other/traditional services. Therefore, professionals want to be able to offer the client some services (M). There's no one size fits all approach to deciding which clients are appropriate or not, this requires a person-centred approach (O).
H20_15	IF GPs are persuaded (questionnaire/GP assessment/screening/capacity of activity or prioritisation) of a patients' readiness (motivation/health condition) to attend THEN they are more likely to refer.
H20_18	IF the GP has exhausted other viable options (something rather than nothing) THEN they are more likely to refer.
H20_19	IF the GP feels this complements the existing treatment regime (in dialogue with patient) THEN they are more likely to refer.
Patient factors: Initial emotional barriers	
B24_04	SP services are relatively new and healthcare professionals may struggle to explain the SP services to patients (C). When healthcare professionals presented a more social and selfmanagement solutions to the problems of clients, it may demotivate some patients as they had expected a medical solution (M). This may result in some patients dropping out and not engaging further with Social Prescribing (O).
B24_05	Clients who are isolated for a long time and who are eligible for referring to social domain, they expecting that their needs are addressed in a medical way. These clients are also unfamiliar with SP types of services (C). Clients who are prescribed a different approach than a medical one may get nervous about having to do something different from what they initially expected (M). Clients can be reluctant to take up Social prescribing (O).
Patient factors: Motivational factors	
B24_14	GPS found it challenging to persuade some patients to see a link worker or try a community activity (C). Clients can have a motivational threshold to surpass in order to agree to engage with social prescribing, or can have feelings like anxiety and depression which makes it difficult to try new activities or trying new things (M). Have difficulties with joining new activities or trying new things (O)
H20_01	IF the patient is unhappy with their current care OR alternative options THEN then they may be receptive to social prescribing.
H20_02	IF the patient believes (expectations/they have condition it will address/GP consultation theory/attainment/provider is reliable) the SP will do them good THEN they may be receptive.

Referral to LW	
ID	CMOC
H20_07	IF the patient is motivated (imminent fear of consequence, desperation with situation) THEN they may be receptive.
T24a_02	A patient's difficult life circumstances (C) leads them to urgently seek solutions (M) so they agree to see a link worker (O).
Patient factors: Clear information from trusted source	
B18_10	Location of social prescribing coordinator (e.g. GP practices) (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B24_08	Within GP practices, there are many parttime and locum GPs and with regularity high staff turnover there is no real preexisting relationship with clients due to high staff turnover (C). This lack of established relationships and knowledge about the clients hinders clients to trust their GP (M). The change in staff makes it difficult to spend enough time with clients to build a relationship (O).
B24_22	A client was referred (C). Linkworkers who contact patients directly after receiving a referral and give emotional and practical support to overcome barriers that often prevented them from engaging (M). Prevents dropouts and enable people to push themselves harder than they would have by themselves Patient were more likely to participate (O).
H20_03	IF the patient knows about the activity (taster days/£ for normal attendance so referral free/peer recommendation) and whether it is appropriate/effective/desirable THEN they may request referral.
H20_05	IF the patient believes they can access (link worker/physical location/online) the process THEN they may be receptive.
H20_08	IF the referral is presented (specifics of activity) in an acceptable (referral process/how they respond/order vs questions) way and matches patient needs and expectations (what they think is wrong with them) THEN they may be receptive.
H20_26	IF the referral includes a formal prescription document THEN this may influence the patients' beliefs and perceptions about the referral.
T20_07	The patient is given clear information about the service by a trusted HCP (C); hence, they believe it is a worthwhile avenue to pursue (M) so are willing to see a link worker (O).
T24a_01	Uncertainty about how a link worker can help (C) may make patients reluctant to engage with this person (O) because they are unsure of what to expect (M).
T24a_03	Reaching out to a link worker, an unknown source of support (C), calls for a leap of faith from patients (O) because they do not feel there are other choices in terms of help (M).
T24a_04	Being referred through a GP (C) provides credibility to the link worker role (M), which means the patient is more likely to take up a referral (O).
T25_07	The LW role is made clear to patients (C). Who are then aware of what to expect (M). So patients are not disappointed with what is offered (O).

Table A-5: CMOCs related to the relationship between GP and LW

GP and LW relationship	
ID	CMOC
Supporting factors	
B24_20	SP services and addressing social needs is for primary clients relatively new to professional (C). Linkworkers need to build relationships with staff in order to be seen as credible and competent to primary care staff, so they trusted the linkworker with the client (M). Primary care staff get confidence in referring patient to a linkworker (O).
B24_27	GP acted as facilitate as facilitators for link workers (C). GPs offered an open environment for linkworkers and practical support by offering suitable location, access to the practices to speak with practice staff, access practice resources (wifi, patientinformation system, email, printing and advertising in waiting room). Linkworkers feel welcome in the GP surgeries (M). It creates more collaboration between GP surgeries staff and linkworkers, more likely to connect to what clients need services contributes implementation (O).
T25_02	If an LW is accountable to a number of organisations (C). It can cause ambiguity (M). Leading to a lack of clear direction or support in the role (O).
T25_05	Experiences LWs bring to their role are understood by primary care staff (C). Increasing LWs' legitimacy (M). Helping them to feel valued (O).
T25_06	LWs presence in primary care and at team meetings (C). Means they become known by staff in the practice (M). Allowing a positive working relationship to be forged (O).
T25_15	When building connections between LWs and practice staff is seen as a two-way process (C). LWs and staff are facilitated to get to know each other (M). Which helps LWs to feel part of the primary care team (O).
T25_16	Ongoing attention to how the LW role is experienced in primary care (C). Means the service can be responsive to fluctuating circumstances (M). So problems are picked up and addressed early on (O).

