



Implementation of social prescribing: lessons learnt from contextualising an intervention in a community hospital in Singapore

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Summary

The need to develop holistic public health approaches that go beyond treating the biological causes of ill health, to addressing the social determinants of health, have been highlighted in the global health agenda. Social prescribing, where care professionals link individuals to community resources that tackle social needs have gained increasing traction worldwide. In Singapore, SingHealth Community Hospitals introduced social prescribing in July 2019 to manage the complex health and social needs of the aging populace. Faced with the paucity of evidence on the effectiveness of social prescribing and its implementation, implementers had to contextualise the theory of social prescribing to patients' needs and setting of practice. Using an iterative approach, the implementation team constantly reviewed and adapted practices, work processes and outcome measurement tools based on data and stakeholder feedback to address implementation challenges. As social prescribing continues to scale in Singapore and take root in the Western Pacific region, agile implementation and continued evaluation of programmes to build an evidence pool will help to guide best practices. The aim of this paper is to review the implementation of a social prescribing programme from the exploratory phase to full implementation, and draw lessons learned in the process.

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Introduction

The intersection of social and health inequalities is evident between and within countries.¹ Individuals who have experienced disadvantages in social determinants of health also shoulder a disproportionate burden of poor health and premature mortality.² Social determinants of health, defined as the “conditions in the places where people live, learn, work, and play”,³ include accessibility and quality of healthcare, education, economic and housing stability, availability of healthy food and social support.⁴ These domains have been shown to affect a range of health risks and outcomes.⁴ The social gradient in health underscores that taking action to address these determinants is pertinent, not just to promote population health, but as a form of social justice to ensure basic needs are met.¹ The Declaration of Alma-Ata, the Commission on Social Determinants of Health

(SDOH), and the Rio Political Declaration on SDOH highlighted that addressing the social drivers of health must be at the core of achieving universal health coverage.⁵ Similarly, the WHO Regional Office for the Western Pacific Region (WPRO) has advocated for the strengthening of capacities for equity monitoring as the basis for formulating laws, policies, and programmes to tackle health equity.⁶ These concerted efforts demonstrate that bridging the health and social gap necessitate transformation on a societal and global level.⁷

To address the social and structural conditions on health,⁸ supporting care professionals to address social determinants through interventions like social prescribing has been considered one of the key principles for promoting more equitable health outcomes for patients, families, and communities.⁹ First practiced in the United Kingdom (UK) as early as in the 1990s, social prescribing seeks to address SDOH like literacy, food security and social support.¹⁰ It arose in response to the trend that up to one-quarter of patients in the UK were visiting their primary care providers for social issues, and public health interventions were disproportionately focusing on treating the biological causes of ill health.¹¹

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Social prescribing is an intervention aimed at improving wellbeing by linking individuals to community assets with a view to optimizing their social determinants of health. It has been shown to benefit vulnerable populations who experience loneliness, social isolation, suffer from multiple co-morbidities and frequently utilize healthcare services.¹¹ Social prescribing has also taken root in the Western Pacific region guided by the WPRO Regional Action Plan. For example, a social prescribing toolkit and an OpenWHO training programmes for practitioners of social prescribing have been developed to support the implementation of the programme in the region.¹²

There has been extensive support and advocacy for social prescribing at a policy level, and existing evidence suggests its effectiveness in enhancing well-being and reducing dependence on health services.^{13,14,18} However, there remains a scarcity of robust evaluations of its effectiveness where studies conducted were limited by poor methodological quality and a lack of rigorous study designs.¹⁵ There is also an absence of rigorous evidence on the implementation of the link worker model of social prescribing within care settings and the mechanisms involved in the delivery of these interventions.^{16,17} Therefore, this article seeks to fill this knowledge gap by demonstrating how the link worker model of social prescribing was contextualised and adapted within a community hospital in Singapore, lessons which may shed light on the factors and mechanisms that facilitate its implementation.

