Perspectives in Public Health

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COVID-19: the key to flattening the curve is health literacy

In this article, Košir and Sørensen define healthy literacy and discuss why investing in it will help us recover from the COVID-19 pandemic, as well as respond to any future outbreak in a more efficacious manner.

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Due to the overarching threat of the coronavirus pandemic, 'flatten the curve' became the new catch phrase echoed on the news, on social media, and decorating every front page of the printed press. But what does it really mean and how does it relate to health literacy?

The technology and resources currently available allow experts in epidemiology and public health to closely monitor health and illness, to make predictions about outcomes, model the spread of the disease, and track down the root causes. However, until we know more and develop effective treatments and a vaccine, measures as simple as good hygiene, social distancing, and isolation remain the most effective ways of containment.[1] This is essentially what flattening the curve means; slowing the rate of infection and reducing the number of cases so that it does not overburden the healthcare system. In any given country, the number of beds and medical personnel is limited, thus a quick, exponential surge overloads the system and results in a higher number of preventable deaths.

Flattening the curve is not a novel phenomenon. An important lesson can be learned from how two American cities handled the Spanish Flu in 1918. St. Louis enforced strict social distancing within 2 days of tracing the flu, which limited the number of cases. In contrast, Philadelphia, neglecting the situation, uninterruptedly hosted a large parade and suffered a high number of casualties just a few days later. Hence, the epidemiological curve differed considerably between the two places.[2]

Today, in contrast to 1918, we have many more resources and information available, often just a few clicks away. But while the shift toward personal responsibility in one's health management is desired, it also brings about novel challenges, namely, knowing how to act, and who to trust. To meet these novel demands, we need health literacy.

Defined as the knowledge, motivation, and ability to access, understand, appraise, and apply information to manage health,[3] health literacy has been labeled a key determinant of health.[4] Higher levels of health literacy within groups (be it a country or an organization) consistently correspond to improved safety, higher quality of life, reduced disparities in health outcomes, and a more prosperous and equitable society.[5] However, research has shown that more than a third of populations might face difficulties.[6]

Increasing public health literacy will mean improving the collective awareness of health-related business, empowering citizens and patients, and entrusting them with active participation in the health systems. The investment in health literacy of populations and organizations will flatten the curve for the novel SARS-CoV-2 virus, as well as for many other diseases. We have seen this approach work in other communicable diseases such as flu,[7] or in promoting positive changes in lifestyle such as smoking cessation.[8]

Defined as the knowledge, motivation, and ability to access, understand, appraise, and apply information to manage health, health literacy has been labeled a key determinant of health

To some, health literacy may just seem a 'new wine in old bottles' and be viewed as health promotion;[9] however, health literacy is what enables and drives health promotion, carrying an added value. But how, and why are we still behind in attaining a health literate society?

First, the investment in health literacy as a political priority is often missing, and the lack of preparedness and slow response to the COVID-19 pandemic are proof of that. Moreover, despite a global call for making health an educational priority, only a few countries, namely, Finland, include health literacy in the core school curricula.[10] Finally, it is important to recognize that our systems are complex, and it will require a transformation of services to develop and facilitate an appropriate systemic health literacy response. Perhaps, a crisis like the COVID-19 outbreak, which has shaken the very foundations of many healthcare systems, is just what we need to enable us to move from the disease-centered to health- and people-centered approaches to care.

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The combination of improving people's skills to meet the complex demands of health systems and developing the health systems' capability to meet the demands of people implies that health literacy will not only make us better equipped to cope with similar occurrences to COVID-19 and act quickly but also help people lead healthier lives, thus reducing the need for medical care in the first place.

Today, 'flattening the curve' is being used as an argument by politicians, decision-makers, and public health advisors to call the public to action. The two curves are used as a recognizable illustration to inform people as to why governmental restrictions are made and behavioral change required. If the pandemic spread is controlled, it might be possible to balance the number of cases with out overloading the capacity of health systems, so they are able to provide the necessary services and reliable information.

We can see the current situation unfolding; because of the acute threat and exponential spread of COVID-19, most places have already shifted toward damage control. While the infections will eventually stop, the damage will not, and yet again, groups already disadvantaged and marginalized will take the hardest hit.

> **While the infections will eventually stop, the damage will not, and yet again, groups already disadvantaged and marginalized will take the hardest hit**

This is an unprecedented situation and we are learning new things by day. Because health literacy carries the potential to transform the health systems and societies,[11] now is the time to implement the programs and policies for which the evidence is already there.[12] It is not too late to alter the course of our outcomes, not even those of the COVID-19 pandemic.

AUTHOR CONTRIBUTIONS

U.K. and K.S. contributed equally to the conceptualization, drafting, and final editing of this commentary.

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Social networking in mental health interventions for adolescents

This article looks at the benefits of using social media in providing access to mental health support for adolescents, due to the anonymity and improved sense of community that social networking allows.

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Adolescents are susceptible to mental health problems due to 'multiple physical, emotional and social changes'[1] as they adapt to new responsibilities and relationships. Globally, 10%–20%[2] of adolescents suffer with their mental health which can impact on relationships, school and physical health.[3] All of this can continue to impact people in adulthood, with 75% of mental illness in adults coming on before 18 years.[4] There are many factors that can contribute to development of mental health problems, including peer-pressure, exploring sexual identity and relationships with friends and family.[1]

There is a lot of debate about the impact social media can have on the mental health of adolescents. While some papers have shown links to social media use and depressive symptoms,[5,6] social media can be used to benefit the mental health of adolescents. Social media can be used to strengthen relationships with both new and existing friends online, reducing feelings of isolation and loneliness.[7] Being online allows people to express their feelings more easily and receive support from others.[7,8] The benefits of this are clear, as a review found access to more support online reduced the levels of depression and anxiety.[9]

Social media can be used to strengthen relationships with both new and existing friends online, reducing feelings of isolation and loneliness

Finding more ways to provide help with mental health is crucial, as services are limited, and young people are struggling with accessing help.[10] There are more than two billion people active on social media.[11] Clearly, this presents a chance for social media platforms to reach a large number of people with information on mental health. In fact, 72% of adults using the Internet in the US have searched health issues online.[11] In particular, mobile technology is becoming more popular with 96% of people aged 12–17 years using a mobile[12] and more apps are becoming available for disseminating information on health care.[3]

72% of adults using the Internet in the US have searched health issues online

Therefore, social media platforms can be used as part of a mental health service by providing more education and awareness of mental health.[13] It has been shown that young people find interventions online engaging and highly usable.[13] Social media is unique in that it provides an opportunity to reach a breadth of people with ease. There is a larger capacity to provide treatment through digital mental health care, as you do not face the 'geographical barriers'[3] that you do with face-to-face treatment. Furthermore, being online allows people to remain more anonymous,[13]with privacy being an important factor to adolescents using discussing health online.[3] This allows young people to talk about their mental health online without fear of being judged, helping overcome the stigma of mental illness, a large barrier in seeking help.[3] They can also communicate with people with similar conditions, developing supportive networks,[7] which can help reduce feelings of loneliness[9]. Therefore, social media may be useful for targeting people who would not usually seek help.[3] A review found that use of social media in mental health was associated with high engagement rates and low dropout, with the most highly rated social media interventions involving a moderator in the group.[13] Thus, mental health interventions involving social networking can successfully exploit the increasing use of social media sites to impact mental health in adolescents in a positive way. It improves access to interventions, allows anonymity and creates a stronger sense of community to discuss mental health.

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Systematic Review

Barriers and Facilitators to Implementing Interventions for Reducing Avoidable Hospital Readmission: Systematic Review of Qualitative Studies

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Abstract

Background: Avoidable hospital readmission is a major problem among health systems. Although there are effective peri-discharge interventions for reducing avoidable hospital readmission, successful implementation is challenging. This systematic review of qualitative studies aimed to identify barriers and facilitators to implementing peri-discharge interventions from providers' and service users' perspectives.

Methods: We searched four databases for potentially eligible qualitative studies from databases' inception to March 2020, and updated literature search for studies published between January 2020 to October 2021. Barriers and facilitators to implementing peri-discharge interventions were identified and mapped onto the Consolidated Framework for Implementation Research (CFIR) constructs. Inductive analysis of the CFIR constructs was performed to yield thematic areas that illustrated the relationship between various facilitators and barriers, generating practical insights to key implementation issues.

Results: Thirteen qualitative studies were included in this systematic review. Key issues were clustered in the CFIR constructs of *Design Quality and Complexity* of the intervention, strength of *Network and Communication*, being responsive to *Patient Needs* with sufficient *Resource* support, and *External Incentives*. The three thematic areas were rationality of the interventions, readiness and effort of multidisciplinary implementation teams, and influence of external stakeholders. Common barriers included (*i*) limited resources, (*ii*) poor communication among team members, (*iii*) incompatibility between the new intervention and existing work routine, (*iv*) complicated implementation process, (*v*) low practicality of supporting instruments, and (*vi*) lack of understanding about the content and effectiveness of the new interventions. Common facilitators were (*i*) information sharing via regular meetings on implementation issues, (*ii*) organizational culture that values quality and accountability, (*iii*) financial penalties for hospitals with high avoidable readmissions rates, (*iv*) external support offered via quality improvement programs and community resources, and (*v*) senior leadership support.

Conclusion: This study synthesized commonly-presenting barriers and facilitators to implementing peri-discharge interventions among different healthcare organizations. Findings may inform development of implementation strategies in different health systems after appropriate tailoring, based on a consensus-based formative research process.

Keywords: Patient Readmission, Transitional Care, Implementation Science, Qualitative Research, Systematic Review, Delivery of Healthcare

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Background

Avoidable hospital readmission is a highly common, costly, and challenging issue in many health systems globally.[1,2] In the United States, the 30-day all-cause hospital readmission rate was approximately 13.9% in 2016, of which a considerable number is considered as avoidable.[3] Early hospital readmission is associated with several adverse outcomes, including lower patient satisfaction,[4] higher risk of mortality,[5] and evidently increased medical costs and utilization of healthcare services.[5,6] According to the Global Patient Safety Action Plan 2021-2030, World Health Organization (WHO) recommends investigations on different peri-discharge interventions for reducing the burden of unnecessary hospital readmission.[7]

A systematic review of 42 trials has shown the beneficial effects of certain peri-discharge interventions for reducing avoidable 30-day hospital readmission. Such interventions are often complex, addressing multiple needs of patients and caregivers,[8] hence they can be difficult to implement successfully. For instance, a qualitative study among healthcare providers in Denmark indicated that extra multidisciplinary work was required for implementing interventions smoothly on top of routine work, implying additional manpower and cost.[9] Another qualitative study in the United States suggested that the implementation process is cumbersome as there is

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a need to integrate services across hospitals, primary and social care.[10] Multidisciplinary implementation teams led by senior leaders are essential for managing complexities, and for resolving expected conflicts among team members over additional responsibilities.[10]

Synthesizing different facilitators and barriers of implementing peri-discharge interventions across different health systems would be useful for generating insights on common challenges. Deeper understanding on recurring themes on implementation issues would guide formulation of policy recommendations with higher generalizability. Determinants of implementing peri-discharge interventions for reducing hospital readmission across different healthcare system is yet to be synthesized. We conducted a systematic review to summarize existing qualitative findings concerning barriers and facilitators that influence implementation from the perspectives of different implementers. The implementers included in this systematic review include healthcare providers, social service providers, administrators, or all other personnel who are related to actual implementation. Implications from these findings may inform future development of strategies for implementing peri-discharge interventions effectively.

Methods

This systematic review is reported in accordance with the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) statement (Supplementary file 1).[11]

Eligibility Criteria

To be included in this systematic review, a qualitative study should: (*i*) report original results; (*ii*) be published in English; (*iii*) apply qualitative methods for both data collection and data analysis, including but not limited to interviews, focus groups, case studies, ethnographic analysis, and participant observation; (*iv*) include healthcare providers, social service providers, administrators, or other staff who are responsible for implementing peri-discharge interventions; and (*v*) carry an aim of investigating facilitators and barriers of implementing such interventions. We also included mixed-methods studies which used both qualitative and quantitative methods, given that data originating from qualitative methods are adequately reported for extraction and synthesis. We excluded review articles, protocols, conference abstracts, scientific statements, or workshop reports. Studies which did not report qualitative results were also excluded.

Literature Search

We searched for qualitative studies in four international electronic databases (EMBASE, MEDLINE, PsycInfo and Global Health) from their inception to March 2020 (Supplementary file 2). As research on readmission reduction interventions evolve rapidly, we updated the search for potentially eligible studies in these four databases in the period from March 2020 to October 2021. This allowed us to include newly eligible studies, ensuring that the results are thorough and up to date (Supplementary file 3). The search strategy was tailored to each database using a combination of MeSH terms and keywords to cover the concepts of "peri-discharge interventions" and "hospital readmission." Details could be found in Supplementary files 2 and 3. Specialized filters with maximized sensitivity for qualitative study were applied in MEDLINE, EMBASE, and PsycInfo.[12,13] No restrictions on publication status were imposed.

Literature Selection

Two reviewers (BQF and CCZ) independently screened titles and abstracts of potential studies and assessed full text for eligibility. Disagreements were resolved by discussion and consensus between the two reviewers. A third reviewer (VCC) was consulted to settle unsolved disagreement.

Methodological Quality Assessment

Methodological quality of all included qualitative studies was assessed using the Critical Appraisal and Skills Programme (CASP) checklist.[14] It includes 10 specific questions on methodology including aims of the research, qualitative methodology, research design, recruitment strategy, data collection approach, data analysis, researcher-participant relationship, ethical issues, statement of findings and research value. Each question was answered, based on information reported in the publications, using one of the following responses: 'yes,' 'no,' or 'can't tell.' CASP does not provide a quantitative scoring scheme for appraising methodological quality.[14] Methodological limitations of each aspect for each study were identified accordingly. Methodological quality assessment was conducted independently by two reviewers (BQF and CCZ). Discrepancies were resolved through discussion and consensus-building between the two reviewers. A third reviewer (CHW) was consulted for unresolved disagreement.

Data Extraction and Analysis

Two reviewers (BQF and CCZ) used a pre-designed data extraction form to collect the following information from each included study independently: first author, year of publication, study location, study aim, nature of peri-discharge interventions, data collection method, data analysis method, type of participants, sample size, and qualitative results for further analysis.

In this systematic review, extracted qualitative results were analyzed using a framework synthesis approach.[15,16] This approach begins with the use of a pre-existing framework for initial deductive coding of data, which is then followed by inductive analysis focusing on identifying emerging new themes. Based on overall synthesis findings, key thematic areas relevant to implementation were then identified.[17]

Consolidated Framework for Implementation Research (CFIR) is selected as the initial coding framework, as it can be used as a standardized structure for synthesizing qualitative findings associated with implementation barriers and facilitators in a comprehensive manner.[18,19] The CFIR comprises a set of constructs which can be applied in diverse scenarios and settings, including healthcare providers' experiences in implementing interventions.[20] There are 38 constructs across five domains in the CFIR, namely intervention characteristics, inner setting, outer setting, characteristics of individuals, and implementation process.[21] Each construct can function as a barrier and/or facilitator to implementation, either influencing implementation negatively, ie, making implementation more difficult (ie, acting as a barrier), or influencing implementation positively, ie, making implementation easier (ie, acting as a facilitator).[18-20] The domains and constructs should not be considered in isolation of each other, as complex interactions among domains and constructs may influence the implementation of interventions.[18,20] A schematic diagram of the CFIR is shown in Figure 1.

Firstly, deductive coding based on the CFIR was performed. Two reviewers (BQF and CCZ) independently coded findings reported in each included study into various CFIR constructs using NVivo software after co-piloting.[22] A third reviewer (VCC) was consulted to settle unresolved disagreements between coders. To facilitate the identification of commonly reported barriers and facilitators, the number of included studies which described specific CFIR constructs was analyzed. Constructs that were described in three or more included studies were considered as commonly reported CFIR constructs associated with implementation of peri-discharge interventions.

Secondly, inductive analysis of the CFIR constructs was performed to yield thematic areas, of which such synthesis aimed to illustrate relationships between various facilitators and barriers to implementation. In this part, the authors (VCC, BQF, and CCZ) conducted an interpretation on the relationships between themes from the first part of the analysis. Interpretation on the linkage between the CFIR constructs of external policy and incentive, intervention participants and cosmopolitanism in the context of peri-discharge intervention were performed. Their relationships suggested that external stakeholders, including patients, caregivers as well as policy makers would have strong influence on implementation outcomes, and their involvement in the implementation process may improve chances of success. Findings from inductive analysis were critically reviewed by all authors prior to finalization. Findings were then synthesized into various CFIR constructs under each thematic area.

Results

Study Selection

Among the 5815 records obtained through two literature searches, 780 duplicates were identified and excluded. After screening titles and abstracts, 4905 citations were excluded. Full-text articles of the remaining 130 citations were retrieved for further assessment, of which 122 publications were excluded due to the following reasons: not investigating the implementation of interventions for reducing hospital readmission (n = 54); not being qualitative study (n = 47); not focusing on implementers' experiences (n = 4); and being review articles, protocols, conference abstracts, scientific statements, and workshop reports (n = 17). Updated literature search for potential qualitative studies from March 2020 to October 2021 identified 5 additional studies that were considered eligible (Supplementary file 4). A total of thirteen qualitative studies,[9,10,23-33] were included. Details of literature search and study selection are presented in Figure 2.

Study Characteristics

All included studies were published between 2013 and 2021. Ten studies were conducted in the United States, and the other three were conducted in Denmark, Norway, and Singapore. Five included studies derived data from individual interviews, while two obtained data from document analysis and individual interviews. Three studies collected data via focus group interviews, and three used both individual and focus group interviews. Eight studies utilized thematic analysis, while two utilized framework analysis. The remaining studies were based on grounded theory (n = 1) and content analysis (n = 2). One included study investigated case managers' experiences only, and one focused on nurses only.

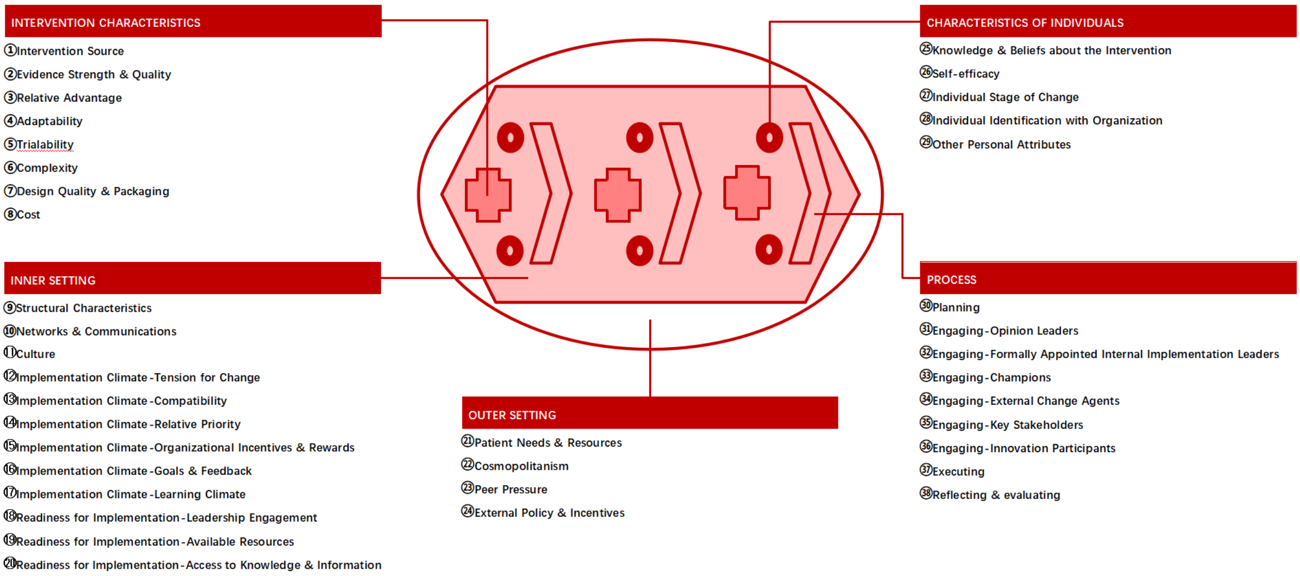

Figure 1. Schematic Diagram of the Consolidated Framework for Implementation Research.