GP and LW relationship	
ID	CMOC
W24_13	When link workers receive timely support and supervision from the wider primary care team (C), they are better able to manage patient risk and their own well-being (O) because they are not carrying the risks and emotional burden alone (M)
Benefits of SP	
T25_08	When LWs divert patients from seeing their GP for non-medical issues (C). Because they reduce inappropriate referrals to medical professionals (M). They are regarded as a useful addition to primary care (O)
T25_09	When there is clear evidence that an LW is making a useful contribution to a practice (C). It gives credibility to the role (M). Meaning the service is used by stakeholders (O).
W24_24	When GPs (and managers) appreciate the benefits of link workers being there to hold patients who cannot be “fixed” with medical interventions (C), they will give support for link workers to do so (O) because they believe it is useful to them and the patient (M)

Table A-6: CMOCs related to the LW consultation

LW consultation	
ID	CMOC
Developing a relationship between LW and patient	
B24_07	Newly implemented SP services that first focusses on creating buy in for SP services (C). For linkworkers it is important to build a trusting relationship with clients so they feel safe enough to share sensitivities about their personal lives (M). When linkworkers understand the personal circumstances of clients makes it possible to refer clients to an appropriate activities or services (O).
T24a_05	When a link worker gives patients space to discuss their life and shows active listening skills (C), patients feel valued and respected (M), which encourages them to open up about their needs (O).
T24a_06	Link workers use of informal language/local dialect (C) levels out any power imbalance between them and patients (M), making patients more receptive to what link workers propose (O).
T24a_15	Having a link worker who is regarded as responsive and reliable (C) makes patients feel comforted that they are not alone (M), easing their stress and anxiety (O).
W24_06	If link workers are perceived as calm and empathetic by patients (C), they feel comfortable and safe in opening up to them (O) because they have been made to feel emotionally contained (M)
W24_07	When a link worker consistently actively listens and appropriately responds when patients share their concerns/problems/issues (C), the patient develops trust in this person (O) because they regard the link worker as reliable and compassionate (M)
Positive outcomes from consultation	
T20_12	During conversations with the link worker, the patient is permitted to consider their own needs and well-being goals (C). They no longer feel alone (M) and believe life could have meaning (M), resulting in a more positive Outlook (O)
T20_14	Meeting with the link worker, the patient is supported and encouraged to develop social connections (C), through which their confidence (M) and sense of resilience increase (M), so they feel more able to cope with life (O).
T20_18	In meetings with the link worker, the patient can offload their troubles (C). They feel cared for (M) and unburdened (M), so they enjoy talking to this person (O).
T24a_07	Social prescribing offers patients space to be listened to and offload (C), which helps them to feel less alone and less stressed (M) so they feel more able to cope (O).
T24a_08	When patients are able to offload their troubles to a link worker (C), they enjoy meeting with this person (O) because they feel less burdened (M).
T24a_09	When patients feel a connection with a link worker during their meetings (C) they are uplifted (O) because the conversation makes them feel valued and worthy of attention (M).
T24a_13	Assistance with financial matters through a link worker (C) reduces the daily pressure encountered by patients (M), making them feel less stressed/anxious (O).
T24a_16	When link workers are willing to advocate for patients when needed (C), it helps patients to feel less alone in their struggles (O) because they sense that someone else cares about them (M).
T24a_17	Link workers' advocacy role (C) could include helping patients to make an appointment with their GP (O) because link workers have access to primary care staff (M).
T24a_24	Receiving information and support from a link worker they have built a relationship with (C) prompts patients to take steps towards changing (O) because they do not want to let this person down (M).
W24_01	When patients offload their troubles during meetings with a link worker they trust (C), they feel their emotions are more manageable (O) because it helps them to feel unburdened (M)

LW consultation	
ID	CMOC
T20_12	During conversations with the link worker, the patient is permitted to consider their own needs and well-being goals (C). They no longer feel alone (M) and believe life could have meaning (M), resulting in a more positive Outlook (O).
Sharing knowledge to find a personalised solution	
B18_14	'voice' of user in the process (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
T20_06	Patients are referred at a stage in their life when able to make best use of support provided by a link worker and are seen in a timely manner (C); they are receptive of ideas (M) and have the energy (M) to contemplate trying something new (O)
T20_13	Link workers have time, skills and knowledge to act as catalysts for change (C); they can nudge people to shift their mindset (M) and help them contemplate how to overcome potential barriers (M). Consequently, patients are prepared to try new things (O).
T20_22	Seeing a link worker and co-producing a personalised action plan with this person (C) allows the patient to develop agency in a safe space (M), which encourages them to start taking ownership for their well-being (O)
T24a_11	Together, the patient and link worker 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).
T24a_12	Link workers present potential solutions to patients in a sensitive manner (C), which patients are then willing to try (O) because they feel they are an acceptable means of support (M).
T24a_14	When link workers share their knowledge about coping strategies (C) they arm patients with a means to cope (M) so patients feel better able to manage their day-to-day life (O).
T24a_21	When link workers tailor support to match individual values and state of readiness (C), patients are more open to suggestions (O) because they feel seen and understood (M).
T24a_22	Hearing about options available in the community from a link worker (C) opens the patient's mind to possibilities (M), which encourages them to start seeking out their own sources of external support (O).
T24a_26	When patients are able to develop realistic goals with a link worker (C) it helps them feel a sense of achievement (M), increasing their self-confidence (O).
W24_04	If link workers prioritise relationship building in initial sessions and make patients feel emotionally contained (C), patients are more receptive to suggestions about connecting to services and activities (O) because the link worker has built up their trust (M)
W24_10	When a link worker is sensitive to whether patients are ready to make changes (C), patients continue to engage with this person (O) because they do not feel pressured (M)
Meeting setting	
B18_08	Face to face (rather than telephone) (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
T20_11	Patient see the link worker in an atmosphere that is conducive to discussing their needs (e.g. they are not rushed, are asked questions in a sensitive manner, are seen in their own home (C). They feel comfortable (M), valued (M) and listened to (M), so are prepared to talk openly (O).
T24a_18	Having access to a link worker (C) means that patients are less likely to contact their GP (O) because they have an alternative and trusted source of support (M).
W24_08	When the location or medium (e.g., face to face or phone call) for a meeting between patient and a link worker is in some way inappropriate (C), then either patient or link worker may not fully engage (O) because they find they are unable to focus or build a relationship (M)
W24_16	When a patient is informed they can contact the link worker directly themselves or be re-referred (C), they feel reassured (O) because they have a safety net if they need more help (M)