Evidence based social prescribing is work in progress

Among the many challenges faced by early adopters of social prescribing is the paucity of evidence of effectiveness,¹⁸ and the difficulty of developing evidence because social prescribing by nature is a complex intervention.¹⁹ Almost all good interventions start off on the foundations of good theory and practice, before sufficient evidence accumulates, at which point it becomes evidence-based practice. A good theory is one that is coherent, congruent with experiences, testable, simple, generalizable, and supports the development of other theories.²⁰ Social prescribing is a theory that explains the observation of poor outcome that results from "medical prescription" and predicts that improvements can be achieved with additional interventions aimed at improving the social determinants of health.²¹ It is a theory waiting for evidence to gather, as more practitioners embark on well-designed programmes that are thoughtfully implemented and evaluated. Practitioners and programme leaders should therefore incorporate evaluations into their programme design and follow implementation best practices as far as possible. Social prescribing programmes are being implemented around the world. Each programme

has the potential of contributing to the evidence pool that will guide further best practices in social prescribing.

As a complex intervention with multiple interacting components, including the behaviours of practitioners and care recipients, multiplicity of stakeholders, variability of practice and interdependence of outcomes, social prescribing is inherently difficult to study.¹⁹ Using the case study of Singapore, we hope to share how Singapore has adapted the theory of social prescribing to meet the needs of its target population. Three key approaches guided our implementation.

Firstly, we recognize that a rigid definition of social prescribing is not possible because social prescribing must be contextualised to the needs of the person, culture, community, healthcare system and the setting of practice. As part of the implementation, it is important to have a working definition that is consistent with the broader definition and at the same time specific enough to enable the development of processes in the programme that are implementable. Within the context of SCH, social prescribing is defined as an intervention of identifying patients with suboptimal social determinants of health and facilitating the linkage to community assets, with the aim of improving patients' wellbeing.

Secondly, we applied an iterative approach based on double loop learning to the programme design (Figure 1). Double loop learning involved constantly reviewing existing practices and its underlying assumptions through feedback from our stakeholders involved in the implementation. These data and feedback in turn contributed to the modification of the preliminary hypotheses.

Thirdly, we adapted the Agile method to guide our implementation process (Figure 2). Within the context of software development, it has been widely used to facilitate the production of multiple versions in a timely manner and allows for continual enhancement from stakeholder input.²² The emphasis on responsiveness, adaptability and rapid iterative development lends it well to developing multi-component complex programmes that have to account for complexities in behavioural and organisational changes in the real-world context.²² With the recognition that we could not wait for the intervention (i.e., evidence, processes, resources) to be 'perfect' before rolling out the programme, we implemented a 'baseline' social prescribing model that was guided by the essential elements of social prescribing. This preliminary model formed the basis for which we could continuously refine and improve. During the implementation, we accepted that requirements as stipulated in the baseline programme framework is not final and that requirement discovery will happen during implementation. We allowed the implementation team to find solutions for improvement through self-organization and collaboration with the multidisciplinary team taking care of our patients. We encouraged early