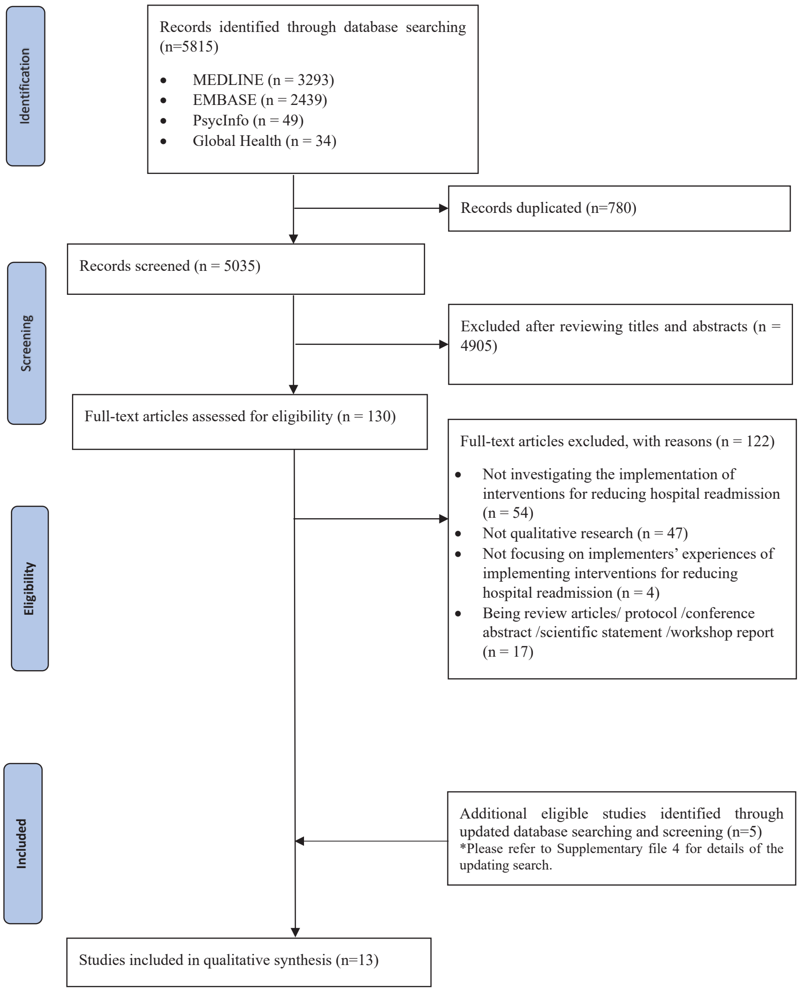

Figure 2. Flowchart of Literature Search and Selection.

The remaining eleven included studies explored views from at least three different types of implementers. Amongst these eleven studies, nurses were the most frequently investigated professional category (n = 8), followed by physicians (n = 6) and administrators (n = 5). Detailed characteristics of included studies are presented in Table 1.

Methodological Quality of Included Studies

Results of methodological quality assessment are presented in Supplementary file 5. All included studies stated the aims of research clearly, used appropriate qualitative methodology, collected data in a manner that addressed the research issue, provided clear statements of findings, and demonstrated the research value. Among the thirteen included studies, only one failed to conduct a sufficiently rigorous data analysis. Six did not use appropriate research designs and four did not clearly state the recruitment strategies. Five studies did not make clear statements on potential ethical issues, and nine did not adequately consider bias which may arise from relationships between researchers and participants.

Barriers and Facilitators

The reporting frequency of barriers and facilitators aligned to the CFIR constructs, and synthesized findings summarized under CFIR are reported in Tables 2 and 3, respectively. Frequently highlighted implementation issues across included studies were concentrated in the CFIR constructs of *Design Quality and Packaging, Complexity* of the intervention, strength of *Network and Communication*, being responsive to *Patient Needs* with sufficient *Resource* support, and *External Incentives* including both support and penalties.

After identified all possible barriers and facilitators from included studies (Table 3), three thematic areas spanning across these CFIR constructs were established to facilitate interpretation, including (*i*) rationality of the interventions, (*ii*) readiness and effort of multidisciplinary implementation teams, and (*iii*) external stakeholders (Table 4). For example, the construct of evidence strength and quality is a key element in the theme of rationality of the interventions, as clinical guidelines supported by high-quality evidence were essential for justifying healthcare professionals' behavior in implementing new interventions. Amongst the three thematic areas, sixteen commonly reported CFIR constructs, which were described in at least three included studies, were further elaborated in the following sections.

Rationality of the Interventions

This theme refers to the rationale and operability of peri-

Table 1. Characteristics of 13 Included Qualitative Studies

First Author, Year of Publication, Region	Study Aim	Peri-discharge Interventions	Data Collection Method	Methods of Qualitative Analysis	Role of Participants (No. of Participants)
Danielsen 2020, Norway[23]	To understand why readmission reduction intervention failed in some aspects while succeeded in others from a nursing perspective. Topics included: (1) appropriateness of the intervention dose (ie, number of days and calls administered) and fidelity of the intervention; (2) mechanisms of positive/negative impacts; and (3) contextual factors that may have influenced the intervention in unanticipated ways.	Telephone intervention, consisting of 30 days of continuous phone-support (hotline) and two scheduled phone-calls after discharge following surgical aortic valve replacement.	Focus group interviews	Content analysis	Nurses. Detailed number of participants were not reported.
Lai 2021, Singapore[24]	To examine the challenges and lessons in implementing a holistic care model at a regional acute hospital and its community partners for reducing readmission.	A specialist-led general medicine care model, implementing proper discharge planning at an acute hospital, conducting post-discharge home visits, and providing medical support to institutionalized patients in the community.	Individual interviews and focus group interviews	Thematic analysis	Individual interview: Clinicians (n = 8), administrators (n = 10). Focus group interview: Clinicians (n = 3), administrators (n = 3).
Lee 2013, US[25]	To understand the perspectives of physicians, nurses and social workers in the process of implementing interventions for reducing readmission in a large academic medical center.	Care transition program, emphasizing accountability, communication, and involvement of the patient and family members in plans of care.	Individual interviews and focus group interviews	Grounded theory	Individual interview: physicians (n = 24), nurses (n = 5). Focus group interview: physicians (n = 9), nurses (n = 13), social workers (n = 6).
Lehn 2018, Denmark[9]	To examine the experiences of physicians, nurses, medical secretaries and administrators that work with implementing readmission prevention program for elderly patients in five different hospitals.	A post-discharge follow-up program, in which nurses and GPs conduct joint visits in patients' homes, reviewing their treatment plans, functional levels, environment, and current medicine intake, and then planning ongoing care.	Focus group interviews	Framework analysis	Physicians (n = 6), nurses (n = 11), medical secretaries (n = 3), administrators (n = 4).
Machta 2016, US[26]	To identify barriers and facilitators to implementing interventions for reducing hospital readmission from the perspectives of case managers, pharmacists, physicians, nurses and other supporting staff in a large academic medical center.	Care transition program, containing a multicomponent and multidisciplinary pre-discharge services including: (1) needs assessment by case managers, (2) medication history by medication transition specialists (pharmacy technicians), (3) medication reconciliation and counseling by pharmacists, (4) communication to outpatient provider by physicians, and (5) self-care education using teach-back and scheduling of timely follow up by nurses.	Individual interviews	Framework analysis	Case managers (n = 3), pharmacists (n = 6), physicians (n = 6), nurses (n = 8), other supporting staff (n = 2).
Meehan 2017, US[27]	To explore challenges to implementing interventions for reducing hospital readmission among healthcare providers, social service providers and community leaders in fifteen communities.	Statewide collaboration interventions, including statewide education on quality improvement strategies and community-specific technical assistance on collaboration approaches in the delivery of peri-discharge interventions.	Documents analysis and individual interviews	Thematic analysis	Healthcare providers, social service providers and community leaders. Detailed number of participants were not reported.

Table 1. Continued

First Author, Year of Publication, Region	Study Aim	Peri-discharge Interventions	Data Collection Method	Methods of Qualitative Analysis	Role of Participants (No. of Participants)
Meehan 2015, US[28]	To identify barriers and suggestions for implementing interventions for reducing hospital readmission among administrators, nurses and other supporting staff in five skilled nursing facilities.	A quality improvement project for the delivery of peri-discharge interventions. Providing training and technical assistance to administrative and clinical staff of skilled nursing facilities.	Documents analysis and individual interviews	Thematic analysis	Administrators, nurses, other supporting staff. Detailed number of participants were not reported.
Misra-Hebert 2021, US[29]	To examine providers' experiences in participating in a post-discharge home visit program for patients at high risk for readmission.	A post-discharge home visit program, providing home visits with standardized medical record and extra telephone follow ups.	Individual interviews	Thematic analysis	Registered nurses (n = 7), primary care physicians (n = 9), paramedics (n = 3), advanced practice registered nurses (n = 3).
Mitchell 2016, US[10]	To understand the experience of implementing interventions for reducing hospital readmission from the perspectives of organizational leaders, administrators, physicians, nurses, case managers, pharmacists and other supporting staff in ten different hospitals.	A Re-Engineered Discharge (Project RED) program, delivering a patient-tailored hospital discharge plan to improve safety during care transition.	Individual interviews	Thematic analysis	Organizational leaders, administrators, physicians, nurses, case managers, pharmacists, other supporting staff. Detailed number of participants were not reported.
Nation 2019, US[30]	To explore case managers' perceptions of implementing interventions for reducing hospital readmission among elderly in a managed care organization.	Discharge planning, a multidisciplinary approach to prepare and assist patients and their families as they move to the next level of care outside of hospital.	Individual interviews	Content analysis	Case managers (n = 9).
Rask 2017, US[31]	To identify contextual factors which influence the implementation of interventions for reducing readmission among organizational leaders, administrators, nurses and other supporting staff in three skilled nursing facilities.	Interventions to Reduce Acute Care Transfers II, a set of evidence-based clinical practice tools and strategies directed toward residents of long-term care settings, including quality improvement tools, communication tools, decision support tools, and advanced care planning tools.	Individual interviews	Thematic analysis	Organizational leaders, administrators, nurses, other supporting staff. Detailed number of participants were not reported.
Riddle 2020, US[32]	To elicit suggestions for improving a nurse visit intervention for reducing hospital readmission.	A post-discharge home visit, containing a single home visit from a registered nurse within 96 hours of discharge.	Focus group interviews	Thematic analysis	Primary care physicians (n = 7), hospital medicine physicians (n = 12), registered nurses (n = 10).
Romaire 2020, US[33]	To explore successes, challenges, and lessons learned in implementing a readmission reduction program. Topics included practice transformation, use of health IT and data analytics, and integration with primary care.	Medicaid behavioral health homes, providing multidisciplinary team-based care, enhanced access to care, population risk stratification and management, patient- and family-directed care plans, promoting decision support, optimizing the capacity of clinical information systems, as well as integrating general medical and behavioral healthcare by partnering with patients primary care providers.	Individual interviews and focus group interviews	Thematic analysis	Individual interviews: the funders, leadership, state officials, commercial payers, and healthcare service providers. Detailed number of participants were not reported. Focus group interviews: healthcare service providers. Detailed number of participants were not reported.

Abbreviation: GPs: general practitioners.

Table 2. Frequency Table of Cited Consolidated Framework for Implementation Research Constructs (n= 13 Studies)

CFIR Domains and Constructs	Barriers, No. of studies (%)	Facilitators, No. of studies (%)
Intervention characteristics		
Intervention Source	0 (0)	0 (0)
Evidence strength and quality	0 (0)	2 (15)[26,30]
Relative advantage	0 (0)	1 (8)[26]
Adaptability	2 (15)[29,32]	2 (15)[26,27]
Trialability	0 (0)	0 (0)
Complexity	4 (31)[9,10,25,33]	0 (0)
Design quality and packaging	4 (31)[9,10,24,26]	2 (15)[23,32]
Cost	1 (8)[33]	0 (0)
Outer setting		
Patient Needs & Resources	5 (39)[24,25,29,30,32]	3 (23)[29,30,32]
Cosmopolitanism	3 (23)[10,24,32]	0 (0)
Peer pressure	0 (0)	0 (0)
External policy and incentives	0 (0)	4 (31)[10,26,31,33]
Inner setting		
Structural characteristics	2 (15)[9,25]	0 (0)
Networks and communications	5 (39)[9,10,25,26,33]	8 (62)[10,23,25-27,30,32,33]
Culture	1 (8)[10]	3 (23)[10,26,28]
Implementation climate		
Tension for change	0 (0)	0 (0)
Compatibility	3 (23)[9,26,31]	0 (0)
Relative priority	0 (0)	1 (8)[26]
Organizational incentives and rewards	0 (0)	0 (0)
Goals and feedback	0 (0)	1 (8)[26]
Learning climate	1 (8)[26]	0 (0)
Readiness for implementation		
Leadership engagement	1 (8)[27]	3 (23)[10,27,28]
Available resources	5 (39)[9,24-26,28]	0 (0)
Access to knowledge & information	1 (8)[26]	4 (31)[23,26,30,33]
Characteristics of individuals		
Knowledge & beliefs about the intervention	3 (23)[9,10,26]	2 (15)[26,32]
Self-efficacy	1 (8)[24]	0 (0)
Individual stage to change	0 (0)	0 (0)
Individual identification with organization	2 (15)[10,31]	0 (0)
Other personal attributes	0 (0)	0 (0)
Process		
Planning	2 (15)[9,10]	0 (0)
Engaging		
Opinion leaders	0 (0)	0 (0)
Formally appointed internal implementation leaders	0 (0)	0 (0)
Champions	0 (0)	0 (0)
External change agent	0 (0)	2 (15)[31,33]
Key stakeholder	3 (23)[24,32,33]	1 (8)[32]
Intervention participant	5 (39)[24,25,29,30,32]	2 (15)[29,30]
Executing	0 (0)	0 (0)
Reflecting and evaluating	2 (15)[24,26]	2 (15)[10,27]

Abbreviation: CFIR, Consolidated Framework for Implementation Research.

discharge intervention designs, focusing on the characteristics, components and necessary support needed for implementing this complex intervention successfully.

Complexity: Interventions for reducing hospital readmission are usually comprised of multiple components across hospital, primary care and social services.[10,33] These additional interventions increase the workload, and disrupt the routine discharge process of the hospitals.[9,10] The complex nature of peri-discharge interventions is a barrier as the implementation process could be cumbersome and complicated.[9,10,25,33]

Design quality and packaging: Different supporting instruments, such as software plug-in to electronic health records, implementation checklists and service delivery guidelines, were developed to facilitate the delivery of interventions in different organizations.[23,32] However, these innovations may not fit in existing infrastructure. Some hospitals reported difficulties in integrating peri – discharge intervention application software with existing electronic health records.[10] Another example is that the use of new software may cause delayed communications due to unfamiliarity, hampering the multidisciplinary coordination

Table 3. Summary of Findings Summarized Under CFIR Constructs

	Barriers of Implementation	Facilitators of Implementation
Intervention Characteristics		
Evidence strength and quality	N/A	• Evidence-based guideline facilitated the implementation of interventions for reducing hospital readmission with a standardized process.[30]
	N/A	• High quality evidence supporting the effectiveness of interventions for reducing hospital readmission would facilitate healthcare providers' implementation.[26]
Relative advantage	N/A	• If implementing interventions for reducing hospital readmission could bring additional benefits on top of routine practice, healthcare providers would be more willing to change their current practice.[26]
Adaptability	• Standardized interventions may be suitable for most patients in routine care, but these may not match specific needs among patients with certain diseases.[29,32]	• Implementation process would be improved by tailoring the delivery of interventions for reducing hospital readmission according to local contexts and needs.[26,27]
Complexity	• Interventions for reducing hospital readmission usually contained multiple components. The increased complexity of interventions would make the implementation process cumbersome.[9,10,25,33]	N/A
	• Delivery of interventions for reducing hospital readmission would impede the routine discharge workflow.[10]	N/A
Design quality and packaging	• Operational defects of supporting instruments (eg, IT systems, implementation checklists, etc)[10] • Delayed interdisciplinary coordination process due to the use of suboptimal digital communication systems.[9]	• Appropriate supporting guidelines and clinical pathway can improve workflow efficiency and effective communication among implementers.[23,32]
	• Nurses and managers indicated that suboptimal implementation checklist items may not map to a specific clinical workflow.[26]	N/A
	• If tools for evaluating patients' condition is not standardized, workflow and decision making is wholly dependent on healthcare professionals' judgement. Variations in individual judgement affected outcome of the readmission reduction interventions.[24]	N/A
Cost	• Operating and maintenance costs of the supporting system pose a challenge to intervention implementation.[33]	N/A
Outer setting		
Patient needs and resources	• Inadequate family, financial and social support would pose negative influence on patients' post-discharge care.[24,25,29,30,32]	• Understanding patient's personal and family circumstances, as well as their needs, would facilitate the planning and implementation of interventions for reducing hospital readmission.[29,30]
	• Inaccuracy of patients' self-reported information would increase nurses' difficulties in identifying patient needs.[25,30]	• Good family support would help patients to better comply with the intervention.[29]

Table 3. Continued

	Barriers of Implementation	Facilitators of Implementation
	• Patients with mental health issues, as well as those who have high expectations on healthcare professionals and hospital care, may not accept the intervention.[24,32]	• Implementing the interventions with input from patients and caregivers allowed them to have a sense of ownership and collaboration. As stakeholders, their confidence about the intervention would hence increase.[32]
Cosmopolitanism	• One hospital decided against implementing follow-up appointments to hospital-owned services since it might be viewed as competitive by physicians in community practice.[10]	N/A
	• Loose connections between the hospital, primary care and social care organizations would result in barriers to information sharing, and subsequently affecting care coordination.[24,32]	N/A
External policy and incentives	N/A	• Promulgation of financial penalties for hospitals with high readmission rates could urge healthcare providers to implement interventions for reducing readmission.[10]
	N/A	• External support offered via quality improvement programs can encourage healthcare and social service providers to implement interventions for reducing hospital readmission.[26]
	N/A	• Sufficient funding and a reimbursement model accepted among intervention providers would promoted smooth implementation.[31,33]
Inner setting		
Structural characteristics	• Workflow and structure of various departments involved in implementing the interventions were not coordinated. The implementation process was thus incoherent.[9]	N/A
	• Implementation often requires inter-departmental support. Complexity and fragmentation of health and social care delivery systems would exacerbate difficulties in inter-departmental cooperation.[25]	N/A
Networks and communications	• Inadequate and ineffective communication in the multidisciplinary implementation teams hindered the information exchange.[10,25,33]	• Regular meetings and discussion in the multidisciplinary implementation teams allowed them to share latest information related to patients' discharge process with each other.[10,27]
	• Misunderstandings among multidisciplinary team members would lead to poor cooperation on the implementation process.[9,26]	• Multidisciplinary collaboration would strengthen the quality stability, adaptability and sustainability of intervention implementation.[25,26]
	N/A	• Close patient follow-up and timely information sharing between different providers are considered useful.[23,30,32,33]
Culture	• Implementation of interventions for reducing hospital readmission often includes changes in routine practice. Conservative organizational culture may contribute to a dominance of resistance to change among healthcare providers.[10]	• An organizational culture that valued quality improvement and accountability was essential for successful implementation.[10,26,28]
Implementation climate		
Compatibility	• Excessive workload brought by implementation of additional interventions for reducing hospital readmission would make providers feel exhausted.[26,31]	N/A