Table A-7: CMOCs related to other LW factors

Other LW factors	
ID	CMOC
LW training	
B18_11	Skills mix of social prescribing coordinator: wide range of coaching skills and knowledge of clinical symptoms (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B24_16	Social prescribing offers different levels of interventions. This ranges from straightforward signposting which requiring a detailed knowledge of local organizations available to a more intensive coaching-style intervention for patients who needed to overcome barriers before signposting (C). Link workers who have different skills and have an educational background in psychotherapy, psychology, coaching and have experiences working in the voluntary sector as well as considerable listening and empathetic skills (M). Makes it possible to help patients better to a next step and create significant behavioral change (O).
B24_19	Clients with a lot of mental health problems were referred to a linkworker Linkworkers without a professional background are working with mental health issues (C). Link workers need more training to feel confident enough in the working they are doing with clients who have mental health issues (M). Can help clients with mental health problems appropriately and effectively Protect themselves and the individuals they working with (O).
B24_29	SP services are not yet formalized as they are largely placed within VCS sector and depend on volunteers to act as link workers (C). The lack of clear standards and boundaries for SP services makes that voluntary linkworkers are unequipped to do with some clients needs (M). Linkworkers needed to be train to help clients with complex needs Has led to many concerns including for clients confidentiality Has led to a call of clear accountability and governance structures for SP services (O).
T24b_07	When link workers 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).
T25_14	Training and support are provided to LWs as required (C). Giving them confidence and skills (M). To effectively manage patients they are assisting (O)
W24_12	When patients are being held by a suitably skilled link worker or primary care professional (C), this protects patient and practitioner well-being (O) because the task is being done by an individual with the appropriate skills (M)
W24_23	If resources and time for appropriate training and supervision for holding are allocated (C), link workers feel supported and their emotional burden is reduced (M). So they are more able to sustain this part of their role and less likely to leave their job (O)
LW discretion: Since implementation	
T24b_04	Having discretion within their role to develop connections with the VCSE sector (C). Allows link workers 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).
T24b_15	Involving link workers in shaping a social prescribing 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 and capabilities (O).
T25_01	If a PCN standardises social prescribing without consulting with those providing it (C). The skills and experience of LWs are not understood or known (M). So LWs are not employed in a manner that best serves the service/patients (O).
LW discretion: Reasons and outcomes	
T24b_01	When link workers feel they have discretion in how they interact with a patient (C). It enables them to create an environment that facilitates disclosure (M). Allowing them to access issues that are most important to a patient (O).
T24b_02	When link workers use discretion to respond to an individual and their needs (C). Patients feel heard and valued (M). Prompting them to engage and to open up (O).
T24b_03	When link workers 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).
T24b_05	When link workers 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).
T24b_06	When link workers have come from different professional and personal backgrounds (C). They will draw on what they know, can do and believe in (M). Which contributes to variation in how the role is executed (O).
T24b_08	Having confidence to decline referrals they see as inappropriate (C). Link workers feel in control of their work situation (M). Meaning they can work within their capabilities and capacities (O).
T24b_14	When working in an environment that supports autonomy and being innovative (C). Link workers have scope to be creative and flexible (M). This allows them to meet individual patient needs (O).
W24_22	If holding is explicitly communicated to link workers as a valued part of their role by their managers (C), link workers feel they have the flexibility to hold patients when needed (O) because they know it is a legitimate part of their role (M)

Other LW factors	
ID	CMOC
LW workload	
B24_17	SPs who are working in their role experienced emotional burden and feeling unable to help within the limits of their personal resources and at risk of burn-out (C). SPs who feel supported by a safe space to debrief their experiences, like one-to-one supervision and peer support as particularly valuable or interact with a team of social prescribers (M). Prevents them or a burnout and feeling isolated in their role and can also learn from other SPs how to keep professionals distance and being aware of setting boundaries (O).
T20_05	Link workers work in a supportive environment (e.g. number of referrals remains manageable, peer assistance, supervision from managers, training, job security, welcomed by practices (C), enabling them to feel confident in what they do (M) so they can function effectively within the role (O)
T24b_09	If link workers believe they should be able to assist everyone referred to them (C). They can feel they have failed if unable to do so (M). Reducing their sense of job satisfaction (O)
T24b_10	When there is clear communication about what the link worker role entails (C). These employees know what is expected of them (M). So they feel able to execute their job with confidence (O).
T24b_11	Receiving appropriate support and supervision in the role (C). Provides some boundaries for link workers (M). To practise in a way that enables them to feel safe in what they do (O).
T24b_12	When link workers who prefer structure have managers who are 'hands off' (C). They may be uncertain about discretionary acts (M). Leaving them feeling daunted by the role (O).
T24b_13	A lack of explicit guidelines around the link worker role (C). Can mean they experience uncertainty around what they should do (M). Putting them and patients at potential risk (O).
T25_11	When LWs are expected to collect data (C). They need to understand how it will benefit patients (M). Otherwise they will not be inclined to do so (O).
T25_12	When success for LWs is judged by a PCN against indicators of throughput (C). It puts pressure on them to change how they work (M). Moving them away from providing person-centred care (O).
W24_18	If the link worker does not have sufficient time (C), then they are likely to have an incomplete understanding of a patient's needs – including any risks (O) because they are unable to delve down into the patient's problems (M)
W24_19	When link workers allocate time to holding patients rather than connecting them into other experiences, activities, or services (C), this leads to a reduction in their capacity to see other patients or investigate community resources (O) because holding patients is a time-consuming process (M)
W24_21	When link workers are holding patients (C), they are at risk of burnout (O) because they are engaging in work which is emotionally burdensome (M)
Number of meetings – holding	
B18_07	Number of sessions (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B18_09	Consultation time (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B24_13	The service was only intended as short-term signposting, most linkworkers and volunteers tried not to exceed 12 week support period stipulated in the service specification C: some 12 week program is not long enough for people (C). linkworkers felt that some services-users needed longer term support due to the complex nature of loneliness (M). Which should be result in being flexible in their delivery model to enable workers to tailor support to the servicesusers needs, and highlight that some people need more than a short term signposting service (O).
C23_02	In a context of great social vulnerability (characterised by greater socioeconomic deprivation and ethnic/racial minoritised status amongst high-risk patients referred into SP (C), holistic approaches (characterised by broad conversations prior to and during referrals and wide service remit) (M) proved key for ensuring personalised and contextually sensitive care (O)
C23_03	In a context of ongoing and fluctuating care needs (especially insofar as underlying drivers persisted) (C), sustained approaches (characterised by ongoing and open-ended services and continuity of care with named service providers) (M), proved key for the development of therapeutic relationships over time (O)
H20_28	IF the link worker and patient have multiple contact sessions pre-activity THEN patient more likely to identify suitable activity.
T20_19	Patients who have significant physical and/or psychosocial difficulties (C) may experience emotional relief from meeting with a link worker (M) but require ongoing professional support due to the nature of their situation (O).
T20_21	When sessions with a link worker end for "dependent" patients (C), they feel abandoned (M) or angry (M) and might return to seeing their GP for emotional solace (O)
T24a_19	Tapering off contact with a link worker gradually (C) helps the patient to prepare to move forward alone (M) so they do not feel they have been abandoned (O).
T24a_20	If a patient is informed that they can be re-referred to the link worker (C) it is reassuring (M), which allows them to end their contact with this person (O).