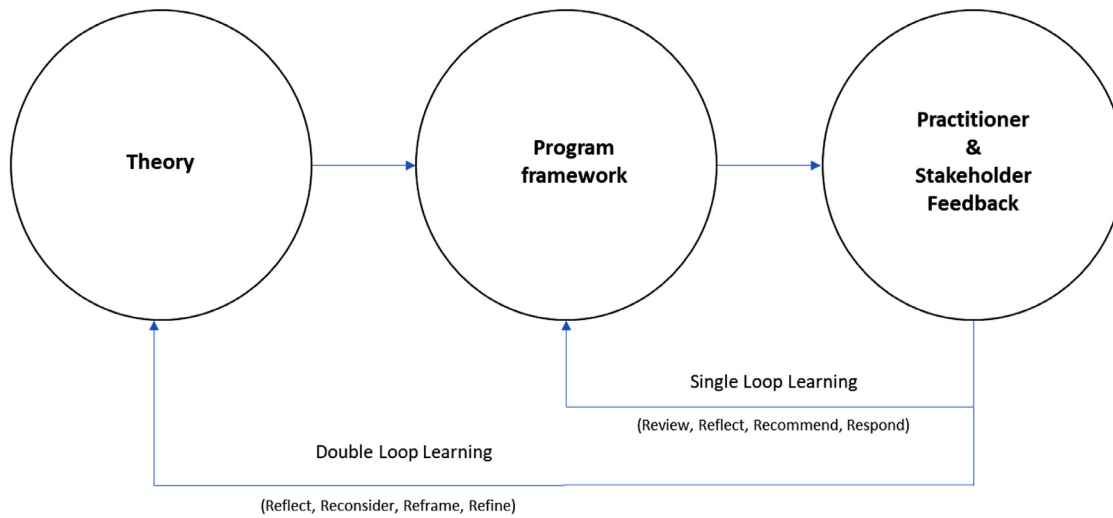


Figure 1. Iterative approach in programme design based on double loop learning.

delivery of service, flexible responses and problem solving when changes in the environment were encountered.

Setting of our practice

Singapore is a developed country, and the healthcare system is consistently ranked among the most efficient in the world.²³ In Singapore, some elderly patients require a longer period of recovery and rehabilitation after a bout of major illness. After a short stay in an

acute hospital, their care is continued in community hospitals that are purpose-built to support patients during the recovery phase of their healthcare journey.²⁴ SingHealth Community Hospitals (SCH) operates three such community hospitals with a total of 1,100 bed complement. Community hospitals in Singapore provide medical, rehabilitative, and nursing care for patients, attending to their medical, psychological, and social needs so that patients can reintegrate to their communities when they leave the hospital.²⁴ In 2016, the Ministerial Committee on Ageing in Singapore developed



Figure 2. Adapted Agile method in implementation.

an action plan for successful ageing after extensive consultations with the citizenry.²⁵ Healthy ageing encompasses multiple dimensions, including physical, mental, social, and emotional wellbeing. The plan calls for re-organization of care delivery that will support the aspiration of seniors to stay in good health and to receive health and social care near their home and within the community that they live in.²⁵ Responding to this call for action, SCH sought to develop a new model of delivering community hospital care.²⁵

In July 2019, SCH started a social prescribing programme as one of its strategies to improve the health and wellbeing of patients. Experience in the community hospitals showed that patients with the greatest difficulties in re-integrating back to the community are more likely to have less optimal social determinants of health. The key concept of social prescribing, which is to improve the wellbeing of patients by linking them to community assets, is congruent with the daily experiences of healthcare workers in the community hospital. It is also consistent with WHO's Regional Action Plan on Healthy Ageing in the Western Pacific which calls for support of older population through partnerships between community service providers and the community health team.⁷ In Singapore, older adults have been found to tap on their own repertoire of knowledge and experiences to cope with daily stressors/ challenges but may encounter barriers to the access and utilisation of particular external resources.²⁶ Thus, health practitioners like wellbeing coordinators situated within the hospital can play a role in mapping available

community assets and facilitating its access, so as to complement and strengthen older adults' accrual of these resources for their wellbeing.²⁶

Despite the Covid-19 pandemic, the programme had grown from strength to strength. Our experience has shown that social prescribing can be contextualized to different countries, cultures, care settings and health-care systems. We would like to share some of the lessons learned from our implementation of social prescribing in SCH.

Lessons from the preparatory phase

Lessons from contextualising the theory/evidence through stakeholder engagement

Just as patients are unique, communities and health systems in different countries have distinct qualities. Universal concepts such as social determinants of health and social prescribing need to be understood in context and adapted for effective implementation. We started our project by forming an implementation team which included members of the hospital's senior management and managers who have been identified to develop and lead the wellbeing coordinators. The team studied social prescribing through a review of the literature, consultation with subject matter experts and visits to best practices. An adapted programme theory (Figure 3) was then derived through consultation with local stakeholders in both the health and social care sectors. The resources needed, work processes and intended programme outcomes were deliberated during the engagement process.