Table 3. Continued

	Barriers of Implementation	Facilitators of Implementation
	- Additional tasks would be required for implementing interventions for reducing hospital readmission. This might create tensions with existing workload among healthcare and social service providers.[9,26]	N/A
Relative priority	N/A	- When interventions for reducing readmission was recognized as a priority by the hospitals, healthcare providers would be more willing to implement the interventions.[26]
Goals and feedback	N/A	- Regular feedback enhanced healthcare and social service providers’ motivation of implementing interventions and helped them set goals.[26]
Learning climate	- Overlooking nurses’ efforts in learning how to improve the intervention would lower their motivations of implementation.[26]	N/A
Readiness for implementation		
Leadership engagement	- Lack of support from senior leaders in the organizations would restrict implementation.[27]	- Senior leaders would support their colleagues in integrating the interventions into routine practice.[10,27,28]
Available resources	- Limited resources (eg, a lack of manpower, diagnostic resources, training for multidisciplinary implementation team and time for interdisciplinary communication) might hinder different steps of implementation process.[9,24-26,28]	N/A
Access to knowledge and information	- Lack of formal training on how to implement the intervention may lead to confusion among nurses in the process.[26]	- Provision of tailored post-discharge services requires detailed needs assessment during the discharge planning process.[30]
	N/A	- Training providers on standardized intervention procedures increases confidence, and this can enable them to make timely adjustments for ensuring intervention fidelity.[23,26,33]
Characteristics of individuals		
Knowledge and beliefs about the intervention	- Physicians, nurses and case managers' lack of understanding about the interventions, and doubts concerning the interventions effectiveness would reduce the enthusiasm for implementation.[9,10,26]	- A better understanding on the differences between interventions for reducing hospital readmission and usual care among healthcare and social service providers would facilitate the implementation.[32]
	- Some physicians viewed the standardized approach of implementing the interventions as a threat to professional autonomy.[9,26]	- Familiarity with details of the intervention may improve acceptability among providers, promoting active implementation.[26]
Self-efficacy	- General practitioners may have no confidence in their capacity in handling complex patient cases discharged from hospitals.[24]	N/A

Table 3. Continued

	Barriers of Implementation	Facilitators of Implementation
Individual identification with organization	• Multidisciplinary implementation team members may perceive that the hospital management underestimated the difficulty of delivering the interventions.[10]	N/A
	• Physicians' low commitment to the organization discouraged other healthcare and social service providers to implement the interventions.[10,31]	N/A
Process		
Planning	• Plans that underestimate healthcare providers' workload would cause practical problems during implementation.[10]	N/A
	• Plans without clear division of labour would hinder cooperation among healthcare and social service providers.[9]	N/A
Engaging		
External change agents	N/A	• Technical assistance from experienced external advisors, consultants and quality improvement organizations can often provide professional support to new providers.[31,33]
Key stakeholders	• Lack of consensus among key stakeholders could led to unclear roles and responsibilities of among implementers themselves, or among external partners. This may have a negative impact on the team's workflow.[24,32,33]	N/A
Intervention participant	• Poor communication between providers, patients and their caregivers would pose negative influence on patients' confidence and compliance towards the interventions.[30,32]	N/A
	• Some patients failed to understand the discharge instructions from providers comprehensively.[24,25,29,30]	• Promoting patients' active participation can reduce unnecessary trivial work on the providers' side. Nurses' role in educating patients and caregivers on implementation details, and serving as coordinators can help service recipients to better understand and accept interventions.[29,30]
Reflecting and evaluating	• Delayed feedback might make providers feeling frustrated as their performance with current mode of delivery remain unclear.[26]	• Formative and summative assessments on the implementation process would facilitate targeted improvement in delivery process.[10,27]
	• Concerns with inaccuracy of performance-based evaluation of the intervention may worry the providers as they this may undermine their credit in delivering the intervention.[24]	N/A

Abbreviations: CFIR, Consolidated Framework for Implementation Research; N/A, not applicable.

process.[9] Besides, nurses and pharmacists indicated that additional tasks demanded in the peri-discharge intervention implementation checklist may not be compatible with routine workflow.[24,26] In general, innovations which are meant to assist implementation may indeed be recognized as barriers by implementers due to limited usefulness, or lack of integration with existing clinical pathways.

Compatibility: Since additional tasks would be required for implementing peri-discharge interventions, the workload of healthcare professionals would be increased.[9,31] Indeed, heavy workload was a common complaint made by healthcare professionals, especially when additional work were not compatible with established discharge routines.[9,31] Such incompatibility would cause tensions or even conflict among implementation leaders and frontline healthcare professionals, posing a significant hurdle to the change process.[9,26]

Readiness and Effort of Multidisciplinary Implementation Teams

This theme relates to how organizations, healthcare and social service providers are prepared for, and actually changing the routine practice to enable implementation of peri-discharge interventions.

Adaptability: Due to the diverse local contexts and different needs of individual patients and caregivers, healthcare professionals often consider peri-discharge interventions should not be standardized.[29,32] The intervention design and implementation process needs to be adapted to fit organizational and individual needs. The scope and complexity of tailoring such complex intervention may vary according to the local contexts in different healthcare systems.[26,27] This adaptation process represents another barrier to implementation for healthcare and social services providers, as extra tasks of need assessments and intervention modifications would add to the workload.

Networks and communications: The multidisciplinary implementation team usually comprises healthcare and social service providers working in different organizations. Inadequate and ineffective communication among the team members can hinder information exchange.[9,25,33] Inaccurate communication would subsequently lead to poor cooperation in the implementation process.[9,25,30,33] To overcome this barrier, leaders and managers found that regular meetings and discussions, as well as usage of shared electronic health record system can promote timely communication across all parties.[9,10,27,30,33] Efficient multidisciplinary communication is believed to enhance the stability and adaptability of the process, improve the quality and sustainability of implementation, and

Table 4. Overarching Thematic Areas Spanning Across Consolidated Framework for Implementation Research Constructs

Thematic Areas	Description	CFIR Construct (CFIR Domain)
Rationality of the interventions	This theme refers to the rationale and operability of intervention designs, focusing on the characteristics, support conditions as well as components of the interventions themselves. This included compatibility with the context and the practicality of supporting instruments and implementation processes.	• Evidence strength and quality *(intervention characteristics)* • Relative advantage *(intervention characteristics)* • **Complexity** *(intervention characteristics)* • **Design quality and packaging** *(intervention characteristics)* • **Compatibility** *(inner setting)* • Goals and feedback *(inner setting)* • Planning *(process)*
Readiness and effort of the multidisciplinary implementation teams	Organizations, healthcare and social service providers who implemented interventions were committed to change routine practice during the preparation and implementation phases. This included the establishment of internal mechanisms for support, personal awareness about the interventions and availability of execution plans.	• **Adaptability** *(intervention characteristics)* • Cost *(intervention characteristics)* • Structural characteristics *(inner setting)* • **Networks and communications** *(inner setting)* • **Culture** *(inner setting)* • Relative priority *(inner setting)* • Learning climate *(inner setting)* • **Leadership engagement** *(inner setting)* • **Available resources** *(inner setting)* • **Access to knowledge and information** *(inner setting)* • **Knowledge and beliefs about the intervention** *(characteristics of individuals)* • Self-efficacy *(characteristics of individuals)* • Individual Identification with organization *(characteristics of individuals)* • **Key stakeholders** *(process-engaging)* • Intervention participant – provider-patient communication *(process)* • **Reflecting and evaluating** *(process)*
External stakeholders	Involvement of patients and their caregivers, as well as all external providers and parties that influenced the process of implementation.	• **Patient needs and resources** *(outer setting)* • **Cosmopolitanism** *(outer setting)* • **External policy and incentives** *(outer setting)* • External change agents (process-engaging) • **Intervention participant** – patients confidence and compliance *(process)*

Abbreviation: CFIR, Consolidated Framework for Implementation Research.
Note: Constructs in bold were commonly reported constructs, which were described in at least three included studies. These commonly reported constructs were further introduced in the following sections.

therefore function as a facilitator.[23,25,32]

Culture and leadership engagement: Organizational culture which value quality improvement and accountability is considered as a key for successful implementation.[10,26,28] Meanwhile, a conservative organizational culture might contribute to healthcare providers' resistance to change.[10] This require proper handling from the senior management as the implementation of a new intervention almost always mandates changing the routine practice.[10] Given the cross – organizational nature of peri-discharge intervention, leadership support from different organizations involved in service provision is needed to facilitate effective implementation. Involving senior leaders in the implementation team could promote the use of novel interventions by subordinate team members internally, and also directly facilitate collaboration externally with other organizations.[34]

Available resources: Physicians, social workers, case managers and administrators reported a lack of resources to support additional work was a major implementation barrier.[9,24-26,28] For instance, insufficient manpower and training for a multidisciplinary implementation team, as well as limited time for communicating among team members, can hinder multiple steps in the implementation process.[9,25,26,28]

Access to knowledge and information: Nurses are often considered as the key link in the implementation process as they act as the "super connector" between patients, caregivers, different providers and organizations, coordinating flows of information required for successful implementation. Their practical knowledge on peri-discharge interventions' details is essential for their coordinating role, as other team members often depend on nurses for knowledge and information to decide how the intervention should be delivered based on patients' need.[26,33]

Knowledge and beliefs about the intervention: Knowledge on the effectiveness and value of the intervention is important for acceptance among physicians and nurses, motivating commitment to change current routine and implementing a new peri-discharge intervention.[9,10,26,32] Echoing the need for adaptation, standardized peri-discharge intervention strategies may be perceived as inappropriate among physicians. This belief may hinder implementation unless flexibility in intervention component is allowed,[9] but the tailoring process per se can subsequently increase implementation burden.

Key stakeholders: In the multi-disciplinary delivery of peri-discharge interventions, all providers are indeed key stakeholders. When organizations and implementers fail to reach a consensus on each other's roles and responsibilities, it is difficult for the whole team to cooperate.[24,32,33] Nurses could have a key role in fostering consensus across different organizations and providers, integrating different components of the peri-discharge interventions into a coherent workflow across hospital, primary care, social services, patients and caregivers.[32]

Reflecting and evaluating: Delayed feedback on how the intervention reduces readmission might make some case managers feel frustrated, as they became uncertain about the real-world effectiveness of peri-discharge intervention.[26] Meanwhile, clinicians may worry about the inaccuracy of performance indicators, as such inaccuracy may discredit their efforts in implementing the new intervention.[24,26] If the performance indicators are credible and acceptable among frontline providers, organizational leaders and administrators generally agreed that formative and summative assessments would facilitate improvement in implementation quality.[10,27]

External Stakeholders

This theme refers to the involvement of patients and their families, as well as other external parties that influenced the process of implementing interventions for reducing hospital readmission.

Patient needs and resources/intervention participant – patients' confidence and compliance: Detailed health needs assessment before discharge would facilitate case managers to plan suitable services for patients and caregivers.[24,29,30,32] Eliciting input from patients and caregivers allowed service recipients to have a sense of ownership and collaboration,[29] thus improving confidence and adherence to the interventions.[30,35] On the other hand, poor communication between intervention providers, patients and caregivers would decrease patients' confidence in the interventions,[26,30,32] decreasing the compliance and fidelity of the interventions.

However, some nurses suggested that patients' self-reported information might not be accurate, and there is no reliable assessment tools for planning peri-discharge interventions.[25] Also, some patients were unable to understand the discharge instructions or follow the plans completely.[24,29,30] Nurses and case managers indicated that inadequate family, financial and social support would lower patients' compliance with the prescribed intervention plan.[10,25,29,30,32] Finally, excessive anxiety among some patients regarding discharge itself is another reason for rejecting the intervention.[24] These observations suggests that not all patients are suitable to receive peri-discharge interventions.

Cosmopolitanism: In health systems which is not entirely tax funded, peri-discharge interventions may be resisted by external providers, such as community based primary care providers or social service institutions due to competition in the market.[10] In fact, weak linkage between the hospital and external providers of primary care and social services is a key barrier in integrating different service components in peri-discharge interventions,[24,32] as the nature peri-discharge intervention require inputs from different levels of health and social care at different settings.

External policy and incentives: External support to the hospital leading the implementation process, such as providing lists of primary and social care partners or patient education resources, can address implementation barriers which the hospital alone cannot tackle.[26,27,33] Promulgation of financial penalties for hospitals with high readmission rates could urge leaders and providers to implement interventions for reducing readmission.[10,31] The use of these policies requires a top-down change in regulation and reimbursement mechanisms, and how these would influence frontline providers' action is unclear.[36] It is suggested that the pros and cons of using these top-down mechanisms should be carefully considered, taking into account features of different health system contexts.[37]

Discussion

This systematic review of 13 qualitative studies identified barriers and facilitators to implementing peri-discharge interventions for reducing hospital readmission. Common barriers included (*i*) limited resources in terms of manpower and time, (*ii*) poor communication within the multidisciplinary implementation teams, (*iii*) incompatibility between additional requirements for intervention implementation and existing work demands, (*iv*) complicated implementation process in integrating service across organizations, (*v*) low practicality of supporting instruments, such as electronic health records, implementation checklists and service delivery guidelines, and (*vi*) implementation team members' lack of understanding about interventions' details and effectiveness. Common facilitators were (*i*) information sharing via regular meetings and timely communication within the multidisciplinary implementation teams, (*ii*) organizational culture that valued quality improvement and accountability, (*iii*) financial penalties for hospitals with high avoidable readmissions rates and external support offered via quality improvement programs and community resources, as well as (*iv*) senior leadership support.

Implications for Public and Policy

Existing literature provided general insights on how barriers mentioned above may be addressed, specifically on the main issues which we have identified as overarching themes. The first theme is readiness and effort of the multidisciplinary team in implementing peri-discharge interventions. Aside from a common commitment from the team in changing current practice, establishment of internal support mechanisms within a multi-professional network is one of the keys for implementation success. A scoping review of 99 studies indicated that training, education, as well as audit and feedback among healthcare providers were the most common strategies for improving compliance towards new intervention implementation.[35] Apart from providing clinical skills training, teamwork education would help the multidisciplinary team to value others' perspectives, as well as to foster collegial trust and respect in the implementation process.[34] Existing experience suggests that such educational program is effective in creating a positive culture of learning and collaboration within the implementation team.[34] Healthcare providers' social interaction skills can also be enhanced, which would then improve communications across team members in the complex process of implementation.[38]

The second overarching theme is external stakeholders' influence on peri-discharge interventions implementation. Echoing a previous systematic review of broader scope,[39] we observed that a top-down imperative of financial penalties is effective in driving the implementation of readmission prevention interventions. While a retrospective cohort study showed that financial penalties for hospitals with high readmissions are associated with a significant reduction of 30-day and 1-year readmissions, such policy may also lead to negative unintended consequences.[40] To avoid potential penalties, hospital management may "game the system" by increasing the percentage of patients placed on observation status instead of readmissions.[41] They may even aggressively reduce necessary readmissions, which may result in increased mortality.[40] With varying contexts and circumstances in different countries and healthcare systems, the application of financial penalties as an implementation intervention requires careful tailoring to avoid inadvertent harms to patients.

The last overarching theme is rationality of the peri-discharge interventions, of which strategies to ensure operability, compatibility with the health system context and the usefulness of instruments and tools for facilitating the implementation processes are regarded as important determinants for success. Complexity and design quality of peri-discharge interventions are important barriers identified in this systematic review. One possible strategy to simplify complexity is to focus on core interventions components that are found to be critical in leading to better outcomes. Perceived complexity can also be reduced by designing a well-supported clinical pathway, or by breaking down the complex interventions into more manageable parts and adopting them incrementally.[42] In addition, policymakers may place more emphasis on pilot testing the peri-discharge interventions using complexity reducing strategies described above, and subsequently fine-tune the interventions for better feasibility and adaptability prior to full-scale implementation.[43] Finally, it is important to highlight that involvement of patients and caregivers should be regarded as a core part in the design of peri-discharge intervention, as mentioned in our overarching theme of external stakeholder consideration.

A descriptive review of 70 cluster randomized controlled trials evaluating different implementation strategies for complex interventions indicated that the rationale and operational details of these strategies are often poorly reported.[44] For example, details on who, where and when to provide different components of the implementation interventions were often omitted, limiting their real-world replicability. Efforts are needed to improve reporting in accordance with the Standards for Reporting Implementation Studies guideline.[45]

In order to innovate implementation strategies that are tailored to local healthcare systems' context, in the future researchers may consider mapping our CFIR based findings onto the Expert Recommendations for Implementation Change (ERIC).[46,47] ERIC is an established catalogue of implementation strategies.[46] With the use of CFIR-ERIC Implementation Strategy Matching Tool, some of the suggestions made in this systematic review may be augmented to innovate implementation strategies.[47] For individual healthcare systems, implementation strategies may be adjusted and finalized using Delphi stakeholder consensus.[48] Through this process, stakeholders-endorsed implementation strategies may be contextualized to meet local needs, thus facilitating the implementation of peri-discharge interventions in a relevant manner. This challenging implementation process could be led by implementation support practitioners, who should possess a wide range of skills including knowledge on service improvement practice, change process management, evidence-based practice facilitation, and issues regarding hospital readmission in the local healthcare context.[49]

Strengths and Limitations

To ensure the methodological rigor of this systematic review, we applied an established methodological approach, including extensive literature search, methodological quality assessment and framework analysis. The use of CFIR also facilitated the categorization of barriers and facilitators that influenced the implementation.

Ten out of thirteen studies included in this systematic review were conducted in the United States. Such lack of diversity limits the generalizability of our findings. Also, trustworthiness of our findings may be limited by methodological flaws among included studies. For example, six studies did not discuss why the certain qualitative research design was chosen, and more than half of the included studies performed poorly on considering and reporting relationship between researchers and participants. Bias could influence results if there were conflicts of interest between researchers and participants. In the future, qualitative research on this topic should report such relationships transparently, and justify research approach used. Indeed, the number of qualitative implementation research published is small relative to the large amount of literature describing peri-discharge interventions. More implementation research is needed especially outside of the US health system.

For implementation problems, the Cochrane Collaboration currently recommends that qualitative and quantitative studies should be synthesized independently before integration.[50] Only qualitative studies are synthesized in this systematic review, and future work should integrate our findings to published quantitative synthesis on peri-discharge intervention effectiveness.[51-53] By using a logic model approach, such integration may inform the mechanisms of how implementation determinants may influence the delivery of different components of the complex peri-discharge interventions, which would eventually affect avoidable readmission incidence.[54]

Conclusion

This systematic review of qualitative findings synthesized barriers and facilitators to implementing peri-discharge interventions for reducing avoidable hospital readmission. Ensuring implementation fidelity, and active participation of patients and caregivers are key to reducing avoidable readmission successfully. This requires substantial commitment from both frontline providers and senior management given the complex nature of the intervention. We observed the importance of designing a well-supported pathway where responsibilities are clearly shared across partners. This demand managerial skills in promoting integrated care, as such interventions will always involve collaboration between hospital, primary care and social services. External resources support and financial mandates appeared to be key policy drivers for driving complex integrated care, as the former would ease additional burden of implementing new interventions, and the latter would influence sustainability of the healthcare organization. These implications are starting points for developing tailored implementation strategies for different healthcare systems via formative intervention mapping and consensus-seeking processes.

Ethical issues

All data for this study were obtained from existing publications, thus ethical approval was not required for this research.

Competing interests

Authors declare that they have no competing interests.

Authors' contributions

VCC conceptualized the purpose of this systematic review. CCZ and CHW conducted literature search. BQF, CCZ, and FFH conducted literature selection. BQF, CCZ, and CHW carried out methodological quality assessment, data collection, data analysis, and synthesis. BQF and CCZ wrote the first draft of the manuscript, and revisions were made together with CHW, PN, CTH, EKY, and VCC. All authors approved the final version and revisions.

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Supplementary files

Supplementary file 1. Enhancing Transparency in Reporting the Synthesis of Qualitative Research: The ENTREQ Statement Checklist.

Supplementary file 2. Search Strategy and Results.

Supplementary file 3. Search Strategy and Results of Updated Literature Search.

Supplementary file 4. Flowchart of Updated Literature Search and Selection Process for Studies Published Between 2020 to Oct 2021.

Supplementary file 5. Methodological Quality of Thirteen Included Qualitative Studies.

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Implementation fidelity of an Integrated Healthy Lifestyle Service: a process evaluation

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Keywords

public health; public health policy; health promotion

Abstract

Aims: The current study aimed to evaluate implementation fidelity of an Integrated Healthy Lifestyle Service (IHLS).