Other LW factors	
ID	CMOC
W24_05	When patients who are not able to progress with a link worker's suggestions are held by the link worker (C), they may become more able to move forward later on (O) because whilst being held they have the space to increase their self-confidence and motivation (M)
W24_11	If link workers are not able to connect patients into a follow-on service or activity (C), they may consider holding the patient (O) as they feel responsible to do something to prevent the patient returning to the referrer (e.g., general practitioners) (M)
W24_14	If link workers are not able to connect patients into a follow-on service or activity (C), they may consider holding the patient (O) to do something to help and so patients do not feel alone with their problems (M)
W24_15	When the link worker helps to make people feel they matter through holding (C), patients are more willing to try new things (O) because they develop a sense of inner confidence (M)
W24_17	When link workers hold patients over an extended period (C), they may find the patient is unwilling to stop being seen (O) because the patient has become dependent on the link worker's support (M)
W24_20	When a link worker is holding a patient and cannot see any progress (C), they can feel despondent or frustrated (O) because they feel they are not achieving what is expected of them (M)
B24_13	The service was only intended as short-term signposting, most linkworkers and volunteers tried not to exceed 12 week support period stipulated in the service specification C: some 12 week program is not long enough for people (C). linkworkers felt that some services-users needed longer term support due to the complex nature of loneliness (M). Which should be result in being flexible in their delivery model to enable workers to tailor support to the servicesusers needs, and highlight that some people need more than a short term signposting service (O).
Network management	
B24_11	There is limited awareness of SP services within the local communities (C). People in the local community find it important if the link worker comes from the same local community, so they can help build trust and understanding between SP services & local communities (M). Helps engage communities with SP services and helps align services to communities needs (O).
B24_12	Social Prescribing was no longer articulated as a linear referral pathway towards a predefined destination but more as a care network comprising different actors (C). Needs of clients can change over time and make that they moved back and forth across settings and sectors (M). It requires an ongoing and bidirectional coordination between care providers (O).
B24_28	Computerized system used as a directory & available services, but this directory is often out of date (C). The lack of an automated system to the social domain causes referral to traditional services because it feels time consuming (M). Reduced referrals to SP services and highlight potential need to redraw referral pathways to better include SP services (O).
B24_30	Sustainability of SP interventions delivered across different organizations (C). Shared resources and systems are improved communication and built relationships between different organizations (M). Makes it easier to referring clients with mental health problems for community support Clients have to wait longer and there is more change to disengage (O).
B24_31	Many SP organizations are in the voluntary sector and are isolated in from statutory services what content that information is not passed between organizations in a timely manner There is no interoperability in IT systems (C). The lack of professional status of SP staff makes that there is no interoperability in IT systems (M). Leads to uncertainty about what kinds of information can or cannot share with them Resulted in difficulties with systematic shared information (O)
C23_04	In a context of great clinical care need (characterised by high rates of co/multimorbidity amongst high-risk patients referred into SP (C), integrated approaches (characterised by locally embedded, well-coordinated primary care and VCS) (M), proved key for ensuring enhanced service accountability and responsiveness (O).
G23_11	CMOC7: When LWs and cultural sector staff collaborate constructively (C), improvements to cultural offers are more likely (O) because their shared knowledge is harnessed (M).
G23_14	CMOC10: When LWs and cultural sector staff interact (C), it allows for greater understanding and valuing of each party's contribution to older people's well-being (M), which promotes a willingness to collaborate (O).
H20_20	IF the options are collated (facilitator which can be external or peer and professional/database/help hub/booklet) THEN GPs/patients are more informed.
H20_21	Sub to H20_20: IF the collation is a booklet THEN it is easy to show the patient the options, but it's less formal and harder to update.
H20_22	Sub to H20_20: IF the collation is a database THEN GPs can search, it is updateable but more expensive, someone needs to build and maintain it.
H20_23	Sub to H20_20: IF the collation if managed by a facilitator THEN GPs more likely to know about interventions and easier for GP. But expensive and another potential exit point for the patient (adherence).
H20_24	Sub to H20_20: IF the collation is facilitated by training or taster days THEN GPs are more likely to know about sessions and have confidence in them.
H20_25	Sub to H20_24: IF this continuum is facilitated by a volunteer link worker THEN availability (+/-) and sustainability (+/-) is impacted.