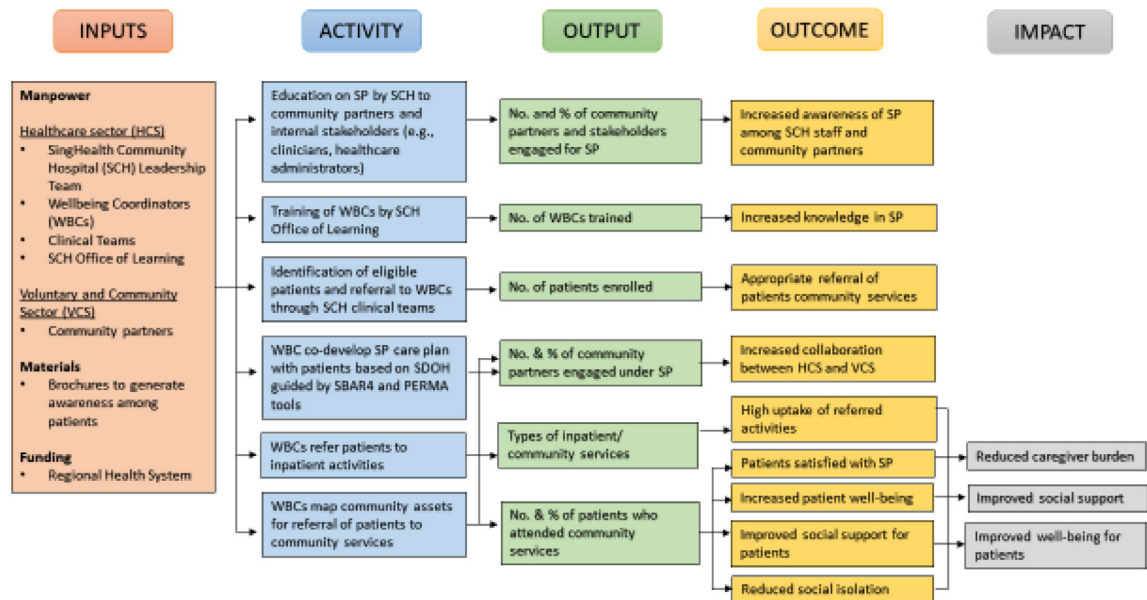


Figure 3. Social prescribing adapted programme theory.

Lessons from selection and preparation of the pilot site

Our plan was to implement social prescribing across three community hospitals. However, as there were no formal programmes of social prescribing in Singapore, there was inadequate knowledge of the level of acceptability by stakeholders, how it will fit with existing programmes integrating health and social care, and the competencies and tools needed by our practitioners of social prescribing. With the absence of information, we did not proceed with a full implementation of SP. Instead, we first gathered the required resources, developed new work processes, and installed the pilot programme at 1 of our 3 hospitals. We realized that new competencies are needed for social prescribing. This led to the development of a new professional role – the wellbeing coordinator, who would be responsible for identifying the social issues that influence patients' well-being, co-create a care plan with patients that is compatible with their needs, and refer them to suitable community resources post-discharge. To support the capability-building, we started an interim training programme as we worked on developing a definitive training programme that is compatible with our country's Technical and Vocational Education and Training (VTET) standards. The interim training programme was delivered through lectures, weekly peer-led case discussions and multi-disciplinary team meetings on challenging cases. These series of lectures covered topics including biopsychosocial model of care, social determinants of health, theory of social prescribing, assessment tools of social prescribing and wellbeing based on the concepts of positive psychology. The team meetings also served as valuable platforms for the wellbeing coordinators and the clinical team to achieve shared understanding of problems and co-create strategies to better support patients.

Initially, based on the experiences of overseas practices, we selected the Patient Activation Measure-13 (PAM-13) as an indication of whether the programme led to improvements in patients' knowledge, skills, and management of their health condition. However, this measure was found to be unsuitable when we tested the tool in our context based. Our practitioners found the tool to be more suitable for chronic disease management and did not meet the needs of measuring wellbeing and social connection. A search for new tools for measuring outcome was made based on our adapted programme theory. As we started social prescribing, we also learned that we needed a systematic way of identifying and linking patients to appropriate community assets. This preparatory phase was very helpful in shaping our program before we committed resources to implementation at our selected site.