Methods: A pragmatic sample of 28 individual interviews and 11 focus groups were conducted. This resulted in a total of 81 (22 male) individuals comprising key stakeholders (n = 18), as well as intervention staff across senior management (n = 4), team lead (n = 14) and practitioner (n = 11) roles, and intervention clients (n = 34).

Results: A mixed degree of implementation fidelity was demonstrated throughout the five a priori fidelity domains of study design, provider training, intervention delivery, intervention receipt, and enactment. Stakeholders, staff and clients alike noted a high degree of intervention receipt across all services offered. Contrastingly, practitioners noted that they received minimal formal operational, data systems, clinical, and curriculum training as well as a lack of personal development opportunities. Consequently, practitioners reported low confidence in delivering sessions and collecting and analysing any data. A top-down approach to information dissemination within the service was also noted among practitioners which affected motivation and overall team morale.

Conclusion: Results can be used to conceptualise best practices as a process to further strengthen the design, delivery and recruitment strategies of the IHLS.

INTRODUCTION

Across three decades of health behaviour change intervention research, efficacy/effectiveness trials represent the dominant research design; only 3% are dissemination studies.[1] Consequently, a minority of interventions move from research into practice, and those that do, provide limited information on sustainability or institutionalisation within routine practice.[2] The continued lack of evidence for the successful institutionalisation of public health interventions in ‘real world’ settings, combined with high levels of ‘unhealthy’ behaviours worldwide,[3] makes addressing the research-to-practice gap a significant public health priority.[1] It is recommended therefore, that process evaluations of implementation fidelity become an integral part of the delivery and evaluation of all health behaviour change intervention research.[4]

Whether community-based multi-component interventions succeed at positively eliciting behaviour change or not, evaluations must ensure the accuracy of attributing outcomes to an intervention (internal validity) and that the results are generalisable to other populations (external validity).[5] If an intervention is not implemented as directed and no effect is found, then one cannot be sure whether this is due to lack of efficacy of the intervention or simply that it has not been implemented correctly.

The National Institute of Health’s (NIH) Behaviour Change Consortium (BCC) framework for tailored health behaviour interventions[6] is a comprehensive implementation fidelity framework specifically developed to provide guidance for the assessment, enhancement and monitoring of the implementation of health behaviour change

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interventions. This framework conceptualises fidelity across five domains including study design, provider training, intervention delivery, intervention receipt and enactment. Assessing these elements of implementation provides a set of guidelines for translating research into practice and enables more accurate inferences to be made about intervention effectiveness and any implications for wider roll out and implementation into 'real world' settings. Consequently, the NIH BCC framework[6] was deemed appropriate for the current study.

The aim of this process evaluation was to evaluate whether the observed Integrated Healthy Lifestyle Service (IHLS) was implemented as intended. This aim was in line with the following objective: evaluate implementation fidelity of a UK-based IHLS across the weight management (WM), smoking cessation, health walk, and National Health Service (NHS) health check services offered.

METHODS

The current study provides quantitative and qualitative data to assess the implementation fidelity of an IHLS. The observed IHLS focuses on reducing health inequalities among vulnerable and at-risk groups within areas of deprivation. Specifically, the WM and smoking cessation services are compliant with respective National Institute for Clinical Excellence (NICE) guidelines.[7,8] Compliance with such guidelines includes the recruitment, training and support of staff to ensure fidelity. The WM service is for all adults (aged $\geqslant$ 16 years) with a body mass index (BMI) of 30 kg/m^2 or above (or 27.5 kg/m^2 with comorbidities), with a focus on enabling clients from the 40% most deprived lower super output areas (LSOAs) to access the service. The smoking cessation service is suitable for clients of any age who have smoked a tobacco product in the last 48 h. The service can be accessed via self-referral or referral from a health or social care practitioner. Advice, behavioural support and encouragement to stop smoking is provided by IHLS practitioners.

The free health walk service is available to everyone living in the county of Suffolk. Over 200 walks are run and they are held on different days and times, and cater to all abilities. Finally, the IHLS offer NHS Health Checks to all adults aged 40–74 years in the county of Suffolk. This service is delivered in accordance with the NHS Health Checks delivered across England. Based on the information provided, personalised advice is given about improving diet, increasing physical activity, appropriate medicinal support, weight loss and smoking cessation. Where relevant, people who are eligible are referred onto other services offered by the IHLS.

The service is a partnership between a UK based university and is commissioned by a County Council in the East of England. The UK-based university commits a direct investment into research and evaluation to support the IHLS. This additional resource enables university hired researchers to conduct research such as the current evaluation as a process to further strengthen the design, delivery and recruitment strategies of the IHLS. Each service is predominantly developed and delivered in line with the required annual key performance indicators (KPIs) as stipulated by the commissioning body.

Design

A qualitative research design was adopted to enable a deep understanding of IHLS implementation fidelity. Between February and June 2019, a pragmatic sample of 28 individual interviews and 11 focus groups (mean size = 6 participants, standard deviation (SD) = 0.8) took place. This resulted in a total of 81 (22 male) individuals comprising leadership team members (i.e. key stakeholders and commissioners, n = 18), IHLS staff across senior management (n = 4), team lead (n = 14) and practitioner roles (n = 11), as well as IHLS clients (n = 34 across WM n = 12, smoking cessation n = 7, health walk n = 11, and National Health Service (NHS) health check services n = 4). Clients who were currently attending or had attended one or multiple IHLS services in the last 12 months were interviewed. The duration of individual interviews was between 17 and 60 min (mean = 31 min, SD = 11.2) and focus groups was between 27 and 50 min (mean = 38 min, SD = 5.7).

All interviews and focus groups were conducted using a semi-structured interview guide including open- and closed-ended items. Two separate interview guides were developed to be appropriate for leadership team members and IHLS staff (23 questions) (i.e. questions focused upon study design, provider training and intervention delivery), as well as client (19 questions) interviews and focus groups (i.e. questions focused upon intervention receipt and enactment), respectively. Focus groups were homogeneous with each group composed of similar others only. Specifically, separate focus group sessions were conducted with IHLS clients, IHLS practitioners from WM, smoking cessation, health walk, and NHS health check services, IHLS team leads, and IHLS senior management members.

To maximise interaction between participants and the first author, interview questions were reviewed by the project team for appropriateness of question order and flow. The NIH BCC framework[6] advocates a whole systems approach to evaluation design and thus, key stakeholders, IHLS staff and clients themselves were given the opportunity to contribute to the interview and focus group transcripts in its design phase. Consequently, questions demonstrated aspects of face validity as they were transparent and relevant to both the *a priori* NIH BCC framework and target population.[9] Objectivity was maintained by the lead investigator as the resultant qualitative data aligned to the *a priori* NIH-BCC framework and was fit to serve as evidence for satisfying the research question[10] of evaluating implementation fidelity of a UK-based IHLS.

Institutional ethical approval was received by Leeds Beckett University's Research Ethics Sub Committee (application reference 57353) and written informed consent was obtained for all participants prior to participation. Interview and focus group locations were free from background noise, where interviewees could be overlooked but not overheard. Interviews were digitally recorded and transcribed verbatim. The text for each interview was sequentially labelled with numbers to identify the sentences that belonged to the participant or interviewer.[11] All data were anonymised and transcripts coded throughout to ensure confidentiality. Verbatim transcripts were read and re-read to allow familiarisation of the data.

Data coding and analysis

The pen profile approach presents findings from content analysis via a diagram of composite key emerging themes. This approach has been used in recent health behaviour change research in children[12] and older adults.[13] In summary, deductive content analysis was initially adopted to categorise interview and focus group data into the five NIH BCC framework fidelity domains. To exemplify operationalisation of the NIH BCC framework,[6] inductive analysis allowed emergent themes to be retrospectively applied into relevant a priori fidelity domains.

Data were then organised schematically to assist with interpretation of the themes.[14] Verbatim quotations were subsequently used to expand the pen profiles, provide context and verify participant responses. Quotations were labelled by interview number (In)/focus group number (Fgn) and subsequent participant number (Pn), respectively. Characterising traits of this protocol include details of frequency counts and extracts of verbatim quotes to provide context to the themes. A minimum threshold for theme inclusion was based on comparable participant numbers within previous research adopting a pen profiling approach[12] and hence, was set at $\geqslant n=5$, with n representing individual 'mentions' per participant; multiple 'mentions' by the same participant were only counted once. Previous studies[13] have demonstrated the applicability of this method in representing analysis outcomes within public health research, making it accessible to researchers who have an affinity with both quantitative and qualitative backgrounds.[12]

Methodological rigour was demonstrated through a process of triangular consensus between the research team. This offered transparency, credibility and trustworthiness of the results, as the data were critically reviewed using a reverse tracking process from the pen profiles back to the verbatim transcripts, providing alternative interpretations of the data.[15] All investigators were in agreement with the initial interpretation of results made by the lead investigator.

RESULTS

The five NIH BCC framework[6] fidelity domains along with emergent themes are presented through the following five figures (Figures 1, 2, 3, 4 and 5).

DISCUSSION

Through the adoption of a comprehensive implementation fidelity framework developed by the NIH BCC for tailored health behaviour interventions,[6] this study draws on qualitative interview and focus group data sources to provide a comprehensive exploration of a UK-based IHLS implementation fidelity.

Study design

Study design fidelity ensures procedures are put in place to ensure equivalent content both within and across conditions, as well as creating plans to deal with possible setbacks during implementation.[6] Results revealed an overall positive perception of the sessions across the board. Specifically, the skeleton curriculum has been developed in line with NICE guidelines,[7,8] however, the IHLS further extends this by introducing the four key constituents of the Self Theory,[16] which include self-awareness, self-regulation, self and others, and self-reliance. It's the core self that the IHLS trains and supports specialised practitioners to deliver and promote to better meet the individual needs of the client (e.g. individualised goals based upon history, goals and ability) to promote sustainable long-term health behaviour change. This resulted in varying numbers, types and timings of delivered components in every session, even between sessions delivered by the same practitioners. It has been demonstrated that a strict protocol consisting of the same components for all clients regardless of ability may result in decreased client engagement, motivation and subsequent retention.[17] Previous research[18] also advocated for certain levels of flexibility and progressions in session content based upon client requests and levels of ability given that such serves to allow better tailoring of the intervention to the local context. However, the skeleton curriculum comprising of core session components ensured fidelity, and therefore internal validity was maintained throughout the services. Incorporating both quantitative (e.g. frequency counts of number of session items delivered) and qualitative (e.g. interviews and focus groups) measures of implementation fidelity through comprehensive frameworks such as the NIH BCC framework[6] can allow future researchers to accurately measure delivery and session impact and consequently, whether the intervention is perceived to be efficacious to behaviour change from both practitioner and client viewpoints.

There were overall negative comments regarding integration between stakeholders, as well as intervention staff. A top-down approach to information dissemination was noted among practitioners which affected staff motivation and overall team morale. Specifically, practitioners noted never receiving information and/or updates on the involvement of wider stakeholders such as research partners.

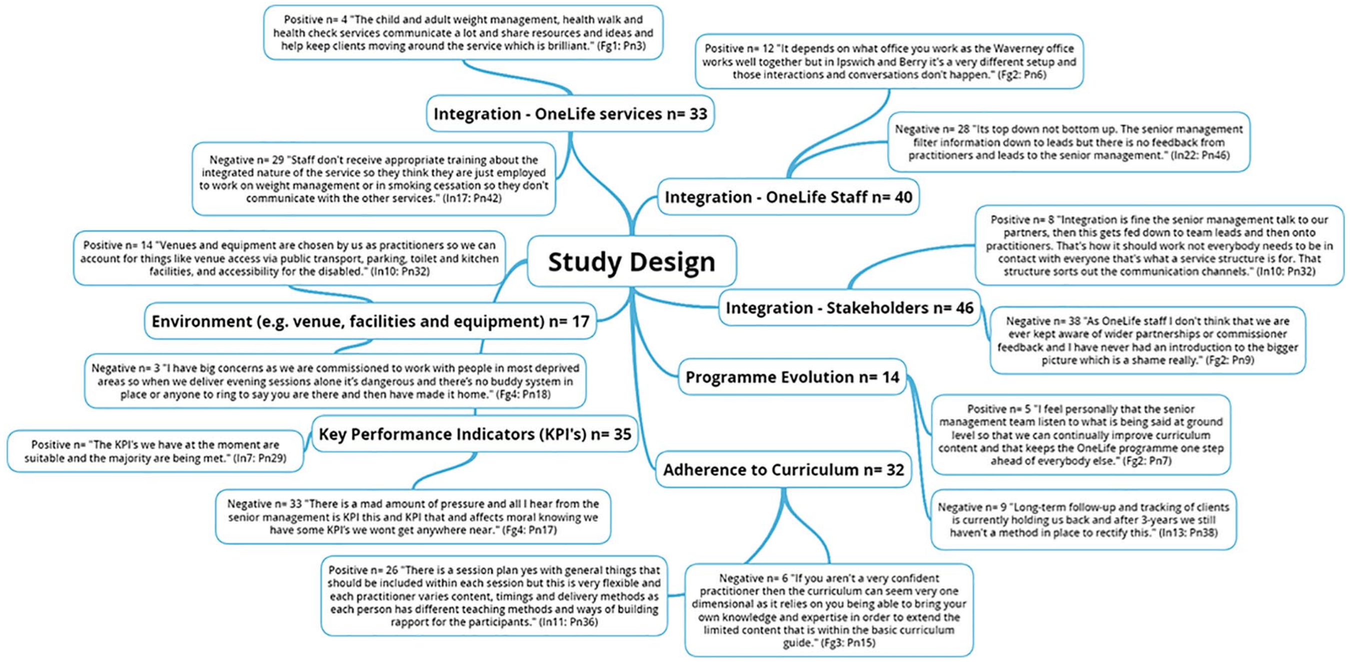
Provider training

Training practitioners to faithfully deliver multi-component interventions is a major challenge and thus, ongoing evaluation of implementation is a key element of fidelity as this ensures practitioners have been satisfactorily trained to deliver the intervention as intended.[6] Previous literature has identified the following organisational barriers to practice change: staff members' lack of belief in the utility and feasibility of the organisations' values, limited motivation and training of staff, insufficient support from administration, inadequate staffing levels, competing workload concerns, staff turnover, costs of the intervention,

Figure 1

National Institute of Health (NIH) Behaviour Change Consortium (BCC) core fidelity domain of study design and emergent themes.

n: individual mentions per person (multiple mentions not included); Fgn: focus group number; In: interview number; Pn: participant number.



Positive n= 4 "The child and adult weight management, health walk and health check services communicate a lot and share resources and ideas and help keep clients moving around the service which is brilliant." (Fg1: Pn3)

Negative n= 29 "Staff don't receive appropriate training about the integrated nature of the service so they think they are just employed to work on weight management or in smoking cessation so they don't communicate with the other services." (In17: Pn42)

Positive n= 12 "It depends on what office you work as the Waverney office works well together but in Ipswich and Berry it's a very different setup and those interactions and conversations don't happen." (Fg2: Pn6)

Negative n= 28 "Its top down not bottom up. The senior management filter information down to leads but there is no feedback from practitioners and leads to the senior management." (In22: Pn46)

Positive n= 8 "Integration is fine the senior management talk to our partners, then this gets fed down to team leads and then onto practitioners. That's how it should work not everybody needs to be in contact with everyone that's what a service structure is for. That structure sorts out the communication channels." (In10: Pn32)

Negative n= 38 "As OneLife staff I don't think that we are ever kept aware of wider partnerships or commissioner feedback and I have never had an introduction to the bigger picture which is a shame really." (Fg2: Pn9)

Positive n= 14 "Venues and equipment are chosen by us as practitioners so we can account for things like venue access via public transport, parking, toilet and kitchen facilities, and accessibility for the disabled." (In10: Pn32)

Negative n= 3 "I have big concerns as we are commissioned to work with people in most deprived areas so when we deliver evening sessions alone it's dangerous and there's no buddy system in place or anyone to ring to say you are there and then have made it home." (Fg4: Pn18)

Positive n= 5 "I feel personally that the senior management team listen to what is being said at ground level so that we can continually improve curriculum content and that keeps the OneLife programme one step ahead of everybody else." (Fg2: Pn7)

Negative n= 9 "Long-term follow-up and tracking of clients is currently holding us back and after 3-years we still haven't a method in place to rectify this." (In13: Pn38)

Positive n= "The KPI's we have at the moment are suitable and the majority are being met." (In7: Pn29)

Negative n= 33 "There is a mad amount of pressure and all I hear from the senior management is KPI this and KPI that and affects moral knowing we have some KPI's we wont get anywhere near." (Fg4: Pn17)

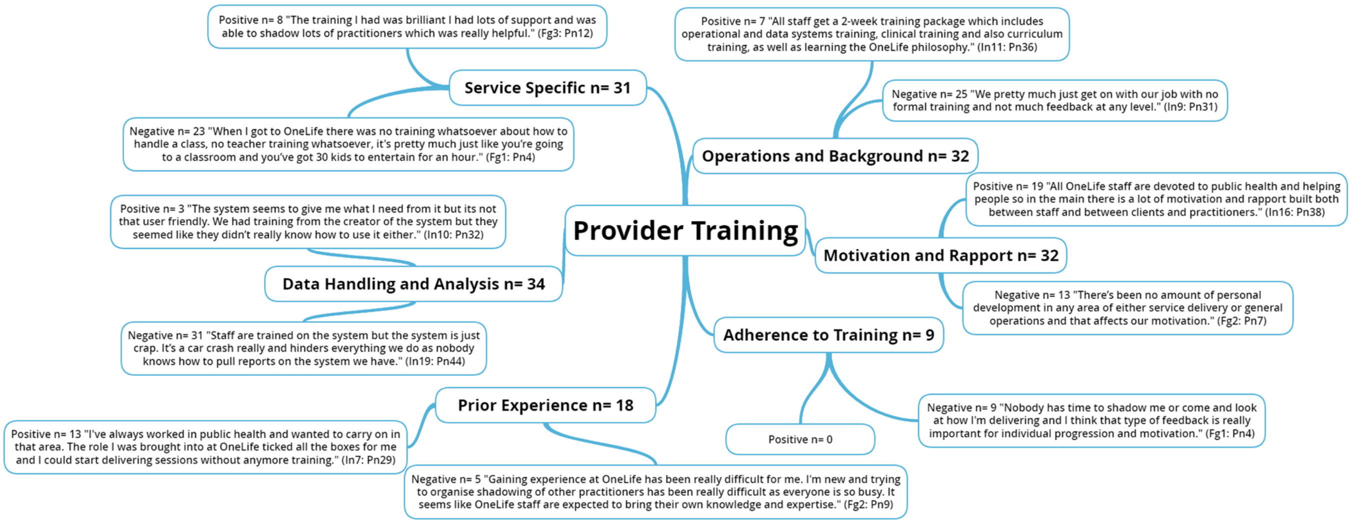
Positive n= 26 "There is a session plan yes with general things that should be included within each session but this is very flexible and each practitioner varies content, timings and delivery methods as each person has different teaching methods and ways of building rapport for the participants." (In11: Pn36)

Negative n= 6 "If you aren't a very confident practitioner then the curriculum can seem very one dimensional as it relies on you being able to bring your own knowledge and expertise in order to extend the limited content that is within the basic curriculum guide." (Fg3: Pn15)

Figure 2

National Institute of Health (NIH) Behaviour Change Consortium (BCC) core fidelity domain of provider training and emergent themes.

n: individual mentions per person (multiple mentions not included); Fgn: focus group number; In: interview number; Pn: participant number.