Other LW factors	
ID	CMOC
T20_08	The link worker spends time in primary care and in VCS settings (C), so comes to understand the culture and language in both (M), meaning they are regarded as trusted, credible boundary spanner (M), who can facilitate joint working between professionals from different backgrounds (O).
T20_09	When link workers interact with VCS providers and HCPs they can demonstrate their knowledge and ability to help patients (C), engendering trust in their skills and competency (M). Consequently, HCPs are willing to refer to and the VCS will take referrals from link workers (O).
T20_10	The boundary spanning work of the link worker (C) engenders a greater appreciation by HCPs of the VCS (M) and trust in these services (M), so they are willing to treat VCS providers as equal partners in helping to resolve patient's non medical needs (O).
T22_01	CMOC4: When a link worker has information of local social prescribing options (C), they can match these to older people's needs and expectations (O) because they have the necessary knowledge (M).
T24a_10	When link workers have good knowledge of a range of local support and resources so 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).
T25_03	The VCSE sector's key role in the delivery of social prescribing is overlooked (C). This makes the VCSE sector feel put upon (M). Leading to disquiet and disengagement (O).
B24_11	There is limited awareness of SP services within the local communities (C). People in the local community find it important if the link worker comes from the same local community, so they can help build trust and understanding between SP services & local communities (M). Helps engage communities with SP services and helps align services to communities needs (O).
B24_12	Social Prescribing was no longer articulated as a linear referral pathway towards a predefined destination but more as a care network comprising different actors (C). Needs of clients can change over time and make that they moved back and forth across settings and sectors (M). It requires an ongoing and bidirectional coordination between care providers (O).
B24_28	Computerized system used as a directory & available services, but this directory is often out of date (C). The lack of an automated system to the social domain causes referral to traditional services because it feels time consuming (M). Reduced referrals to SP services and highlight potential need to redraw referral pathways to better include SP services (O).
Documentation	
B18_04	Feedback from users on experience with referral (C), Interaction between GP and patient (M), leads to the referral to the SP coordinator (O).
B18_06	Appropriate referral from GPs (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B24_01	GPs refer patients to a linkworker/social domain for participation in an activity. These GPs want to know and needed to feel that patients were benefiting from social prescribing, because they were driven by a high quality care for patients (C). Getting regular feedback about how the patient was getting after their initial referral or get some formal evidence about the effectiveness and improvement patients outcomes makes that GPs may feel more enthusiastic about SP services (M). GPs were more likely to use SP services and were also more engaged (O).
B24_02	GPs are curious about formal evidence about the effective of SP services on patients outcomes (C). Too much focus on gathering formal evidence about effects of SP services on clients health outcomes makes less attention for the client's needs, because they need to fill continuous questionnaires (M). Its possible research is getting in the way of the activities and support clients really need (O).
H20_10	IF GPs experience (visit or trial/reputation/previous experience (through feedback, short concluding summaries)) the intervention THEN they are more likely to (a) refer, and (b) act as advocates in the practice.
H20_50	IF the GP receives robust and appropriately fed back data for individual patients (formal from programme/from patient) THEN the GP will be more likely to support their ongoing engagement.
T20_20	The patient feels a connection with the link worker (C), so feel safe to open up about previously undisclosed issues (M) that then have to be referred back to a HCP (O)
T25_10	By developing a feedback loop (C).GPs get to hear how a patient has progressed with social prescribing (M). Which can increase the confidence referrers have in an LW and their skills (O).

Table A-8: CMOCs related to the referral to a community service

Referral to a community service	
ID	CMOC
Availability of services	
B18_13	Availability of local community/statutory services (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B18_15	Appropriate referral from social prescribing coordinators (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
B18_19	Availability of a rich community organisation infrastructure across the locality (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
B18_20	Funding availability (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
G23_02	CMOC1-N: When LWs warn older people in advance that it can take time to find an offer that they will get benefit(s) from (C), older people are more willing to continue trying new offers (O), because this is what they expect to happen (M).
G23_06	CMOC3: When LWs understand the needs and expectations of an older person (C), they are more likely to suggest a suitable cultural offer (O) because they have an understanding of what is acceptable to and needed by that individual (M).
G23_12	CMOC8: When a cultural organisation is committed to supporting public wellbeing (C), because staff feel that they are undertaking such work in a facilitative environment (M) they are willing to make changes and take risks (O).
G23_13	CMOC9: When older people are consulted about the content of cultural offers (C), something is developed by cultural organisations that is appropriate and acceptable to end users (O) because it has taken into consideration their ideas (M).
G23_15	CMOC6-N: When cultural institutions have limited resources (C) staff may be uncertain about offering social prescribing activities (O) because they worry about not being able to offer people the right support (M).
G23_16	CMOC7-N: When a cultural offer has clear boundaries (C), cultural sector organisations may be more likely to develop offers (O), because they do not worry about user dependency and resource implications of open-ended offers (M).
G23_17	CMOC8-N: When cultural sector institutions provide staff and volunteers with emotional support structures (C), they are less likely to burnout (O) because they feel supported (M).
G23_33	CMOC16-N: When a virtual offer provides an older person with access to experiences they would not normally be able to have (C), they are likely to attend (O), because they value this opportunity (M).
G23_34	CMOC17-N: When the cultural sector is supported to provide virtual offers that are organised and delivered professionally (C), older people are more willing to accept them (O) because the experience is entertaining and enjoyable (M).
H20_31	IF there is a choice of activity THEN the patient is more likely to find one suitable/interesting.
H20_32	IF there is a tailoring of activity THEN the patient is more likely to find one suitable/interesting.
H20_38	IF the activity provides taster sessions THEN the GP and patient are more likely to have knowledge of activities. (+therefore patient attend? link to enrolment)
T20_01	There is a vibrant local VCS, offering a range of activities, which the link worker has a good knowledge of and patients can access (C), meaning link workers have choice and flexibility (M) so can address diverse patients needs (O)
Accessibility of services	
B18_16	Location and time of activity (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
B24_21	The presence of a linkworker to remove feelings of discomfort and unfamiliarity from new situations (C). Feelings of clients about a past can be always there and persistent predominant feelings of uncertainty and discomfort. The presence of a linkworker is not always enough to enter unfamiliar fields of practices (M). A other intervention is first needed to help this client, before the client can participate in a activity in a social domain (O).
C23_01	In a context where services relevant to T2D prevention (namely, NDPP) were hard to reach by those in need (characterised by lower referral rates to NDPP, especially amongst those of lower socioeconomic status and with co/multimorbidity) (C), accessible approaches (characterised by broad eligibility criteria, proactive and welcoming approaches (M), proved key for ensuring enhanced service uptake (O)
G23_01	CMOC1: When a LW can provide detailed information about a cultural offer (C), the older person is more likely to understand if it is suitable for them (O) because they can work out what it entails (M).
G23_03	CMOC2: When the LW explains the cultural offer as part of social prescribing in a way that shows how it relates to an individual's needs (C) because it is regarded as a credible solution (M), the older person is more likely to accept it (O).
G23_05	CMOC3-N: When LWs describe an offer in a way that makes it sound accessible (C), an older person is likely to give it a go (O) because they feel it is something that is for them (M).
G23_07	CMOC4-N: When an older person is well-matched with a buddy they can relate to (C), they are more willing to attend an offer (O) because they have a bond and enjoy being with this individual (M).