Lessons from the implementation phase

Lessons from the installation of our pilot

We modified our programme significantly based on the lessons learned during the preparatory phase. When the programme was implemented, we realized that practitioners had tendencies to become task oriented in their enthusiasm to prescribe activities. When we tried to link patients to community resources, we discovered that existing directories and maps of community services listed were often not updated. On the other hand, many helpful resources discovered in our community walkabouts were not listed. A few months into our implementation, the Covid-19 pandemic reached Singapore. Contact tracing and safe entry to crowded facilities required the use of smart phones or tokens and many seniors had difficulty coping (especially in the early phases). We realized from this experience that digital literacy is an emerging social determinant of health that also needs to be addressed by social prescribing.

Extensive and regular discussions with the implementation team were conducted in response to the aforementioned barriers and difficulties encountered. Solutions were developed collaboratively before changes were made to the programme implementation.

First, we trained wellbeing coordinators to adopt motivational interviewing (MI) techniques in their care planning. This client-centered approach encourages positive behavioural changes among patients through reflective listening and shared decision-making.²⁷ It also facilitates the cultivation of a strong provider-patient relationship, one that is anchored in trust, respect and sensitivity to the patients' needs and circumstances (e.g., life history, social support) to develop care plan through joint decision making.

Secondly, we started to map assets in the community based on the asset-based community development approach, which identifies the strengths, capacities and skills among individuals, organisations, places, and relationships in a community.²⁸ This is important because the intervention cannot operate in silos nor through unidirectional transactions. Community resources are assets that are there to be discovered, brought into partnership, and sustained through the building of social capital.

Thirdly, we searched and adopted new outcome measurement tools that were more consistent with our needs. These measurement tools include the Brief Inventory of Thriving (BIT), Medical Outcome Study: Social Support Survey (MOS-SSS) and the Zarit Burden interview to assess patients' well-being, perceived social support and caregiver burden respectively. These tools were chosen because they are easy to administer and valid and reliable instruments to measure the three intended outcomes of our social prescribing

intervention.²⁹ Both the Zarit Burden interview and MOS-SSS have also been tested within Asian populations (e.g., Singapore, Taiwan)^{30,31} and we hope to assess the applicability of the BIT tool through our subsequent evaluations.

During this phase, our adapted programme theory was further refined and contextualized to our local culture. As a result, we were able to provide better assessment and outcome measurement tools for our practitioners. During implementation, we were able to validate our curriculum and develop it into a competency-based training system which gave our staff the confidence needed to perform the tasks of social prescribing. We were able to continue our engagement with external and internal stakeholders to promote their understanding and obtain their support for social prescribing. During this phase, we gained a more accurate understanding of the resources needed, work processes were fine-tuned, and the goals of the program became clearer.

Finally, our wellbeing coordinators developed a programme to teach seniors the basics of using smartphones to overcome social isolation caused by the Covid-19 pandemic. Using adult learning principles, we developed lessons on the use of smartphones to connect to wireless networks, activate contact tracing applications, scan QR codes and connect with others using social media applications.

Lessons from scaling the programme

As we scaled the implementation of the programme to two other community hospitals, we learned that we need to focus on improving the quality of our intervention and this is a continuous process. There is also a risk of inappropriate variation of practice due to implementers' lack of experience and understanding of the programme theory. Experienced staff are needed to guide the implementation at new sites. Effort is required to ensure fidelity of processes at each iteration so that programme evaluations can be carried out. Improvements to the program can be made based on an accurate understanding of what worked well and what may not be working as expected. The importance of leadership in implementation is also widely recognized. In particular, the adaptive leadership approach and the use of the agile method enabled the implementation team to rapidly identify and solve challenges that emerged as the programme was implemented. Beyond the leadership within the social prescribing implementation team, acquiring the buy-in and recognition of the broader organisational leadership also facilitated the integration of the programme in the clinical context as well as collaboration across various professional disciplines.