Positive n= 8 "The training I had was brilliant I had lots of support and was able to shadow lots of practitioners which was really helpful." (Fg3: Pn12)

Negative n= 23 "When I got to OneLife there was no training whatsoever about how to handle a class, no teacher training whatsoever, it's pretty much just like you're going to a classroom and you've got 30 kids to entertain for an hour." (Fg1: Pn4)

Positive n= 7 "All staff get a 2-week training package which includes operational and data systems training, clinical training and also curriculum training, as well as learning the OneLife philosophy." (In11: Pn36)

Negative n= 25 "We pretty much just get on with our job with no formal training and not much feedback at any level." (In9: Pn31)

Positive n= 19 "All OneLife staff are devoted to public health and helping people so in the main there is a lot of motivation and rapport built both between staff and between clients and practitioners." (In16: Pn38)

Negative n= 13 "There's been no amount of personal development in any area of either service delivery or general operations and that affects our motivation." (Fg2: Pn7)

Positive n= 3 "The system seems to give me what I need from it but its not that user friendly. We had training from the creator of the system but they seemed like they didn't really know how to use it either." (In10: Pn32)

Negative n= 31 "Staff are trained on the system but the system is just crap. It's a car crash really and hinders everything we do as nobody knows how to pull reports on the system we have." (In19: Pn44)

Negative n= 9 "Nobody has time to shadow me or come and look at how I'm delivering and I think that type of feedback is really important for individual progression and motivation." (Fg1: Pn4)

Positive n= 13 "I've always worked in public health and wanted to carry on in that area. The role I was brought into at OneLife ticked all the boxes for me and I could start delivering sessions without anymore training." (In7: Pn29)

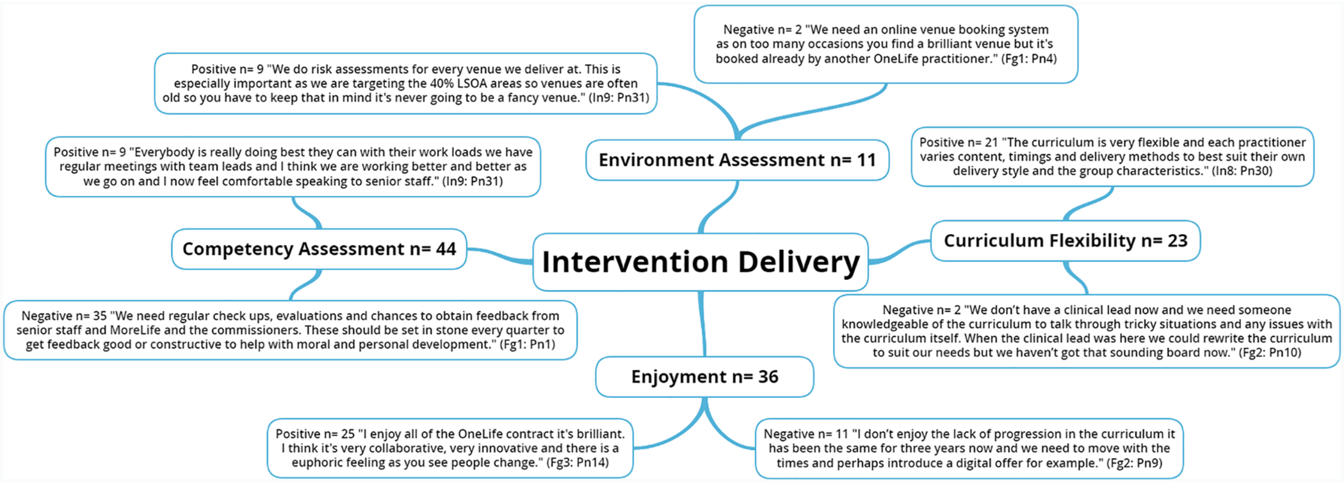
Negative n= 5 "Gaining experience at OneLife has been really difficult for me. I'm new and trying to organise shadowing of other practitioners has been really difficult as everyone is so busy. It seems like OneLife staff are expected to bring their own knowledge and expertise." (Fg2: Pn9)

and lack of fit between the intervention and the target population.[19] Staff development is key to ensuring intervention effectiveness and overall success.[20] Yet, staff education is often overlooked in the initial design of health behaviour change interventions.[21] Although senior management members noted that general operational, data systems, clinical, and curriculum training took place on a regular basis, this training was deemed to be insufficient by

Figure 3

National Institute of Health (NIH) Behaviour Change Consortium (BCC) core fidelity domain of intervention delivery and emergent themes.

n: individual mentions per person (multiple mentions not included); Fgn: focus group number; In: interview number; Pn: participant number.



Negative n= 2 "We need an online venue booking system as on too many occasions you find a brilliant venue but it's booked already by another OneLife practitioner." (Fg1: Pn4)

Positive n= 9 "We do risk assessments for every venue we deliver at. This is especially important as we are targeting the 40% LSOA areas so venues are often old so you have to keep that in mind it's never going to be a fancy venue." (In9: Pn31)

Positive n= 9 "Everybody is really doing best they can with their work loads we have regular meetings with team leads and I think we are working better and better as we go on and I now feel comfortable speaking to senior staff." (In9: Pn31)

Positive n= 21 "The curriculum is very flexible and each practitioner varies content, timings and delivery methods to best suit their own delivery style and the group characteristics." (In8: Pn30)

Negative n= 35 "We need regular check ups, evaluations and chances to obtain feedback from senior staff and MoreLife and the commissioners. These should be set in stone every quarter to get feedback good or constructive to help with moral and personal development." (Fg1: Pn1)

Negative n= 2 "We don't have a clinical lead now and we need someone knowledgeable of the curriculum to talk through tricky situations and any issues with the curriculum itself. When the clinical lead was here we could rewrite the curriculum to suit our needs but we haven't got that sounding board now." (Fg2: Pn10)

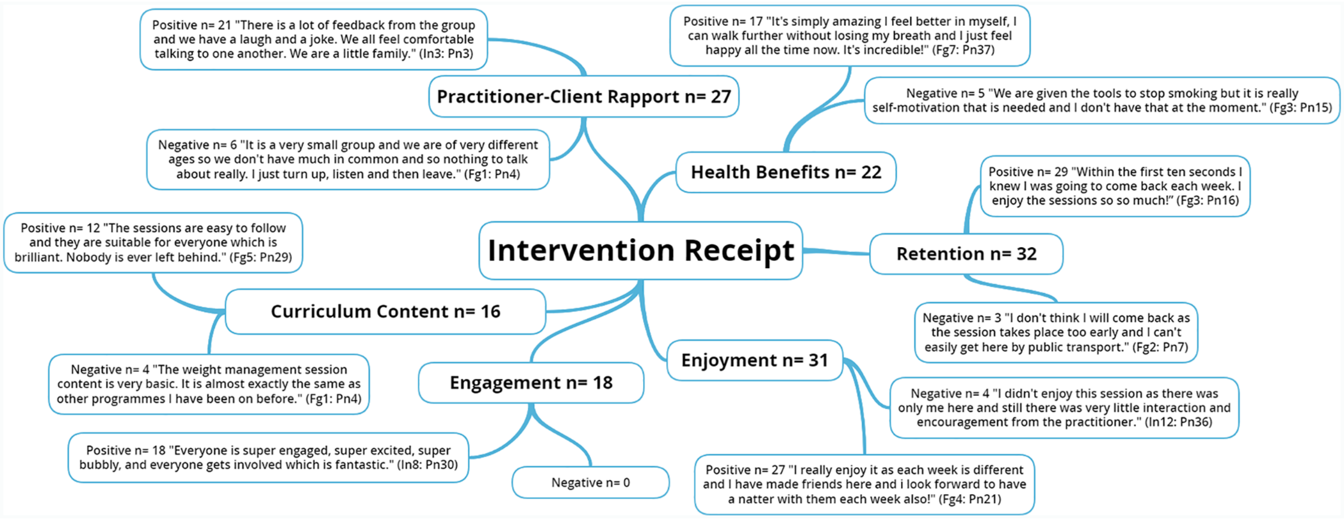
Positive n= 25 "I enjoy all of the OneLife contract it's brilliant. I think it's very collaborative, very innovative and there is a euphoric feeling as you see people change." (Fg3: Pn14)

Negative n= 11 "I don't enjoy the lack of progression in the curriculum it has been the same for three years now and we need to move with the times and perhaps introduce a digital offer for example." (Fg2: Pn9)

Figure 4

National Institute of Health's (NIH) Behaviour Change Consortium (BCC) framework core fidelity domain of intervention receipt and emergent themes.

n: individual mentions per person (multiple mentions not included); Fgn: focus group number; In: interview number; Pn: participant number.



Positive n= 21 "There is a lot of feedback from the group and we have a laugh and a joke. We all feel comfortable talking to one another. We are a little family." (In3: Pn3)

Positive n= 17 "It's simply amazing I feel better in myself, I can walk further without losing my breath and I just feel happy all the time now. It's incredible!" (Fg7: Pn37)

Negative n= 5 "We are given the tools to stop smoking but it is really self-motivation that is needed and I don't have that at the moment." (Fg3: Pn15)

Negative n= 6 "It is a very small group and we are of very different ages so we don't have much in common and so nothing to talk about really. I just turn up, listen and then leave." (Fg1: Pn4)

Positive n= 29 "Within the first ten seconds I knew I was going to come back each week. I enjoy the sessions so so much!" (Fg3: Pn16)

Positive n= 12 "The sessions are easy to follow and they are suitable for everyone which is brilliant. Nobody is ever left behind." (Fg5: Pn29)

Negative n= 3 "I don't think I will come back as the session takes place too early and I can't easily get here by public transport." (Fg2: Pn7)

Negative n= 4 "The weight management session content is very basic. It is almost exactly the same as other programmes I have been on before." (Fg1: Pn4)

Negative n= 4 "I didn't enjoy this session as there was only me here and still there was very little interaction and encouragement from the practitioner." (In12: Pn36)

Positive n= 18 "Everyone is super engaged, super excited, super bubbly, and everyone gets involved which is fantastic." (In8: Pn30)

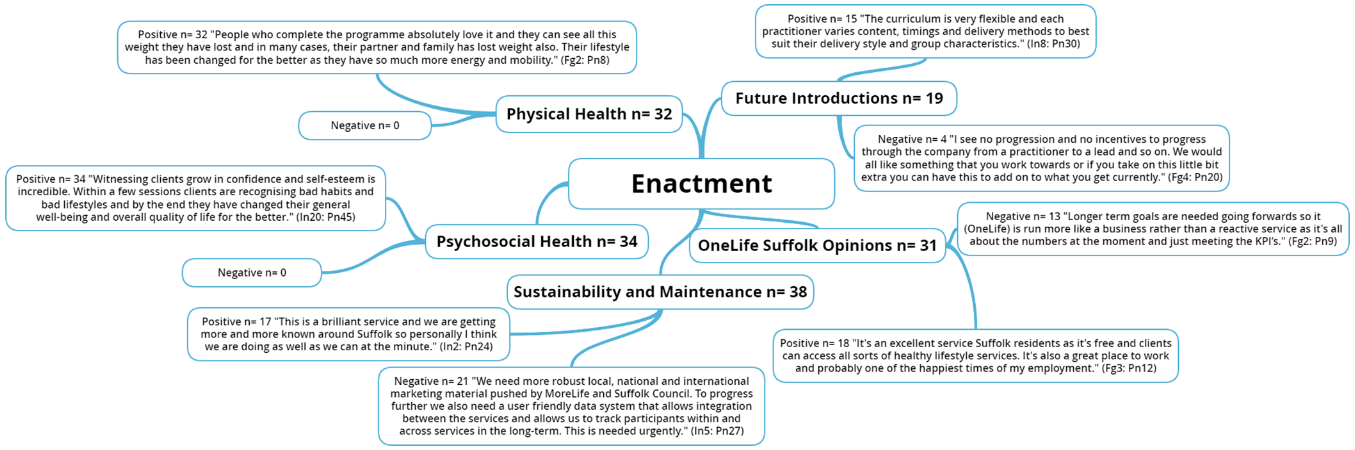
Positive n= 27 "I really enjoy it as each week is different and I have made friends here and i look forward to have a natter with them each week also!" (Fg4: Pn21)

practitioners and team leads. This affected confidence in delivering sessions as well as collecting and analysing client data. Practitioners noted a desire for feedback and comments (positive and/or constructive criticism) from those more experienced than them at regular intervals (e.g. quarterly). Peer support is a key reinforcing factor associated with the PRECEDE-PROCEED model of health programme design, implementation and evaluation[22] that has been shown to increase motivation and adherence to intervention objectives.[23] Practitioners also noted they were expected to bring prior knowledge and experience into their roles as only baseline knowledge of safety measures and the psychology behind the inception of the curriculum were provided by the IHLS. This approach to training was daunting for staff with limited prior knowledge and experience and often led to increased anxiety and decreased motivation, rapport and team morale. The importance of practitioner engagement and motivation has been identified as a key determinant affecting fidelity to provider training.[24]

Figure 5

National Institute of Health (NIH) Behaviour Change Consortium (BCC) core fidelity domain of enactment and emergent themes.

n: individual mentions per person (multiple mentions not included); Fgn: focus group number; In: interview number; Pn: participant number.



Positive n= 32 "People who complete the programme absolutely love it and they can see all this weight they have lost and in many cases, their partner and family has lost weight also. Their lifestyle has been changed for the better as they have so much more energy and mobility." (Fg2: Pn8)

Positive n= 34 "Witnessing clients grow in confidence and self-esteem is incredible. Within a few sessions clients are recognising bad habits and bad lifestyles and by the end they have changed their general well-being and overall quality of life for the better." (In20: Pn45)

Positive n= 17 "This is a brilliant service and we are getting more and more known around Suffolk so personally I think we are doing as well as we can at the minute." (In2: Pn24)

Negative n= 21 "We need more robust local, national and international marketing material pushed by MoreLife and Suffolk Council. To progress further we also need a user friendly data system that allows integration between the services and allows us to track participants within and across services in the long-term. This is needed urgently." (In5: Pn27)

Positive n= 15 "The curriculum is very flexible and each practitioner varies content, timings and delivery methods to best suit their delivery style and group characteristics." (In8: Pn30)

Negative n= 4 "I see no progression and no incentives to progress through the company from a practitioner to a lead and so on. We would all like something that you work towards or if you take on this little bit extra you can have this to add on to what you get currently." (Fg4: Pn20)

Negative n= 13 "Longer term goals are needed going forwards so it (OneLife) is run more like a business rather than a reactive service as it's all about the numbers at the moment and just meeting the KPI's." (Fg2: Pn9)

Positive n= 18 "It's an excellent service Suffolk residents as it's free and clients can access all sorts of healthy lifestyle services. It's also a great place to work and probably one of the happiest times of my employment." (Fg3: Pn12)

Those who believe in the value of the intervention are more likely to fully engage with the training.[4] Positive comments around practitioner motivation and rapport were, however, echoed throughout the leadership team members (i.e. key stakeholders and commissioners), senior management, management and team leads, as well as practitioners themselves. Practitioners were described by senior management members and team leads as fully engaged and motivated to deliver sessions due to their strong beliefs in the potential benefits of the intervention to client's physical and psychosocial health. Practitioners themselves echoed such thoughts despite their concerns regarding a lack of operational, data systems, clinical, and curriculum training. Specifically, effective practitioners were those who; provided clear and concise instructions both before and during each session; where relevant, demonstrated session components both verbally and visually to provide a reference for required skills and techniques; and where relevant, set out a target for clients during each session (e.g. quit date, weight loss target, etc.).

Along with incorporating prior knowledge and expertise, practitioners also received a service specific instructor manual, detailing a flexible list of components that could be included within sessions. A previous evidence-based group health behaviour change intervention (Healthy IDEAS) noted that providing practitioners with detailed scripts, descriptions and guidelines for each intervention component could increase fidelity to provider training.[25]

Intervention delivery

Fidelity to intervention delivery is considered the 'heart of fidelity assessment in behavioural interventions'[26] but has historically been insufficiently considered.[27] Intervention delivery and environment assessments are crucial to ensure intervention results are truly attributable to the programme (internal validity) and that the results are generalisable to other study populations (external validity).[5] There was no formal structure for competency assessment of practitioners. Regular check-ups, evaluations and feedback sessions by senior management members and team leads experienced in the design and structure of the intervention sessions are warranted to ensure the delivery and receipt of the intervention are in line with the stated aims and objectives.[27]

Client enjoyment is also a key component of intervention delivery and a core component of the National Institute for Health and Care Excellence (NICE) good practice in behaviour change guidelines.[28] Specifically, each service assessed client enjoyment and satisfaction twice (i.e. mid-way and final session) through an informal focus group session, which asked clients about satisfaction with the service sessions and the practitioner. It is to be expected that practitioners potentially became more proficient in delivery with increased experience throughout the intervention and consequently, future process evaluations should extend the current approach adopted by including formal client enjoyment and satisfaction assessments at the mid-way (where appropriate) and end points of the intervention.[29]

Environmental assessment is also a key aspect of implementation fidelity and includes venue location, size, access, facilities, availability of equipment and materials, and session timing.[30] Intervention sessions were implemented throughout several differing locations (e.g. leisure centres, church halls, school halls, libraries, theatres, and retirement homes). Venues and safety assessments for each service were chosen and carried out by the practitioner(s) leading the intervention to ensure that the location, access via personal and public transport, disability access, kitchen and toilet facilities, space, and equipment were suitable for the needs of the target population. Intervention fidelity was further ensured through sufficient availability of equipment at each session. This was provided either by the venue itself (e.g. chairs and music systems) or by the IHLS (e.g. fitness bands, weight loss guides and smoking cessation aids). However, neighbourhood safety was noted by team leads and practitioners to be a major concern due to the 40% most deprived layer super output areas targeted across each of the services as stipulated by the current key performance indicators. Neighbourhood environmental factors such as health behaviour change provision, proximity, traffic volume, population density, crime rate, geographical location, perceived neighbourhood safety, perceptions of a conducive health behaviour change physical environment (e.g. benches available throughout the community), and overall deprivation are important correlates affecting participation in community-based health behaviour change interventions.[13] Declining health and physical impairments associated with ageing increase the time spent in ones' neighbourhood and could have further enhanced such perceptions.[13] Given the average age of an IHLS client is 57 years old, further methods of neighbourhood safety assessment are warranted to ensure safety to clients and practitioners alike.

Intervention receipt

Fidelity related to intervention receipt concerns both documenting client exposure to the treatment and the ability of clients to understand and perform treatment-related activities and strategies during treatment delivery. Although no formal outcome data for client intervention receipt was captured by the WM, smoking cessation, health walk, and NHS health check services offered, a short amount of time (~5 mins) was built into the end of each of the sessions throughout all offered services. This allowed clients to informally feedback positive and negative comments to practitioners verbally. This, along with the clear, concise demonstrations and instructions provided by knowledgeable practitioners, ensured a high level of rapport was built and maintained between practitioners and clients. Consequently, physical (e.g. improved balance and flexibility) and psychosocial (e.g. self-perceived quality of life and sense of wellbeing) health benefits were recognised by both clients and practitioners as each session was comprehended and engaged with as intended.[5] As is recommended in the NIH BCC framework guidelines, intervention practitioners demonstrated session elements verbally and visually to ensure client comprehension of each element[31] and thus, ensuring client comprehension. Client confidence and enjoyment were therefore high throughout all services. Clients also noted wanting to carry on attending services beyond the initial 12-week intervention and where relevant, expressed interest in joining another one of the offered services. Concurrent with recent health behaviour change intervention research,[31] as a further measure of receipt, practitioners monitored client 'dose' by noting attendance and attrition through a weekly register. The subsequent high rates of client retention across all services further solidifies the efficacy of the practitioner's knowledge and enthusiasm, curriculum content and thus, overall intervention receipt.

Enactment

Fidelity to treatment enactment concerns the client's ability to implement the learned skills and activities in 'real world' settings.[5] Although not formally captured through objective and/or self-report measures, session value in terms of physical and psychological benefits were recognised informally. Practitioners also noted the importance of the social aspect of the sessions. Social support is associated with behaviour change adherence and maintenance.[32] Overall, client centred, personalised interventions starting with professional and tailored guidance and providing ongoing support throughout and beyond the intervention lead to the highest success rates.[33] Moreover, social support has been recognised as an important social determinant of psychosocial health and studies have demonstrated a relationship between social support and quality of life,[34] self-rated health,[35] and self-efficacy for exercise.[36] Social interaction has been identified as an important facilitator for the sustainability of long-term health behaviour change, and hence fidelity to treatment enactment.[32] Certain targeted intervention strategies increase the positive effects of socialisation by providing an opportunity for clients from differing deprivation areas to take part in activities within local community spaces (e.g. parks, leisure centres and churches) that promote social networking by encouraging camaraderie, adaptability and productive engagement, without the pressure to perform.[37] It is recommended that future research examines the impact of social support on initial IHLS attendance, as well as session value in terms of physical and psychological benefits to confirm the literary suppositions detailed. The mixed implementation fidelity results outlined are in line with a recent systematic review[31] also underpinned by the NIH BCC framework which found fidelity measurement to be highly heterogeneous both conceptually and methodologically. Clearer articulation of appropriate measurement approaches for each NIH BCC fidelity domain are needed to improve the methodological quality of fidelity assessment in health behaviour change interventions.