Referral to a community service	
ID	CMOC
G23_08	CMOC5-N: When a 'buddy' scheme is available (C), older people are more likely to attend a cultural offer (O) because it provides a sense of security (M).
G23_35	CMOC18-N: When virtual offers are older people friendly (C), individuals are more willing to attend them (O) because they are perceived as accessible (M).
H20_06	IF the patient believes they can access (transport/time of day/£/childcare or other dependent/psychological/costs, i.e. benefit reduction) the activity THEN they may be receptive.
H20_29	IF the activity is described/marketed in an appealing and appropriate (i.e. suspicion of marketing) (communication/reliability/see 'APPROPRIATE LEAD' below) way THEN the patient is more likely to attend/enrol.
H20_34	IF the patient experiences a delay for entry THEN patients are less likely to attend and engage.
H20_37	IF the activity is accessible (cost/local/timing/safe/transport) to the patient THEN they are more likely to attend.
H20_40	IF the transit to first session is supported (phone call/buddy/intro sheets/hub/network) THEN they may be more likely to attend.
T24a_23	Being supported by a link worker 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) and making them feel fulfilled (O) and less stressed (O).
Attending a service	
B18_17	Type of activity (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
B18_18	Quality of activity (skills) (C), attendance to activity and social interaction with other users (M), Improved health and wellbeing (O) Improved social interaction between users (O).
B24_23	SP services provided social group activities (C). When clients support each other in an informal manner, which created peer-support amongst clients (M). Clients selfreliance and social engagement is increased (O).
G23_18	CMOC11: When an older person finds the cultural offer stimulating (C), they experience an escape from their problems (O) because they enjoy and are absorbed by the activity (M).
G23_19	CMOC12: When the cultural offer engages older people's senses (C), their enjoyment increases (O) because their mind is elsewhere (M).
G23_20	CMOC9-R: When older people attend a beautiful and well-tended space (C), they are afforded a sense of peace and relaxation (O) because their senses are being engaged (M).
G23_21	CMOC10-R: When older people attend a cultural venue with a quiet ambiance (C), they are distracted from worries (O) because they are immersed in their surroundings (M).
G23_22	CMOC13: When the cultural environment is older people friendly (C) they enjoy attending (O) because they feel safe and at ease (M).
G23_23	CMOC14: When the cultural offer is delivered professionally and consistently (C), older people feel reassured (O) because they know what to expect (M).
G23_24	CMOC11-N: When an older person perceives that the venue or offer is elitist (C), they may be put off attending (O) because they do not feel welcomed or that it is for them (M).
G23_25	CMOC15: When the cultural offer provides a social component (C), older people feel less lonely (O) because they have been facilitated to engage in human interactions (M).
G23_27	CMOC12-R: When a cultural offer provides older people with opportunities to socialise (C), they feel less lonely and more connected (O) because they have human interactions (M).
G23_28	CMOC13-N: When the venue has a nice café (C), older people feel connected (O) because they value the services and ambiance (M).
G23_29	CMOC17: When the cultural offer enables older people to experience or learn new things (C), their self-esteem and confidence increase (O) because they are encouraged to try things outside of their comfort zone (M).
G23_30	CMOC18: When older people are given the option to take part in a cultural offer in a way that suits their preferences (C), their self-worth is increased (O) because they feel attended to (M).
G23_31	CMOC14-N: When older people are able to engage with a cultural offer in ways of their choosing (C), they enjoy themselves (O) because they are able to exercise their autonomy (M).
G23_32	CMOC15-N: When older people are able to exercise personal choice (C), they may re-attend an offer even if they did not like it the first time (O) because they feel some degree of control (M).
H20_35	IF the activity is led by an appropriate (trained/reliable/volunteer status/communicated) leader THEN the patient and GP are more likely to be confident.
H20_39	IF the patient maintains their motivation (timescale/discussion of other treatments/reflection) THEN they may be more likely to engage.
H20_46	IF the first impression of the activity matches THEN the patient may be more likely to maintain adherence.

Referral to a community service	
ID	CMOC
T20_15	Engaging in social activities with support from the link worker and meeting new people as a consequence (C), means patients are distracted from their own situation (M) and less focused on their difficulties (M), as they develop and alternative, more positive mindset (O). (Social capital; Tierney, 2020)
T20_23	Attending groups and activities discussed with the link worker (C) prompts patients to feel socially connected and supported (M), increasing their motivation and self-confidence to manage their own well-being (O)
Supporting regular attendance	
G23_04	CMOC2-N: When a trusted person encourages an older person to keep attending an offer they did not like after their first attendance (C), they may re-attend (O), because they are persuaded to persevere (M).
G23_09	CMOC5: If cultural institutions evaluate the cultural offers they make to older people (C), they can adapt the suitability of the offer (O) because they are aware of the changes needed (M).
H20_41	IF the facilitating (skills/facilitator/GP/buddy) mechanism maintains contact (drop outs) THEN the patient may maintain adherence.
H20_42	IF there is an end goal/target (become buddy/reward for completion/graduate/reduce symptoms) THEN this may help the patient maintain adherence.
H20_43	IF the process is iterative and flexible to learn from dropouts and completers THEN it may help encourage adherence amongst other patients.
H20_44	IF the leader is skilled (communication/activity/health condition) THEN patient is more likely to maintain adherence.
H20_45	IF the activity continues to be accessible THEN the patient will maintain adherence.
H20_47	IF the activity continues to meet expectation (enjoyable/appropriate/fit to daily life) THEN the patient may be more likely to maintain adherence.
H20_48	IF the activity is group based (religion/appropriate/coherence/size/ethnicity/gender/ability) THEN it may increase adherence for some through social support (and vice versa).
H20_49	IF the activity duration, frequency and regularity suit patient THEN they are more likely to adhere.
H20_51	IF there is a significant change (+/-) in patient condition (symptoms) THEN this may affect adherence (+/-).
H20_52	IF there is a significant change in patient motivation (GP order vs recommendation/patient belief/alternative treatments) THEN this may affect adherence.
H20_53	IF there is a significant change in patient enjoyment (social aspects) or fulfilment (condition needs/intervention need/goal attainment) THEN this may affect adherence.
H20_54	IF the patient can continue to access the intervention (child care/transport/location) THEN this may affect adherence.
Final outcomes	
G23_26	CMOC16: As the cultural offer continues to provide a social component (C), older people increase their social network (O) because they have been facilitated to develop and maintain new relationships (M).
T20_16	A more positive outlook (C) makes patients relaxed and easier to be around (M), allowing the to forge better relationships with family and friends (O)
T20_17	Developing new connections and a more optimistic mindset (C) means that patients can see a range of solutions to their difficulties (M) and no longer regard their GP as a first port of call (O)
T24a_25	Connecting with local support (C) improves patients' relationships with their friends and family (O), because they feel less alone or overwhelmed by their circumstances (M).