Having gained experience in our implementation of social prescribing in the community hospital setting, we

are now working to scale across settings of care. One key consideration was the difference of the care model between primary care clinics and the community hospitals. In primary care, patient contact time is shorter but continues over a longer time frame. Thus, different work processes and outcome measures will be required. Drawing from lessons learned and using double loop learning, we have developed a programme theory for social prescribing in primary care that is contextualised for Singapore. This is currently at the initial implementation phase in a pilot primary care site in our regional health system.

Social prescribing is a complex intervention. Implementation of complex intervention occur in phases over time which usually stretches over years. It is useful for planners and practitioners to have a common understanding of the programme and the iterative nature of successful implementation. A framework that allows exploration in the initial phases will facilitate evaluation and future quality improvement.³²

Conclusion

Constant refinements to the theory during implementation of social prescribing is helpful in improving the program. There is opportunity to collect data and feedback as programmes are running. Such data contribute to program improvement as well as the evidence of effectiveness. Moving forward, we hope to conduct a realist evaluation within the community hospital context. This evaluation will utilise a mixed methods approach to understand how healthcare staff, wellbeing coordinators and patients perceive the facilitators and barriers towards participation and implementation, as well as to assess the impact of the programme on patients' outcomes. Findings will help us refine our programme theory on what works in social prescribing, why and for whom, and develop ways to enhance its acceptability, feasibility and efficacy among patients and programme implementers. Time and patience are needed to refine the intervention before it can be scaled to more community sites. Expectations must be managed for programs that operate in policy environments that emphasize on achieving timely results and return on investment. Pooling of evidence will be challenging due to the heterogeneous nature of social prescribing as an intervention. Nevertheless, social prescribing is a sound theory and evidence will grow with increasing numbers of well documented and evaluated studies. A systematic and contextualised approach in implementation is essential for social prescribing to be effective.

Contributors

A/Prof Lee Kheng Hock - overall supervision, conceptualisation, writing and revision of the manuscript.

A/Prof Low Lian Leng - supervision and revision of the manuscript.

Ms. Lu Si Yinn - writing and revision of the manuscript.

Prof Lee Chien Earn - revision of the manuscript.

All authors read and approved the final manuscript.

Declaration of interests

None.