A strength of the evaluation was the comprehensive assessment of intervention fidelity using multiple sources of data based on the NIH BCC framework for tailored health behaviour interventions.[6] The triangulation of data, utilising multiple methods of qualitative data alongside quantitative data is a further strength which enhanced understanding of intervention implementation and subsequently, overall intervention fidelity. Finally, to ensure completeness, the manuscript was prepared in line with the 21-point checklist outlined in the Standards for Reporting Qualitative Research (SRQR).[38] Study limitations are also noted. A small pragmatic sub-sample of clients from one session of each of the offered services were recruited and hence results cannot be considered representative. The subjective nature of the data is also a limitation, as is the presence of self-selection bias which resulted from the pragmatic sampling methods adopted. One of the key benefits of assessing implementation fidelity is to allow for the early detection of errors to prevent protocol deviations from becoming widespread and long lasting before their implementation into 'real world' settings and hence, the post hoc analysis design is a limitation.[18] However, within 'real world' settings there is a much greater blurring of the boundaries between evaluations of efficacy and effectiveness and thus, it is entirely appropriate to measure implementation fidelity and to use this information to explain variations in effectiveness.[39] This allows for more informed decision making about the commissioning and roll out of the intervention/s in any subsequent settings.[39] Post hoc fidelity analysis has been adopted previously when evaluating multi-component health behaviour change interventions[29] and thus, was deemed suitable for adoption in the current study.

CONCLUSION

While recognising that there have been challenges in delivering an innovative service, this process evaluation highlighted several positive parts of the service including the capabilities of practitioners in building rapport with clients and delivering effective, impactful and individually tailored sessions. Furthermore, the balancing act of focusing on client numbers while also delivering effective, individually tailored sessions evidences the highly motivated and adaptive nature of staff in the pursuit for the promotion of sustainable long-term health behaviour change. These findings outline the massively positive ground level impact of the IHLS despite navigating the dynamic nature of an organisation in 'real world' settings (i.e. commissioner KPI targets, staff resources and data systems). The evaluation also highlighted several areas that require service evolution to address practitioner, service user and stakeholder concerns. Specifically, there was minimal formal operational, data systems, clinical, and curriculum training as well as a lack of personal development opportunities. Consequently, practitioners reported low confidence in delivering sessions and collecting and analysing any data. A top-down approach to information dissemination within the service was also noted among practitioners which affected motivation and overall team morale. Results can be used to further strengthen the design, delivery, recruitment, and communication strategies of the IHLS to conceptualise best practices as a process for planning future interventions that will be appropriate across multiple settings and populations.

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CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

CONSENT FOR PUBLICATION

In accordance with the ethical approvals mentioned all participants consented for their data to be included in the published manuscript.

ETHICAL APPROVAL

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AVAILABILITY OF DATA AND MATERIALS

Participants did not provide informed consent and assent for non-anonymised transcript and survey data to be shared beyond the research team, therefore data is not available for open access.

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Predictors of engaging in voluntary work during the COVID-19 pandemic: analyses of data from 31,890 adults in the UK

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Keywords

volunteer; COVID-19; demography; socio-economic factors; personality; psychosocial factors

Abstract

Aims: As the COVID-19 pandemic has grown internationally, there has been an increased need for volunteers. This study aimed to identify the predictors of volunteering including demographic backgrounds, socio-economic characteristics, personality, and psychosocial factors.

Methods: Data were analysed from 31,890 adults in the UK COVID-19 Social Study run by the University College London – a longitudinal study focusing on the psychological and social experiences of adults living in the UK during the COVID-19 pandemic. Tetrachoric factor analysis was applied to identify latent categories of voluntary work. Multivariate logistic regression was used to identity predictors for volunteering and change in volunteering behaviours since before the COVID-19 pandemic.

Results: Three types of volunteering during the pandemic were identified as follows: formal volunteering, social action volunteering, and neighbourhood volunteering. Regression analysis showed that the pattern of voluntary work was structured by demographic backgrounds, socio-economic factors, personality, and psychosocial factors.

Conclusion: The predictors of volunteering during the pandemic may be slightly different from other non-emergency period.

INTRODUCTION

As the Coronavirus (COVID-19) situation develops in the UK, there has been an increased need from volunteers to support individuals affected by the virus or to assist in the delivery of essential activities. Voluntary work has included shopping, packing and delivering food, medicine and supplies, as well as driving healthcare staff around, helping with food banks and homeless services, fund-raising and making donations, and providing emotional support through telephone helplines to tackle loneliness and social isolation. This work has been coordinated by various bodies including third sector groups and community organisations who have mobilised to support efforts relating to the pandemic, as well as through the Royal Voluntary Service's GoodSAM programme,[1] which has had over 1 million people registering, and through self-organised COVID-19 mutual aid groups, which number over 3000 across the UK.[2]

Previous research into motivations for community volunteering (e.g. fund-raising, supporting local charities, and assisting in nurseries or care homes) has shown that motivations to volunteer include altruism,[3–5] having a strong sense of purpose,[6–8] a desire to enhance human capital (e.g. through gaining employment experience or developing skills),[3,5] improvement of mental and physical health,[6,9] and wanting to feel empowered and in control.[6] Furthermore, social rewards (e.g. engagement in group activities)[3,10] and social recognition and approval of volunteering from others (particularly when it is perceived to be essential to the welfare and wellbeing of others)[11] may also be important

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factors for encouraging volunteering. But an important question is whether volunteering is also predicted by demographic or socio-economic factors or other traits.

Research on characteristics of volunteers has mainly focused on community volunteers taking part during non-emergency situations. These studies have demonstrated that females, married people, people with children, people with higher educational levels and income, and people living in rural areas are more likely to take part in voluntary work.[3,12–15] People over the age of 50 years have been found in some studies to be more likely to volunteer than young people,[3] although other studies have also suggested that participation in voluntary work can decline with age.[12–14] Previous studies have also shown that people with fewer depressive symptoms have a higher tendency to engage in volunteering;[13] however, the association may vary by age.[16] In addition, a large personal social network, religious participation, and personality (in particular, traits of agreeableness and extraversion) have also been identified as predictors of volunteering behaviours.[12,13,15,17] In relation to volunteering following an international disaster, the literature suggests that the characteristics of the volunteers are similar to those who take part during non-emergency situations. For instance, a study focusing on international disaster volunteers following the 2010 Haiti earthquake found that the volunteer population was mainly made up of younger adults, women, people who were highly educated, and those with previous volunteering experience.[18] While it is reasonable to assume that the characteristics of volunteers are relatively similar across time, volunteering during a pandemic may attract different demographic groups. For instance, a study on the willingness to volunteer among university staff and students during an influenza pandemic found that while older adults and people with previous voluntary activities were more willing to volunteer (in line with other studies), there were other pandemic-related factors influencing the decision to volunteer (such as risk perception and general knowledge regarding pandemic influenza).[19] As a result, in the context of the COVID-19 pandemic, a desire to provide support during a national crisis may have helped to engage people who would not usually volunteer, while individuals not working (e.g. those on furlough) may have had more time available to volunteer. However, people with children who are unable to go to school may have been unable to provide as much time, and older adults who may have been at higher risk from the virus may have been unable to engage in certain volunteering activities.

Understanding who is likely to engage in volunteering during the COVID-19 pandemic could support future efforts to recruit more volunteers in the coming months, as well as help sustain local health systems and in planning for future epidemics. Therefore, this study was designed to (1) identify the latent categories of volunteering people engaged in during the COVID-19 pandemic from a longlist of volunteering activities and (2) identify how volunteering behaviours varied depending on a rich panel of demographic backgrounds, socio-economic characteristics, personality, and psychosocial factors.

METHODS

Participants

Data were drawn from the UK COVID-19 Social Study run by the University College London – a longitudinal study focusing on the psychological and social experiences of over 70,000 adults (aged 18+ years) living in the UK during the COVID-19 pandemic. The study commenced on 21 March 2020 and involves online weekly data collection from participants for the duration of the COVID-19 pandemic in the UK. The study is not random and therefore is not representative of the UK population. But it does contain a heterogeneous sample that was recruited using three primary approaches. First, snowballing was used, including promoting the study through existing networks and mailing lists (including large databases of adults who had previously consented to be involved in health research across the UK), print and digital media coverage, and social media. Second, more targeted recruitment was undertaken focusing on (1) individuals from a low-income background, (2) individuals with no or few educational qualifications, and (3) individuals who were unemployed. Third, the study was promoted via partnerships with third sector organisations to vulnerable groups, including adults with pre-existing mental health conditions, older adults, carers, and people experiencing domestic violence or abuse. The study was approved by the UCL Research Ethics Committee (12467/005), and all participants gave informed consent. A full protocol for the study is available online at: www.COVIDSocialStudy.org.

Volunteering behaviours were asked for as a one-off module in week 7 of data collection from 21 April 2020 to 3 May 2020 (when the UK was in a national lockdown), with 35,471 participants completing a survey within these dates and thus providing data. As the survey involved mandatory question responses, there were no missing data on the volunteering questions. Within the sample, 3581 participants opted not to provide details on gender, ethnicity, or household income, leaving a final sample size with complete data of 31,890 participants.

Measures

We considered a set of 13 variables on volunteering behaviours in the past month (see Table 1 for a full list). Responses were measured on a 5-point scale, ranging from ‘none’ to ‘everyday’, which were collapsed into a binary indicator of engaged versus did not engage. We also asked participants to rate whether their volunteering levels were less than usual (prior to the COVID-19 pandemic), about the same as usual, or more than usual. In June/July, this question was repeated, asking respondents to compare their frequency of volunteering in June/July (when the coronavirus restrictions were more relaxed) with the frequency in April/May to assess whether any changes in volunteering behaviours during lockdown had been maintained.

Table 1

Tetrachoric factor analysis for types of volunteering during the COVID-19 pandemic in the UK

	Factor 1 Formal volunteering	Factor 2 Social action volunteering	Factor 3 Neighbourhood support
Volunteering with childcare for a friend, relative, or neighbours			0.6280
Running errands for friends, relatives, or neighbours (e.g. collecting shopping and medication)			0.7686
Making meals for friends, relatives, or neighbours			0.7459
Volunteering with deliveries or providing lifts to NHS staff	0.6624		
Volunteering at a hospital, care home, or other healthcare facility	0.7668		
Volunteering taking part in research (other than this study)		0.3831	
Offering telephone support to others through a support line (e.g. Samaritans or GoodSAM)	0.6112		
Providing free accommodation to people affected by COVID-19 (e.g. NHS staff or people who are homeless)	0.5798		
Donating money to charities supporting COVID-19		0.6778	
Providing entertainment to others (e.g. via social media or YouTube) to boost morale		0.6994	
Providing pro bono support to businesses or projects		0.6031	
Other volunteering activity relating to COVID-19	0.6815		
Other volunteering activity NOT relating to COVID-19		0.5049	

NHS: National Health Service.

To understand how types of volunteering varied across personal characteristics and backgrounds, we considered a rich set of demographic factors, socio-economic factors, personality traits, and psychosocial factors including respondents' age, gender, ethnicity, partnership status, living arrangement, number of children in the household, and living area. Socio-economic factors included employment status, educational level, household income, housing space, and whether respondents were keyworkers. Our model also considered the Big 5 personalities which are comprised of extraversion, neuroticism, openness, conscientiousness, and agreeableness. Finally, we included two psychosocial measures: social support (a modified version of the short form of Perceived Social Support Questionnaire (F-SozU K-6)) and size of social network. We also asked participants if they had any diagnosed mental health conditions, or any diagnosed physical condition or disability. The coding of each variable is shown in Supplementary Material ('Methods – coding of the covariates').

Analyses

To identify the underlying latent categories of voluntary work, we ran a factor analysis of the matrix of tetrachoric correlations using all the volunteering measures (Kaiser–Meyer–Olkin (KMO) = 83.9). Kaiser's criterion of eigenvalues >1, inspection of a scree plot, and oblique and orthogonal rotations indicated a three-factor structure. 'Formal volunteering' included volunteering with existing organisations or within formal volunteering structures, which usually required a higher degree of commitment (e.g. volunteering with deliveries or providing lifts to National Health Service (NHS) staff). 'Social action volunteering' included providing donations or more specialised pro bono support. This type of volunteering often involved the Internet and hence is not restricted to local activities. 'Neighbourhood support' included supporting others locally (e.g. running errands and making meals for others; Table 1). We generated a binary indicator of whether respondents had ever engaged in any activity within each of the three categories.

We then used multivariate logistic regression to calculate the odds ratio (OR) and 95% confidence intervals (CIs) that participants engaged in each type of volunteering behaviour based on predictor variables, and used multinomial logistic regression to estimate the relative risk ratio (RRR) to understand if this level of volunteering was less or more than usual. Four sets of models were run for each type of volunteering. Model 1 examined the association between demographic factors and volunteering. In Model 2, we additionally added socio-economic factors to the model. Model 3 involved Model 2 + personality measures, while Model 4 involved Model 2 + psychosocial factors. We did not mutually adjust for personality and psychosocial factors due to collinearity. As a sensitivity analysis, we repeated all analyses excluding those who identified themselves as keyworkers.

To balance the data against population demographics, we weighted data to the proportion of gender, age, ethnicity, education, and country of living obtained from the Office for National Statistics.[20] All analyses were carried out in Stata v16.1.

RESULTS

In our sample, the average age was 52 years (standard error (SE) = 15 years). 51% were females and 91% were of White ethnic. On average, 62% of the sample were in a relationship/married and cohabiting, 43% were in full-time employment or self-employed, 37% had a degree or above, and 21% identified themselves as keyworkers (Table 2).

Demographic backgrounds

Older people were more likely than younger adults to participate in neighbourhood volunteering, with 1-year increase in age associated with 13% higher odds (Table 3). There was no difference in formal or social action volunteering by age. Females were more likely to engage in social action volunteering (31% higher odds) and neighbourhood volunteering (20% higher odds), but not formal volunteering. However, for ethnicity, the pattern was the opposite. People of White ethnicity had 35% lower odds of engaging in formal volunteering, but ethnicity did not predict other volunteering activities. Married and cohabitating couples were less likely to take part in neighbourhood volunteering than those who were not living with a spouse. People living alone were less likely to involve in social action and neighbourhood volunteering. Respondents living with children had 5% lower odds of participating in social action volunteering; however, they were more likely (16% higher odds) than those who were not living with children to take part in neighbourhood volunteering. Respondents who lived in urban areas were less likely to engage in volunteering activities, particularly in formal and neighbourhood volunteering. However, there was no difference in social action volunteering. Results were replicated when excluding keyworkers from analyses (Supplementary Table 2).

SOCIO-ECONOMIC FACTORS

People who were currently employed or with other responsibilities (e.g. students) were more likely to engage in social action volunteering (Table 3). But no difference was found in other types of volunteering. Respondents with a household income higher than £30,000 per annum had 34% higher odds of engaging in social action volunteering, but income did not predict other types of volunteering. Education predicted all types of volunteering: respondents with a degree or higher qualification were two times the odds more likely to engage in formal and social action volunteering. Moreover, keyworkers had 45% and 34% higher odds of participating in formal and neighbourhood volunteering, respectively. No difference was found for social action volunteering by keyworker status. Housing space did not predict any volunteering activities. Results were replicated when excluding keyworkers from analyses (Supplementary Table 2).

PERSONALITY

Individuals with higher scores in extraversion, openness, and agreeableness were more likely to engage in all types of activities (Table 3). Respondents who scored high in neuroticism were more likely to take part in social action volunteering but less likely in neighbourhood volunteering. However, those with higher scores in conscientiousness were more likely to engage in neighbourhood volunteering. No difference was found in formal volunteering by neuroticism or conscientiousness. Results were replicated when excluding keyworkers from analyses (Supplementary Table 2).

PSYCHOSOCIAL FACTORS

Respondents with higher levels of social support and those with a larger social network were more likely to participate in all types of voluntary work (Table 3). Engagement in social action volunteering was associated with people with diagnosed mental health (16% higher odds) or physical illness (8% higher odds) condition. People with diagnosed mental health conditions had 23% higher odds of engaging in formal volunteering, while those with physical illness condition had 27% lower odds of engaging in neighbourhood volunteering. Results were replicated when excluding keyworkers from analyses (Supplementary Table 2).

AMOUNT OF VOLUNTEERING

When comparing the levels of people's volunteering during and before the

Table 2

Descriptive statistics of the sample (weighted; *N* = 31,890)

	% or mean (SE)
Demographic backgrounds	
Age (ranging from 18 to 106)	52.1 (15.3)
Female	51.4
Male	48.6
White ethnic	90.7
Ethnic minority	9.33
Single and never married	18.1
Divorced or widowed	13.8
In a relationship/married but living apart	6.48
In a relationship/married and cohabiting	61.6
Living alone	22.9
Not living alone	77.1
Number of children in the household (ranging from 0 to 10+)	0.38 (0.01)
Living in city/town	77.6
Living in village/hamlet/isolated dwelling	22.4
Socio-economic position	
Full-time employment/self-employed	43.3
Part-time employment	12.0
Student/retired/homemakers/unable to work due to disability	42.3
Unemployed and seeking work	2.42
Degree or above	37.4
A-levels	22.9
GCSE/post 16 vocational qualification	33.5
No qualification	6.32
Household income >£30,000	51.2
Household income <£30,000	48.8
Standard room/space households	97.1
Overcrowded households	2.89
Keyworkers	20.7
Not keyworkers	79.3

(Continued)

pandemic, 12% of respondents reported that they had increased their participation in volunteering during lockdown compared to prior to the pandemic, 65% had about the same amount of engagement levels before and during the pandemic, and 23% decreased their engagement.

When re-measuring in June/July, 7% of people who reported increasing their volunteering during lockdown had further increased their engagement 3 months later. Conversely, 6% of respondents reported that their volunteering decreased during lockdown had further lowered 3 months later (Table 4).

When comparing the amount of volunteering during the COVID-19 pandemic to the amount during usual times (i.e. prior to the pandemic), results show that older adults, people with higher educational qualifications, and those with more social support were doing more voluntary work during the pandemic than before, whereas those living in urban areas were less likely to have increased their volunteering (Supplementary Table 3). People of White ethnicity were less likely to have decreased their volunteering, as were people who were employed, while people who were divorced or living apart from their spouse, people who were neurotic, and people with a physical health condition were more likely to have decreased their volunteering. Finally, some other factors were associated with a change from usual patterns, but this change could involve either an increase or a decrease in volunteering (including being female, extraversion, openness, agreeableness, social network size, and having a diagnosed mental illness).