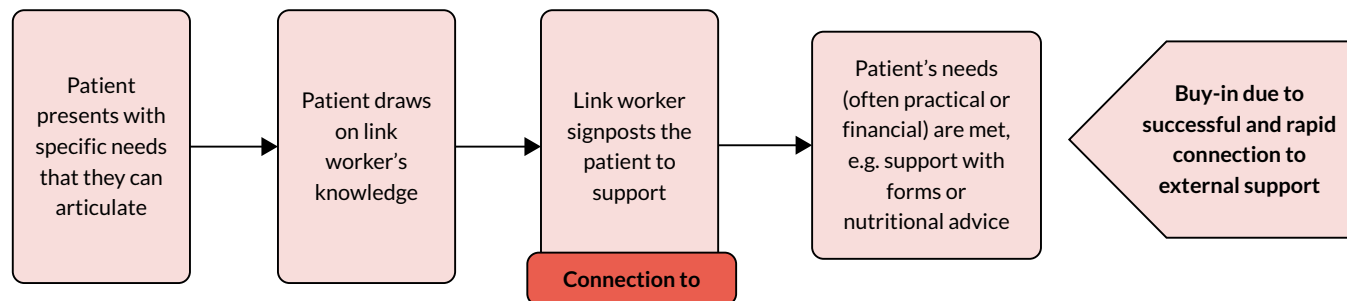
Table A-9: CMOCs related to factors outside the direct SP process

Factors outside the direct SP process	
ID	CMOC
SP implementation	
B18_12	Funding for management of service (C), interaction between social prescribing coordinator and user (M), Increased trust, hope and self-esteem from interaction (O) Facilitated access to further support from community/statutory organisations (O).
B24_26	A collaborative multi-sector approach with a diverse group of stakeholders is important to contributed towards a delayed implementation of delivery of SP (C). The lack of a targeted approach to strategic and robust project management to undertake all the coordination required for the program and the absence of a robust risk management system to be prepared for scenarios (M). This could be disrupt and delayed implementation and delivery of SP services (O).
C21_01	Stakeholders' individual characteristics (C), such as enhanced buy in, vocation and knowledge (M), make holistic, relational and redistribute SP more likely (O).*

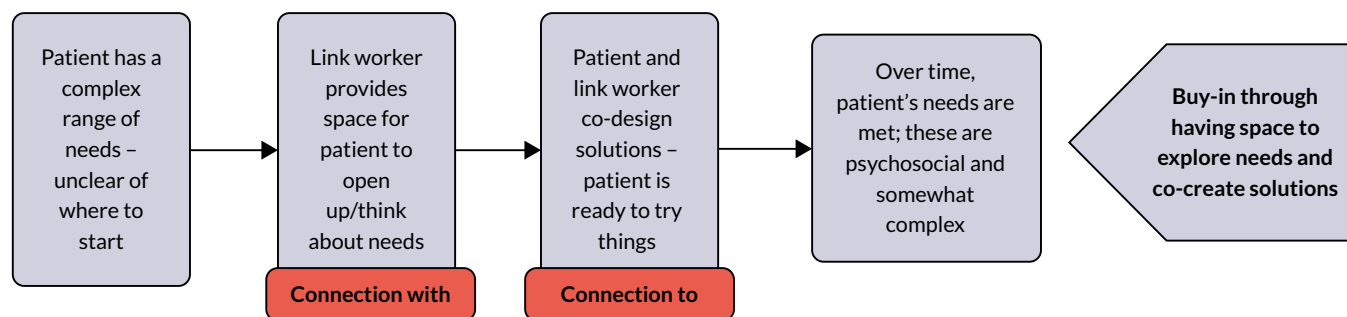
Factors outside the direct SP process	
ID	CMOC
C21_02	The development of trustful, supportive, convenient, bidirectional, informed and transparent (M) interactions between stakeholders (C), make holistic, relational and redistribute SP more likely (O)
C21_03	Organisational contingencies (C), including continuity of care, resource adequacy, training opportunities, information governance, a predisposed practice culture and leadership and accessibility (M), make holistic, relational and redistribute SP more likely (O).*
C21_04	A policy context (C) that sustains bottom-up and coherent policymaking, stable funding and suitable monitoring (M), leads to holistic, relational and redistribute SP (O).*
T20_02	Influential figures are consulted when developing the service (C); they understand how it might benefit patients (M), so are supportive of it in discussion with others who are key to its realisation (O)
T20_03	By consulting with key stakeholders, a social prescribing connector role is designed in line with existing practice systems (C), so is regarded by HCPs as easy to use (M) and as a valuable addition to what they can offer (M), meaning they welcome the services and are prepared to refer patients to it (O).
T25_13	Consulting with key stakeholders about the delivery of social prescribing (C). Means that attention is paid to how it will fit into a practice (M). So social prescribing can be smoothly integrated into primary care (O).
Quality control: Evaluations of SP implementations	
E22_01	If social prescribing evaluations are coproduced by mixed-teams (C), then sharing of experiences, expertise and diverse perspectives (M), increases evaluation acceptability (o) and trustworthiness (o)
E22_02	If evaluators have strong contextual knowledge about the intervention and its' aims (C), then they can align the research question and design (M) to provide a coherent, cohesive evaluation (O).
E22_03	When there are predetermined aspects to an evaluation (C), the researcher does not have the freedom to make decisions regarding the execution of the study (M), which minimises the quality of the data and evaluation (O).
E22_04	If researchers use a mixed-methods sequential design for data collection (C), they can use existing data to inform subsequent design and data collection (M) to provide a nuanced, stronger understanding of the effects of social prescribing (O).
E22_05	When there are multiple sources of data (C), researchers can integrate and triangulate findings (M) to provide a nuanced, stronger understanding of the effects of social prescribing (O).
E22_06	If qualitative and quantitative findings are reported separately (C), then there is a lack of integration (M), which results in a fragmented understanding of the effects of social prescribing (O).