References

- Marmot M. Social determinants of health inequalities. *Lancet*. 2005;365(9464):1099–1104.
- Taylor LA, Tan AX, Coyle CE, et al. Leveraging the Social Determinants of Health: what works? *PLoS One*. 2016;11(8):e0160217.
- Marmot M. Universal health coverage and social determinants of health. *Lancet*. 2013;382(9900):1227–1228.
- Centers for Disease Control and Prevention (CDC). About Social Determinants of Health (SDOH). 2021 [updated 2021 Mar 10; cited 2022 Mar 27]. Available from: <https://www.cdc.gov/socialdeterminants/about.html>.
- Donkin A, Goldblatt P, Allen J, Nathanson V, Marmot M. Global action on the social determinants of health. *BMJ Glob Health*. 2018;3(suppl 1):e000603.
- World Health Organization. Health equity and its Determinants in the Western Pacific Region. 2021 [cited 2022 Mar 27]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/333944/9789290618966-eng.pdf?sequence=1&isAllowed=y>.
- Marmot M, Bell R. Fair society, healthy lives. *Public Health*. 2012;126:S4–S10.
- Marmot M, Friel S, Bell R, Houweling TA, Taylor S. Closing the gap in a generation: health equity through action on the social determinants of health. *Lancet*. 2008;372(9650):1661–1669.
- Andermann A. Taking action on the social determinants of health in clinical practice: a framework for health professionals. *CMAJ*. 2016;188(17–18):E474–E483.
- World Health Organization (WHO). Promoting healthy ageing in Singapore. 2021 [cited 2022 Mar 27]. Available from: <https://www.who.int/news-room/feature-stories/detail/promoting-healthy-ageing-in-singapore>.
- Buck D, Ewbank L. What is Social Prescribing? The King's Fund; 2017 [Updated 2021 Nov; cited 2022 Mar 27]. Available from: <https://www.kingsfund.org.uk/publications/social-prescribing>.
- World Health Organization (WHO). Regional action plan on Healthy Ageing in the Western Pacific—executive summary and supplementary materials. 2021 [cited 2022, Apr 14]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/350210/WPR-2021-DSI-001-eng.pdf?sequence=1&isAllowed=y>.
- Polley MJ, Pilkington K. A review of the Evidence Assessing Impact of Social Prescribing on Healthcare Demand and Cost Implications. University of Westminster; 2017. [cited 2022 Jul 14]. Available from: A review of the evidence assessing impact of social prescribing on healthcare demand and cost implications : WestminsterResearch.
- Bickerdike L, Booth A, Wilson PM, Farley K, Wright K. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. *BMJ Open*. 2017;7(4):e013384.
- Wood E, Ohlsen S, Fenton SJ, Connell J, Weich S. Social prescribing for people with complex needs: a realist evaluation. *BMC Fam Pract*. 2021;22(1):53.
- Chng NR, Hawkins K, Fitzpatrick B, et al. Implementing social prescribing in primary care in areas of high socioeconomic deprivation: process evaluation of the 'Deep End' community Links Worker Programme. *Br J Gen Pract*. 2021;71(713):e912–e920.
- Mossabir R, Morris R, Kennedy A, Blickem C, Rogers A. A scoping review to understand the effectiveness of linking schemes from healthcare providers to community resources to improve the health and well-being of people with long-term conditions. *Health Soc Care Commun*. 2015;23(5):467–484.
- Husk K, Elston J, Gradinger F, Callaghan L, Asthana S. Social prescribing: where is the evidence? *Br J Gen Pract*. 2019;69(678):6–7.
- Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ*. 2008;337:a1655.
- Higgins ET. Making a theory useful: lessons handed down. *Pers Soc Psychol Rev*. 2004;8(2):138–145.
- Thomas J. Scholarly views on theory: its nature, practical application, and relation to world view in business research. *Int J Bus Manage*. 2017;12:232–233.
- Hekler EB, Klasnja P, Riley WT, et al. Agile science: creating useful products for behavior change in the real world. *Transl Behav Med*. 2016;6(2):317–328.
- Miller LJ, Lu W. Asia Trounces U.S. in Health-Efficiency Index Amid Pandemic. Bloomberg; 2020. [cited 2022 Mar 27]. Available from: <https://www.bloomberg.com/news/articles/2020-12-18/asia-trounces-u-s-in-health-efficiency-index-amid-pandemic>.
- Ministry of Health Singapore. *Community Hospital Care—Handbook for Patients*. 2017. [cited 2022 Mar 27]. Available from: https://www.moh.gov.sg/docs/librariesproviders/resources-statistics/educational-resources/handbook-on-ch-care-for-patients_210617.pdf.
- Ministry of Health Singapore. "I feel young in my Singapore!" – action plan for successful ageing. 2016 [cited 2022 Mar 27]. Available from: https://sustainabledevelopment.un.org/content/documents/1525Action_Plan_for_Successful_Aging.pdf.
- Seah B, Espnes GA, Ang ENK, Lim JY, Kowitlawakul Y, Wang W. Supporting the mobilization of health assets among older community dwellers residing in senior-only households in Singapore: a qualitative study. *BMC Geriatr*. 2020;20(1):411.
- Resnicow K, McMaster F. Motivational interviewing: moving from why to how with autonomy support. *Int J Behav Nutr Phys Act*. 2012;9:19.
- Mathie A, Cunningham G. From clients to citizens: asset-based Community Development as a strategy for community-driven development. *Dev Pract*. 2003;13(5):474–486.
- Su R, Tay L, Diener E. The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Appl Psychol*. 2014;6(3):251–279.
- Seng BK, Luo N, Ng WY, et al. Validity and reliability of the Zarit Burden interview in assessing caregiving burden. *Ann Acad Med Singap*. 2010;39(10):758–763.
- Shyu YI, Tang WR, Liang J, Weng LJ. Psychometric testing of the Social Support Survey on a Taiwanese sample. *Nurs Res*. 2006;55:411–417.
- Skivington K, Matthews L, Simpson SA, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*. 2021;374:n2061.