DISCUSSION

The COVID-19 pandemic led to an increase in volunteering behaviours across the UK. This study suggests that there were three main types of volunteering during the pandemic: formal volunteering, social action volunteering, and neighbourhood volunteering. Notably, only a few factors predicted all types of volunteering behaviours (high educational qualifications, extraversion, openness, agreeableness, social

Table 2 (Continued)

Descriptive statistics of the sample (weighted; *N* = 31,890)

	% or mean (SE)
Big five personalities (all standardised)	
Extraversion	−0.04 (0.01)
Neuroticism	−0.06 (0.01)
Openness	−0.11 (0.01)
Conscientiousness	−0.06 (0.01)
Agreeableness	−0.04 (0.01)
Psychosocial measures	
Social support (ranging from 6 to 30)	21.5 (0.06)
Social network (defined as <3 friends vs 3+ friends)	69.5
Diagnosed mental health condition	18.2
Diagnosed physical health condition or disability	44.7

SE: standard error; GCSE: General Certificate of Secondary Education.

support, and size of social network). However, many factors predicted specific types of volunteering, including older age, being female, having an ethnic minority background, not living with a spouse, living with others, living in a rural location, being employed or having other responsibilities (e.g. students/homemakers), being a keyworker, and diagnosed health conditions. Overall, 12% of respondents reported that they had increased their participation in volunteering during lockdown and 26% of those maintained this higher volunteering or further increased it 3 months later even after lockdown had eased. Conversely, 23% of respondents reported decreasing their volunteering during lockdown, and of these, 17% reported that they had maintained these lower levels or had a further decrease in volunteering 3 months later. While older adults, people with higher educational qualifications, and those with more social support engaged more frequently during the pandemic, people who were divorced or living apart from their spouse, those who were neurotic, and people with a physical health condition engaged less.

A number of the predictive factors identified here align with well-known predictors of volunteering, such as being female, living with children, living in rural or remote area, having higher educational qualifications, and having higher household income.[3,12–15,21] We also found that agreeableness and extraversion were associated with engagement in all types of voluntary work, whereas people with higher levels of neuroticism were less likely to volunteer, potentially due to concerns about catching the virus (as also shown in previous studies).[17,22] Furthermore, in line with the literature, our results show that both social support and social network predicted all kinds of voluntary work.[23,24] There are different possible explanations for this. Individuals with greater levels of social capital may be encouraged to volunteer through a stronger sense of social identity, social connectedness, and desire for social cooperation.[25] These individuals may also be better connected with the needs of their communities and therefore more readily become aware of needs for volunteers. However, given that this is a cross-sectional study, the association between social support, social network, and volunteering might be bidirectional.

However, our results suggest that certain well-known predictors have not been as clear-cut as prior to the pandemic. For example, in contrast to other studies, our results also reveal that openness predicted all types of volunteering. It is plausible that people who are open to new ideas and experiences may be more inclined to volunteer in challenging projects during the pandemic as opposed to traditional voluntary work in usual time (prior to the outbreak of COVID-19). While health status has often been considered as one of the influential predictors of volunteering, results are less conclusive (possibly due to various definitions of health, e.g. self-rated health vs functional limitations vs chronic diseases).[12,16,22,26] Nonetheless, our findings show that people with a diagnosed physical illness or disability had a lower odds of volunteering in neighbourhood support, and it is unsurprising given that many people with illnesses were considered more at risk of the virus. However, we also found that people with a diagnosed physical illness or disability were more likely to do social action volunteering, which could indicate a desire to support efforts, but in activities that can be done generally from one's own home (e.g. participation in Internet research). Similarly, people with a diagnosed mental health condition were more likely to do either formal or social action volunteering than people without a diagnosed condition. A potential explanation for this is that volunteering may be used as a means of compensation for attenuated social relationships among those with a mental health condition.[16]

We also found some further results that are noteworthy given previous literature on these factors as predictors of volunteering has been mixed. For example, we found that older people were more likely to volunteer (in particular, engaging in neighbourhood volunteering), and more likely to have increased their volunteering specifically

Table 3

Logistic regression predicting the types of volunteering during the COVID-19 pandemic in the UK (weighted; N = 31,890)

	Formal volunteering		**Social action volunteering**		**Neighbourhood volunteering**	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Model 1: demographic backgrounds						
Age	1.02	1.00–1.05	1.00	0.98–1.01	**1.13**	**1.11–1.15**
Age-squared	**1.00**	**1.00–1.00**	1.00	1.00–1.00	**1.00**	**1.00–1.00**
Female (reference: male)	1.08	0.97–1.21	**1.31**	**1.22–1.41**	**1.20**	**1.11–1.29**
White ethnic (reference: ethnic minority)	**0.65**	**0.52–0.80**	0.92	0.78–1.08	1.11	0.94–1.31
Single and never married	1.08	0.88–1.32	1.00	0.87–1.14	**1.28**	**1.12–1.47**
Divorced or widowed	1.03	0.84–1.27	0.95	083–1.09	**1.25**	**1.09–1.44**
In a relationship/married but living apart (reference: in a relationship/married and cohabiting)	0.98	0.78–1.23	1.00	0.85–1.18	**1.68**	**1.43–1.98**
Living alone (reference: not living alone)	0.97	0.80–1.17	**0.84**	**0.75–0.95**	**0.54**	**0.48–0.61**
Number of children in the household	0.98	0.92–1.05	**0.95**	**0.91–0.99**	**1.16**	**1.10–1.21**
Living in city/town (reference: living in village/hamlet/isolated dwelling)	**0.80**	**0.72–0.90**	0.95	0.88–1.03	**0.88**	**0.81–0.95**
Constant	**0.15**	**0.08–0.32**	1.33	0.86–2.05	**0.05**	**0.03–0.09**
Model 2: Model 1 + socio-economic position						
Full-time employment/self-employed	0.97	0.70–1.36	**1.39**	**1.10–1.76**	0.98	0.77–1.24
Part-time employment	1.16	0.83–1.64	**1.55**	**1.21–1.99**	1.06	0.83–1.36
Student/retired/homemakers/unable to work due to disability (reference: unemployed and seeking work)	1.20	0.86–1.67	**1.52**	**1.20–1.93**	0.92	0.72–1.17
Degree or above	**2.36**	**1.70–3.29**	**1.97**	**1.64–2.36**	1.12	0.92–1.36
A-levels	**1.72**	**1.22–2.44**	**1.46**	**1.20–1.77**	**1.33**	**1.08–1.63**
GCSE/post 16 vocational qualification (reference: no qualification)	**1.54**	**1.10–2.16**	1.17	0.98–1.42	**1.25**	**1.03–1.53**
Household income >£30,000 (reference: household income <£30,000)	1.07	0.93–1.22	**1.34**	**1.23–1.46**	1.01	0.93–1.10
Standard room/space households (reference: overcrowded households)	0.99	0.70–1.42	1.18	0.91–1.52	0.98	0.76–1.27
Keyworkers (reference: not keyworkers)	**1.45**	**1.25–1.68**	0.96	0.87–1.05	**1.34**	**1.23–1.47**
Constant	**0.06**	**0.03–0.13**	**0.31**	**0.17–0.54**	**0.06**	**0.03–0.10**

(Continued)

Table 3 (Continued)

Model 3: Model 2 + Big five personalities						
Extraversion	**1.29**	**1.22–1.36**	**1.22**	**1.18–1.26**	**1.15**	**1.11–1.19**
Neuroticism	0.95	0.90–1.01	**1.04**	**1.00–1.08**	**0.94**	**0.90–0.97**
Openness	**1.21**	**1.14–1.28**	**1.23**	**1.19–1.28**	**1.06**	**1.02–1.10**
Conscientiousness	1.00	0.94–1.05	1.03	0.99–1.07	**1.06**	**1.02–1.10**
Agreeableness	**1.10**	**1.04–1.16**	**1.14**	**1.10–1.18**	**1.09**	**1.05–1.13**
Constant	**0.05**	**0.02–0.11**	**0.26**	**0.15–0.47**	**0.05**	**0.03–0.10**
Model 4: Model 2 + psychosocial measures						
Social support	**1.01**	**1.00–1.02**	**1.02**	**1.02–1.03**	**1.02**	**1.02–1.03**
Social network	**1.47**	**1.28–1.68**	**1.54**	**1.42–1.68**	**1.32**	**1.21–1.44**
Diagnosed mental health condition	**1.23**	**1.07–1.42**	**1.16**	**1.05–1.28**	1.03	0.94–1.14
Diagnosed physical health condition or disability	0.98	0.87–1.09	**1.08**	**1.00–1.17**	**0.73**	**0.67–0.79**
Constant	**0.03**	**0.01–0.08**	**0.12**	**0.07–0.22**	**0.03**	**0.01–0.05**

OR: odds ratio; CI: confidence interval; GCSE: General Certificate of Secondary Education.

Bold values denote the statistical significance at the $p < .05$ level.

Table 4

Frequency of volunteering in April/May during lockdown versus volunteering across June/July

	I have not done any volunteering in June/July	Less than during April/May	About the same as during April/May	More than during April/May
Less than usual (April/May vs prior to the pandemic)	75.4%	6.3%	10.6%	7.7%
About the same (April/May vs prior to the pandemic)	86.3%	4.0%	7.5%	2.3%
More than usual (April/May vs prior to the pandemic)	52.6%	21.6%	18.8%	7.0%

due to COVID-19, despite being designated as high risk. This is a clearer pattern than in some previous studies of volunteering that have found mixed results on the relationship between age and volunteering.[3,12] This indicates that older adults might use volunteerism to fill a void created by physical and social distancing and to extend social relationships during lockdown when there were limited contacts with other family members or network members.[23] Furthermore, while research into the association between ethnicity and participation was inconclusive,[12] we found that people of White ethnic were less likely to participate in formal volunteering. No differences were found in other types of voluntary work; this may explain the heterogeneous results shown in other studies that did not differentiate between different types of volunteering activities. But people of White ethnic were less likely to have decreased their volunteering due to the COVID-19 pandemic, suggesting that their volunteering was a continuation of previous habits. While the association between employment status and volunteering is heterogeneous and inconsistent in the previous literature,[3,12] we found that it was a strong predictor for social action voluntary work.

However, there was no difference in other types of volunteering activities between those who were employed and who were unemployed, and people who were unemployed and seeking work did not show any differential patterns of change in their volunteering behaviours from people who were economically inactive (e.g. homemakers, students, and people who were retired or unable to work).

Therefore, overall this article showed some similarity with previous predictors of volunteering, but also some novel predictors during the COVID-19 pandemic. While we have outlined specific reasons why there might be variation in certain specific predictors above based on the context of the pandemic, there are also some broader explanations for why there were differences between volunteering patterns during COVID-19 and in previous circumstances relating to how the barriers to and enablers of volunteering changed. For example, if we consider people's capabilities, opportunities, and motivations to volunteer using a behaviour change framework,[27] the national drive for volunteers led by the NHS provided clear opportunities to engage and reduced the psychological capability barrier around whether people were aware of local opportunities to them; the proliferation of research that people could take part in from their own homes provided new physical opportunities along with low barriers relating to personal physical capability; and the social focus on mutual support provided new motivations to engage. While our analysis was based on a large, well-stratified sample weighted to population proportions and considered a rich set of predictors to estimate the types of voluntary work, the study is not without limitations. First, we looked at 13 specific types of volunteering and explored the factor structure of these items, but the list of volunteering types is not exhaustive, and other specific volunteering activities may have been omitted from the study. While we included 'other volunteering' as an item, it is possible that different definitions of volunteering could have led to different factor groupings, and therefore, we present the groupings here as indicators of latent classes of volunteering activities rather than definitive categories. Relatedly, some of the voluntary work may reflect a response to support the COVID-19 pandemic, whereas others may be activities that were considered to be more 'general' in which participants might have partaken prior to the pandemic (e.g. volunteering with childcare for a friend, relative, or neighbours). This study focused on these volunteering behaviours in the context of the pandemic, but this does not mean that such behaviours might not also have been in place before the pandemic and as such might reflect non-pandemic-related volunteering behaviours. Furthermore, due to data unavailability, we were unable to control for participants' previous volunteering experience,[18,19] religious beliefs, participation and affiliations,[12,13,15,28] and friends' or family's involvement in voluntary work during the pandemic.[3] All have been shown to help predict a person's voluntary engagement. Although we asked participants to self-report diagnosed mental and physical health conditions, this study did not look at whether level of depression or anxiety symptoms predicted participation. Moreover, we asked about socio-demographic factors such as employment status and social network size at baseline, so these associations represent baseline associations. They do not indicate how participation in schemes such as furlough schemes might have affected volunteering, nor whether changes in frequency of social contact motivated greater volunteering. Future research is needed to investigate how changing circumstances during the pandemic differentially motivated individuals to volunteer, and to explore the impact of volunteering on trajectories of mental health during the COVID-19 pandemic.

Overall, this study suggests that many of the volunteers during the COVID-19 pandemic in the UK were people who fulfil the typical demographic profiles of volunteers in normal circumstances. This suggests that the results of this study have a relevance to non-emergency situations in highlighting the consistency of capabilities, opportunities, and motivations to volunteer among adults. However, other new groups were identified as likely to volunteer including people with mental and physical health conditions. Along with voluntary work playing a vital role in supporting individuals and communities, volunteering has numerous benefits for health and wellbeing (e.g. better self-rated health, reduced levels of depression, improved wellbeing, self-esteem, and quality of life).[29,30] Therefore, exploring how these new groups of volunteers can be engaged and retained as volunteers beyond a pandemic is important for public health and to sustain local health systems as a whole. Future studies are also required specifically to understand the impact of volunteering during a national crisis as well as the factors predicting the duration of volunteering behaviours after the initial enthusiasm to provide support has declined. Nevertheless, these results give an insight into the profiles of individuals who could be targeted to engage further in volunteering should more demand arise during this or future pandemics.

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CONFLICT OF INTEREST

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AVAILABILITY OF DATA AND MATERIALS

Anonymous data will be made available following the end of the pandemic.

SUPPLEMENTAL MATERIAL

Supplemental material for this article is available online.

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The role of social prescribers in wales: a consensus methods study

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social prescribing; third sector; public health; primary care; group concept mapping

Abstract

Aims: Social prescribing continues to grow and change across healthcare services in Wales; however, research of the day-to-day performance of social prescribers is limited. This study aimed to explore which roles are perceived to be the most important and frequently used by social prescribers in Wales and compare these results to reports in studies of services in other countries in order to support future role development and potential standardisation.

Methods: This study used the Group Concept Mapping via the Concept Systems Global Max™ software to collect and analyse all data from both participants and literature.

Results: There was a total of 101 statements generated (119 participants, 84 literature) ranging from generic interpersonal skills to specialised training (cognitive behavioural therapy). These statements were then sorted by conceptual similarity into seven clusters (Providing a Specialist Service, Working in a person-centred way, Skills, Connecting Clients with Community, Collaborative Working, Evaluating and postprogramme duties, and Networking/Community). Statements were rated based on their perceived importance and frequency, with the 'Skills' cluster having the highest overall average and 'Providing a Specialist Service' having the lowest.

Conclusions: Reports indicate that in general there is variation in the roles performed by individual participants in Wales; however, greater variation was observed between participants and literature suggesting geographical divergence in practice. In the top 12 highest rated statements for both frequency and importance, individualistic traits such as empathy and 'being a listener' are favoured over specialised methods such as cognitive behavioural therapy and behaviour change taxonomy. Results suggest that local need plays a part in the choices and performance of social prescribers and as such should be considered in future standardisation.

INTRODUCTION

Social prescribing has been a part of UK healthcare policy and procedure since the early 1990s, but a recent growth in popularity has resulted in new services from a range of UK providers.[1] Service aims vary from targeting specific mental[2,3] or physical health conditions[4] to offering a 'holistic' approach to wellbeing.[5] They generally focus on the biopsychosocial factors that affect health using non-clinical interventions. Services are aimed at people living with long-term physical health conditions, mental health diagnoses or social isolation. Enthusiasm from commissioners and health care professionals for social prescribing has grown as services are perceived to increase patient self-management and reduce healthcare use.[6,7] The increased focus on intersectoral 'joined-up working' in the NHS[8] means social prescribing may be seen as a mechanism for social, third and health sector collaboration given the establishment of the Social Prescribing Academy in England. There is a need, however, for a greater understanding of how and for whom these services are effective throughout the UK.[9]

Social prescribing in Wales is a collaborative process mostly between statutory health services and the third sector, with staff management being the responsibility of third-sector organisations.[10] This has led to a variety of service models with decisions made to meet local and organisational need/demands, resulting in variation in staff performance whose day-to-day roles may include community development, counselling and/or signposting.[11] Various terms are used to describe front-line workers in social prescribing, for example, social prescribers, link workers and

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community connectors. In this article, we will use the term social prescribers to cover the range of terms. Social prescribers are often cited as a vital component of the social prescribing process,[12–14] and the variety in social prescriber roles is indicative of the lack of standardisation in the United Kingdom.[15]

Despite the increase in social prescribing research, there is a knowledge gap about the impact of services and how the service components contribute to the outcome. Systematic reviews have found inconclusive results due to lack of study rigour, participant adherence rates, small sample sizes and inconsistency in research methods use, for example, absence of validated outcome measures and control groups.[16,17] Few published studies address the black-box nature of interventions. They lack detail on service configuration and participant interaction with services, for example, number of appointments. Previous studies' results highlight the importance of social prescriber/client interaction to service success; however, there is limited research on social prescriber performance at local level.

This study sets out to answer the question, 'What are the roles and day-to-day activity of social prescribers in Wales?'. It aims to explore the social prescriber role from the role-holder perspective. Group Concept Mapping (GCM) methodology[18] is used in a mixed-methods consensus design to explore the frequency of use and perceived importance of daily roles and activities of social prescribers in Wales and compare their performance with that reported internationally. The results of this study will contribute to the development of a competency framework for social prescribing practitioners in Wales.

METHODS

Setting and design

GCM consensus methods were used at each stage of inquiry via Group Wisdom™ online software.[19] The rationale for using GCM was its ability to engage geographically diverse participants, its short time scale from design to completion and its ability to present complex data in an accessible manner. Many of the recruited participants were also familiar with the study design, having participated in previous GCM studies.

The study steering group (C.W., C.L., D.P., M.W.) was drawn from members of the Wales Social Prescribing Research Network University of South Wales, PRIME Centre Wales, Public Health Wales and Cwm Taf University Health Board. It was funded by the KESS 2 Knowledge Economy Skills Scholarship and forms one part of a PhD project.

Ethical approval

Ethical approval was granted by the University of South Wales Research Ethics Committee (approval number 19TR0901LR).

Participants

The study recruited participants from across Wales, all of whom were currently performing the social prescriber role (other terms used to describe participants' roles include link worker and community connector). Due to the low numbers of potential participants, a total population sampling method was applied. Participants were recruited using existing connections through the Wales Social Prescribing Research Network. The study information sheets were sent to organisations and were then disseminated to social prescribers. Participants who were interested in participating were asked to request a consent form for completion and return. If participants failed to return consent forms following this initial expression of interest, they were reminded at two fortnightly intervals. Recruitment took place from September 2019 to November 2019. Although recruitment was initially proposed via a single health board (Cwm Taf University Health Board), low recruitment figures prompted the study team to widen the recruitment area to the remaining six health boards. In total, 16 participants were assigned to the study, with 7 completing each stage in full.

Procedure

All three phases of participant data collection were completed using the Group Wisdom™ online platform. An email invitation was sent to prospective participants before the study start and on receiving informed consent, individuals were sent a unique login code. Participants were able to personalise this after initial login. Each phase took 30–40 min to complete. The phases ran sequentially and were completed over a 14-week period, and participants were offered telephone support and prompts to complete tasks to time.

Phase 1 – brainstorming

Brainstorming in GCM usually consists of participants generating statements in response to a focus prompt. In this study, the focus prompt was:

> *As a link worker/social prescriber/ community connector my role includes ...*

This was completed by participants over 2 weeks during November 2019, at which point statements were cleaned – checked for spelling and/or grammar errors, conjoined statements were separated and duplicates removed, leaving $n = 46$ statements produced by participants. Duplicate statements were confirmed by steering group member consensus.

Following Stoyanov et al.,[20] the GCM process was altered to include focus prompts derived from social prescribing studies published between January 2016 and April 2019. These were identified by TR from a recent systematic review[17] using Squire et al.'s method[21] for inclusion. This resulted in a broad representation of social prescribing across peer-reviewed studies and grey literature of services in England, Scotland and the Netherlands. Of these studies, 30 reported on social prescriber activity and were searched for declarative statements in response to the focus prompt. Statements were generated through in vivo coding and were subject to the same cleaning and duplicate removal process as those created by participants. Where literature statements were duplicated by participants, the participant-generated statement was used. This resulted in 84 unique

Figure 1.