Examples of visualisations of identified programme theories on social prescribing

(a) Patient requires limited interaction with the link worker to be connected to external support



(b) Patient requires more extensive interaction with the link worker before connecting to external support



(c) Patient requires on-going interaction with the link worker rather than connecting to external support

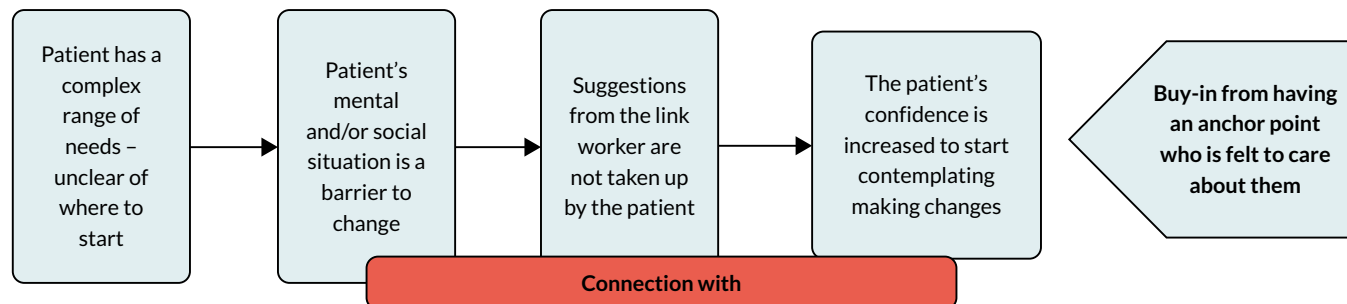


Figure A-1:
Different types of patient buy-ins,
from Tierney, 2024 [1]

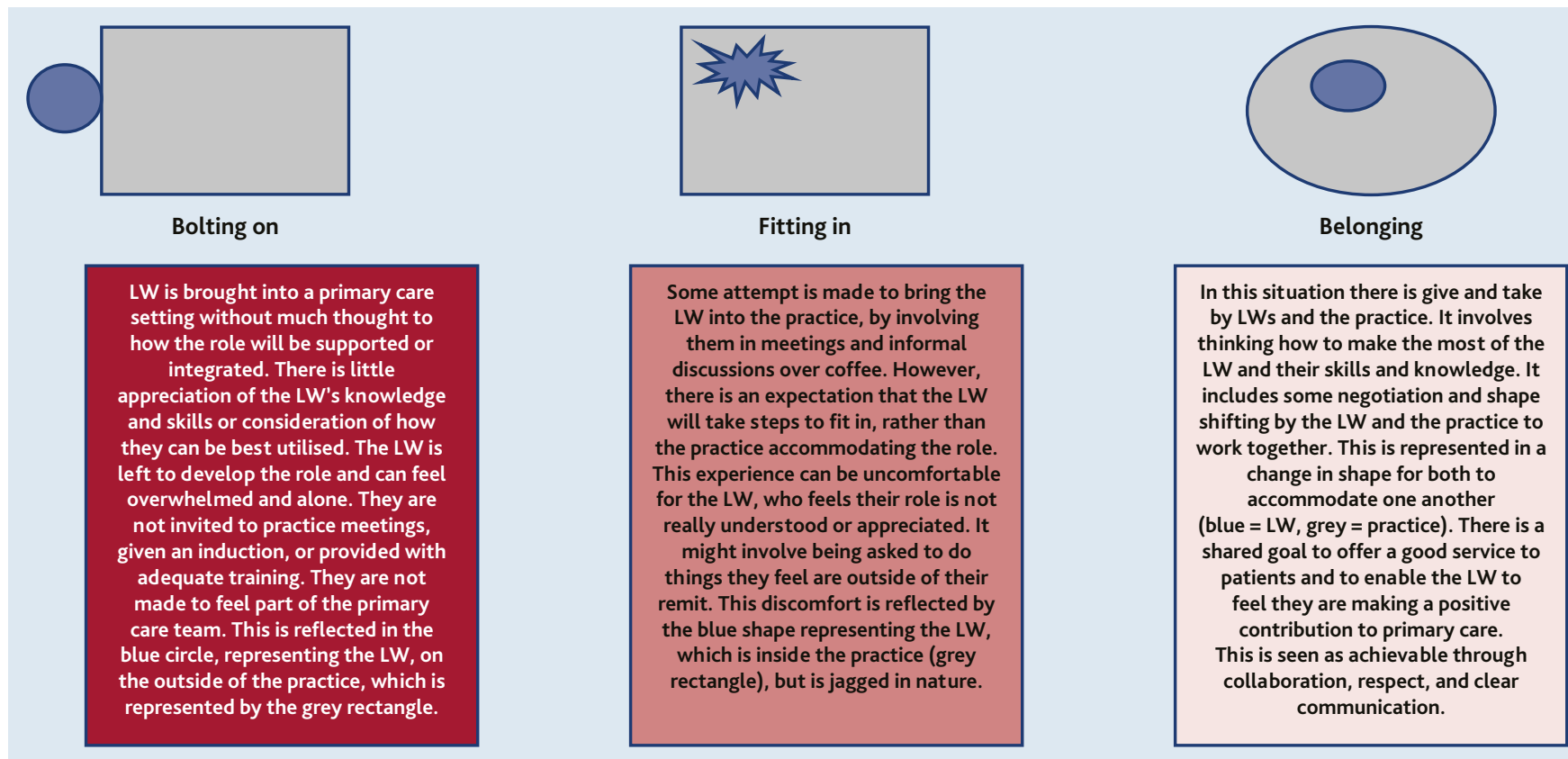


Figure A-2: Continuum of LW integration into GP practise, from Tierney, 2025 [2]



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