Clusters and example statements (full list of statements available in Appendix A in Supplemental material)

Cluster	Example 1	Example 2
Providing Specialist Support	61. Assessing clients support needs	7. Managing Risk
Collaborative Working	27. Strengthening links with community organisations	94. Networking between public sector and third parties
Skills	59. Being empathetic	6. Using active listening skills with clients
Working in a Person-Centred Way	68. Find out what matters to patients in order to look at what support is available within their community	105. Giving clients the information to make informed decisions
Evaluating and Post-programme duties	78. Evaluate the programme annually to ensure the programme is creating impact	73. Carrying out follow ups, to find out if the signpost has been effective and if anything further can be explored
Connecting Clients with Community	17. Providing advice on local groups and services in community	60. Assisting clients to access community groups and services
Network/Community	81. Identify and sign-up community groups people can access	41. Developing knowledge of local orgs

statements from the literature confirmed by the steering group.

Phase 2 – sorting

All cleaned statements were made available to participants for the sorting phase in mid-December. This involved grouping statements using a drag-and-drop interface. Participants sort statements based on their perceived similarity. The metric by which similarity is defined is left to the individual participant. Statement groups have no upper size limit, so long as they have a minimum of two statements per group. No group may consist of one statement. Each group is labelled by each participant with a phrase that best describes their perceived similarity. The final group label is the most frequently used term by the participants.

Phase 3 – rating

Statements are de-grouped in the rating phase, and participants rate each statement using two 5-point Likert-type-style scales. In this case, participants rated the frequency of role/activity performance and their perceived importance. This took place during a 2-week period in January 2020, and all data collection was complete by 24 January 2020.

Analysis

GCM analysis is completed in three steps using the Group Wisdom™ software:

1. All statements are plotted in a similarity matrix. This charts the frequency of statements being grouped together.
2. A point map is generated from the similarity matrix. Each statement is given an XY coordinate. This is achieved using multidimensional scaling analysis.
3. Finally, hierarchical cluster analysis is applied to the point map. A series of diagrams and reports including a cluster map, a cluster rating map and go-zone analysis are generated.

The point map is generated by the Group Wisdom™ software, but the final configuration of clusters is decided upon by the user, that is, the study steering group. The software generated a range of cluster configurations from fifteen clusters to three (Figure 1); the chosen map contains seven (Figure 2). A number of factors are taken into consideration in this decision, and Kane and Trochim[18] recommend that the final arrangement should be informed by context and practicality.

At each stage, the results were discussed with the study steering group and consensus was sought at each stage of interpretation.

RESULTS

Brainstorming – generating statements

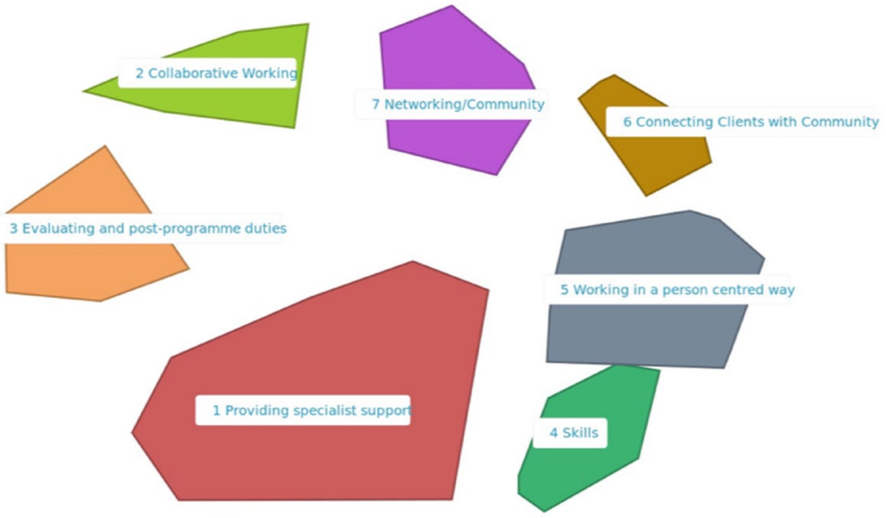
Participants identified 46 unique statements during the brainstorming phase. Initially, 40 statements were produced but the steering group considered that a number of these needed splitting as they contained multiple statements in response to the focus prompt. For example, the statement: 'Capturing all the data, to complete a quarterly report and service evaluations' was separated into two statements – 'Capturing all the data to complete a quarterly report' and 'Capturing all the data to complete service evaluations' (see Statements 75 and 76). A similar process was applied to the 84 statements derived from analysing 30 studies gathered in the literature review. Both sets of statements were cross-referenced for duplicates which were removed, leaving a total of 113 statements. Where duplicates existed between the two groups, the statement generated by participants was used. All

Figure 2.

Point Map

Figure 3.

Cluster map



of the resulting statements were then used to populate a point map plotting statements on an XY axis based on their similarity (Figure 2). The map has a stress value of 0.3048, which is within the suggested range of 0.205–0.365.[18] Despite being on the higher end of the scale, the map implies a good relationship between the results of the points' placement on the map and the sorting exercise, suggesting internal validity.[22]

Cluster maps

The cluster with the highest number of statements is 'Providing Specialist Support' (*n* = 24) followed by

> 'Working in a person-centred way' (*n* = 23),
>
> 'Skills' (*n* = 21),
>
> 'Connecting Clients with Community' (*n* = 12),
>
> 'Collaborative Working' (*n* = 11) and
>
> 'Evaluating and post-programme duties' (*n* = 11) and 'Networking/Community' (*n* = 11).

The XY placement of clusters on the map (Figure 3) represents their contextual similarity. For example, 'Collaborative Working' and 'Networking/Community' are adjacent while 'Skills' and 'Collaborative Working' are on opposite sides of the map. The distribution of participant statements and literature derived statements is consistently even except for two clusters: 'Providing Specialist Support' and 'Evaluating and Postprogramme Duties'. The 'Providing Specialist Support' cluster is almost entirely composed of literature-only statements (96%), serving as a cluster for roles considered less relevant to participants' daily activity. In contrast, the 'Evaluating and Postprogramme Duties' only contained one literature derived statement, with 10 participant statements. Of these 10, three statements were duplicated in the literature and 7 were unique to participants, making this cluster the most unique to participants.

The cluster rating results (Figures 4 and 5) show the most frequently performed roles were found in the 'Skills' cluster, followed by 'Connecting Clients with Community' and 'Working in a person-centred way'. The most important clusters were these three clusters and 'Evaluating and Postprogramme Duties'. The least frequently performed and important cluster was 'Providing Specialist Support', while 'Evaluating and Postprogramme Activities' was reported as having a higher importance than frequency of performance. There is a perceived parity between cluster importance and frequency with which the corresponding roles are performed.

Figure 4.

Cluster rating map – importance

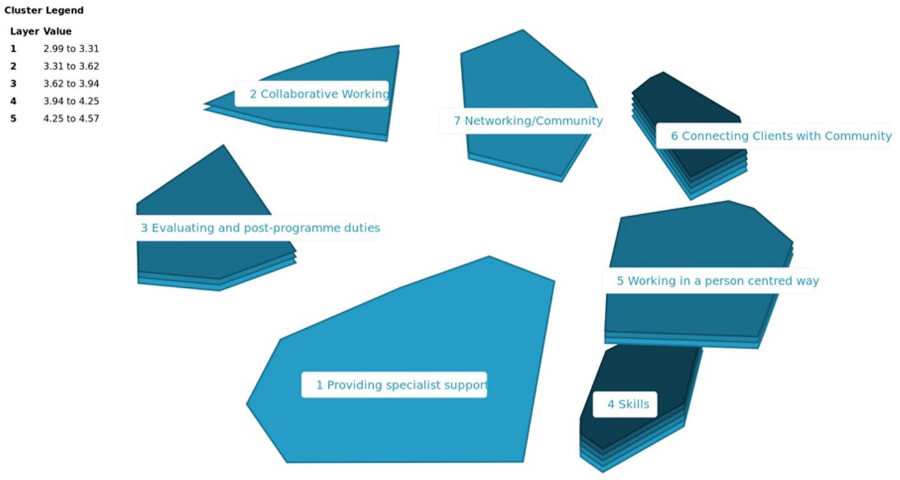
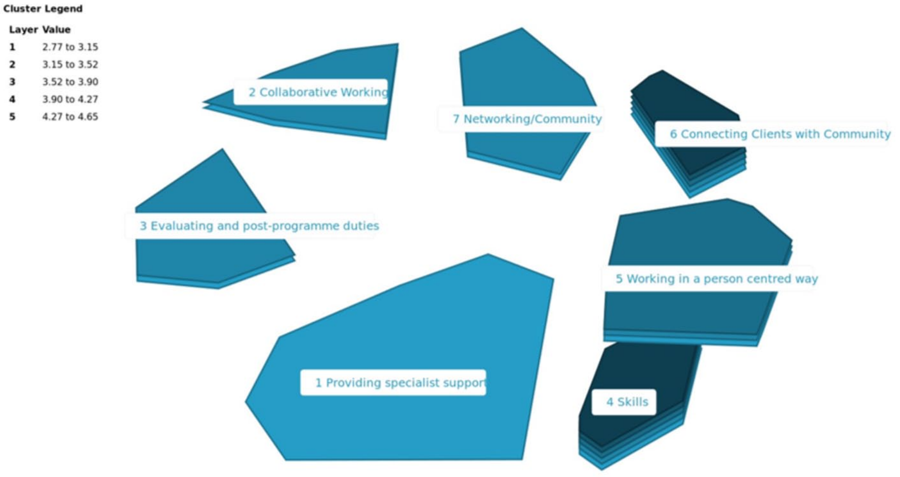


Figure 5.

Cluster rating map – frequency



Go-zone

The Go-Zone report (Figure 6) charts the individual rating data of each statement on an XY axis. The mean for both rating scales intersects the graph creating quadrants. The four zones may be interpreted as:

Top Right: Most important and most frequently performed – Core job roles

Bottom Right: Important but not as frequently performed – Roles for further integration

Top Left: Frequently performed but not as important – Roles for reconsideration

Bottom Left: Least important and least frequently performed – Unrelated roles

The top 12 statements of the top right Go-Zone were split 5:7 between literature-only and participant statements based on their combined average score. Conversely, the 12 lowest scoring statements in the bottom left Go-Zone were split 10:2 between literature-only and participants' statements. The most highly represented cluster within the top right Go-Zone was 'Skills', whereas 'Providing Specialist Support' featured most prominently in the bottom left Go-Zone. 'Evaluating and Postprogramme Duties' was the most common cluster in the bottom right Go-Zone, while the most common cluster in the top left Go-Zone was 'Working in a person-centred way'.

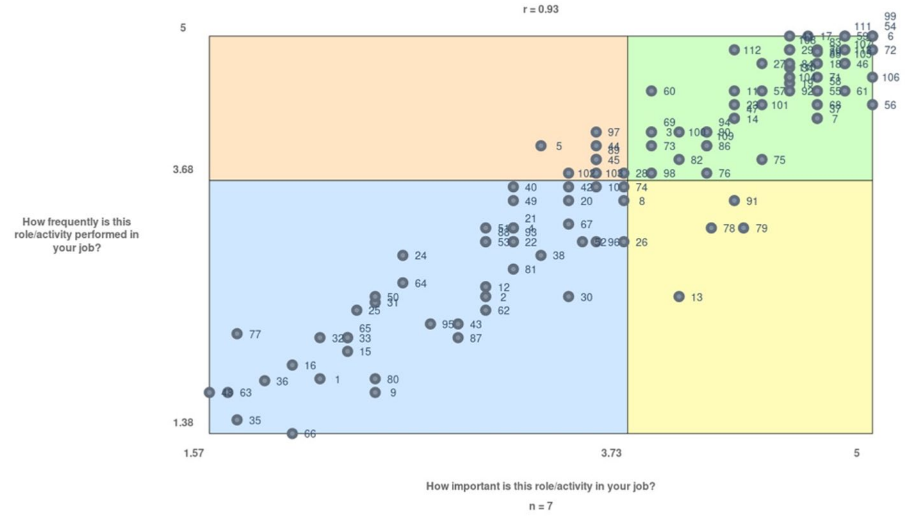
DISCUSSION

The study results outline the roles and skills used in everyday social prescriber practice in Wales. It gives insight into the role from their perspective by asking them to identify the most important aspects of their day-to-day praxis. The inclusion of literature-derived statements allows us to compare and contrast roles that are most consistent and most disparate between social prescribers working in Wales and those represented in literature.

Results suggest there is variety in the social prescribing role in Wales consistent with previous research.[17] These range from highly specified roles and knowledge, such as Cognitive Behavioural Therapy and Behaviour Change Taxonomy to more general professional attributes, including displaying empathy or 'being a listener'. This variety is apparent when comparing the results of participant generated statements with literature-derived statements; however, it still exists among the groups themselves. This can be seen in the 'Providing Specialist Support' cluster which has the largest share of literature-only statements (96%), relating to specialised techniques or knowledge (psychotherapy, cognitive behavioural therapy) and localised service features. In the participant statements alone, there is variation in social prescriber engagement with clients and organisations. Some participants take a more direct role by providing activities, while others pre-audit organisations before referral; other social prescribers report taking responsibility for public health messaging, while some report writing case studies. There exists a perceived flexibility even on a local

Figure 6.

Go-zone map



scale, which may be due to the professional background of social prescribers, the organisational perspective, or specific requirements of local populations.

This study's results indicate a clear trend that the most important and most frequently performed roles are related to the individual traits demonstrated in performance. The statements in the top right of the Go-Zone map (core job role) are more likely to originate in 'Skills' (29%) or 'Connecting Clients with Community' (22%) clusters, which contain a mixture of performance descriptors and duties. In the top 12 highest rated statements, 50% originate in the 'Skills' cluster, suggesting that the most vital aspects of the role are individual attributes such as 'Being Empathetic' and 'Being a listener', as well as skills and approaches such as 'Delivering a flexible service' and 'Building trust'.

It is interesting to note that 62% of the 'Skills' statements found in the top right Go-Zone were exclusively found in the literature. It may be that social prescribers did not recognise the value of these traits in their performance during the brainstorming phase despite their perceived importance and frequency of performance. It may also be a response to the phrasing/interpretation of the focus prompt as personal attributes may not have been considered by participants as a valid response, instead favouring statements describing activity. In contrast, the least important and frequently performed statements found in the bottom left Go-Zone were mostly from the 'Providing Specialist Support' (41%) and 'Working in a Person-Centred Manner' (20%) clusters. This pattern is echoed in the 12 lowest rated statements; 67% were found in the 'Providing Specialist Support' cluster and 83% were exclusively found in the literature. Unlike the top right zone statements, these mostly focused on specific training, knowledge or service delivery, for example, 'Coordinating care', 'Having expertise in psychotherapy' and 'Acting as a case manager for patients'. On this end of the scale it may be interpreted that statements represent localised needs that are unrelated to the performance of social prescribers from Wales included in this study.

When comparing the results of literature-derived statements and participant generated statements, a number of issues are apparent. First, some statements are shared between the literature and participants in the original data ($n = 13$). These focus on procedural roles including 'collecting data', 'conducting face-to-face meeting' or 'signposting clients to community organisations'. It was expected that there would be differences related to specified knowledge or skills, for example, psychotherapy or counselling. It was unexpected to note the difference in statements including attribute declarations such as 'building trust' and 'being empathetic'. These statement types appeared more frequently in literature, despite being recognised as some of the most important during the rating exercise. This suggests that social prescribers perform these roles without self-recognition or that the focus prompt structure did not elicit this type of response.

Other differences include the greater detail provided by the literature on the location of appointments and the type of information on offer. Despite the low overall percentage of duplicate statements, some statements may share contextual meaning but remain separate due to the coding method and language used. For example, the statement from a participant 'Connecting individuals into their community' and the statement 'Supporting patients access to community organisations' from literature may describe the same process, despite being coded as separate statements; especially when considering their mutual placement in the same cluster and similar importance and frequency scores. Conversely, other statements with a perceived similarity are separated in their rating scores. 'Making connections between third sector and primary care/health', 'Networking between public sector and third parties' and 'Improving intersectoral working' are all rated differently between the top left and top right Go-Zones. This may highlight the local prevalence of certain phrases, resulting in a greater perceived value and relevancy. In this case, the divergent terminology is 'intersectoral', which was perceived as frequently performed but less important than 'networking'.

This is not surprising as reports of services indicate a fluctuation in language even in the most fundamental attributes of services including the title given to social prescribers and service procedures.[17] Further enquiry into social prescribing terminology use and how it changes on a local scale could provide valuable insight into the differences between UK services. There appears to be a level of parity in the practice reported by the participants and in literature, particularly in roles considered the most frequently performed and important. Statements from the literature account for 42% of the top right Go-Zone total. The greatest deviation exists in the bottom left Go-Zone (least important and least frequently performed), which mostly consists of literature statements (83%).

In light of recent calls for social prescriber role standardisation,[9] the study results raise the issue of how standardisation may proceed. Certain elements of social prescriber performance are tied to local need, client group and service, including the skill sets/techniques employed by social prescribers, their interaction with other healthcare staff and the use of local services. Arguably, the success of many social prescribing services is ascribed to their flexibility[17] to meet need. While these local elements may not be relevant for most services, their inclusion retains value in that it suggests a greater sense of personalisation for a particular service and its clients. It may be argued that the standardisation of these elements could have an overall negative impact on services. However, where consistency already exists, further standardisation could improve services already being delivered. When comparing these results to social prescribing training needs as reported by Wallace et al.,[11] similarities are visible in the value and consistency placed on delivery and interpersonal skills. Wallace et al. suggest that the most important learning needs were related to ‘Compassion’, such as ‘Building rapport’ and maintaining ‘Professional Boundaries’, while training was simultaneously unavailable. These specific outcomes may benefit from inclusion in training courses and future standardisation, especially as these attributes were consistent in statements generated by participants and literature in this study.

CONCLUSION

This study offers a number of valuable insights into the current social prescribing landscape in Wales. First, it identifies roles and activities regularly performed by social prescribers that are often flexible and diverse, demonstrating similarities in approach and person specification while demonstrating distinct differences in practice. It gives insight into the perceived value of these roles by those performing them. In particular, the study demonstrates that social prescribers consider interpersonal skills to be more important skills than specialised techniques, and knowledge of local community organisations is considered fundamental. Finally, it offers an initial comparison of social prescribers practice reported in literature (including projects in England, Scotland and the Netherlands) with that of Wales, demonstrating similarities in approach but variety in experience and expected skill levels and areas. These results suggest future value in conducting similar research to generate primary data in alternative UK locations with social prescribers.

STRENGHTS & WEAKNESSES

Although not comprehensive, due to the limited sample size and use of literature as opposed to primary data collection, this study offers an initial comparison of third-sector managed social prescribing services (Wales) with alternative designs such as those run by the NHS. This comparison is often neglected in research, with the majority of studies focusing only on NHS-commissioned and -operated services.[16,23] The study has a small sample size; however, it remains within range for the GCM method, and its stress value (measuring validity) is within the recommended range.[18]

There are potential limitations to using literature to generate statements as studies are reported from a third-party perspective, which may result in misinterpretation of roles due to their complex interaction with statutory and third-sector organisations and the primary-care focused representation of social prescribing’s definitions.[15] As such future research comparing these results with primary data collected in other locations would potentially provide more direct comparison between the groups and would allow for greater exploration of general and local roles. More research is also needed to understand the justifications for difference in service provision and the factors that inform service design. It is envisaged that utilising this and similar data could provide a platform for the bottom-up development of a competency framework, which may aid the process of link workers’ professional development and/or standardisation.

AUTHOR CONTRIBUTIONS

T.R. took overall responsibility for all areas including data collection, analysis and production of final manuscript. C.L., D.P., C.W., and M.W. provided input throughout the review process, contributing to the final manuscript. All authors approve the final version and T.R. is the guarantor.

CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous 3 years and no other relationships or activities that could appear to have influenced the submitted work.

DATA SHARING STATEMENT

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TRANSPARENCY DECLARATION

The lead author, Tom Roberts, affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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SUPPLEMENTAL MATERIAL

Supplemental material for this article is available online.

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