Heart failure (HF) is one of the most common reasons for hospitalizations in North America. In Canada, despite the introduction of newer drugs for guideline-directed medical therapy (GDMT), hospitalization rates for HF have not decreased in the last decade. Furthermore, HF carries a high mortality rate. The average 1-year mortality rate in patients with HF is 33%, and, in Canada, the in-hospital mortality rate at 1 year following hospitalization for HF is 8.6%. HF also adversely affects patient-related outcomes (PROs) such as physical limitations, social limitations, symptoms, and quality of life. Despite available treatments shown to reduce HF-related morbidity and mortality, real-world Canadian data suggest that HF mortality and rehospitalization are increasing.

Several social determinants of health (SDOH) have been strongly associated with both hospitalizations and mortality in heart failure (Fig. 1). Nonetheless, SDOH have generally been looked at in isolation, and their relative importance—or interactions—with other predictors of adverse outcomes—such as adherence—are poorly understood. Previous studies have identified SDOH such as education, insurance coverage, and marital status as strong independent predictors of mortality in HF. Similarly, insurance, disability, neighborhood income, social instability, education, social support, having children, language, and personal income were strong independent predictors of hospitalizations in HF. SDOH are also directly related to PROs, and tools developed to measure PROs in HF—such as the Kansas City Cardiomyopathy Questionnaire (KCCQ)—measure such SDOH as social isolation, well-being, ability to work, mobility, and capacity for self-care. Indeed, addressing SDOH is recommended by most HF international society guidelines, but little to no guidance is offered as to how to address them.

Nonadherence is the “failure of an individual to follow a prescribed therapeutic regimen.” It is closely related to SDOH and is also strongly associated with adverse outcomes in HF (Fig. 1). In Canada, a recent survey revealed that 30% of participants who were prescribed medications had stopped taking them prematurely and that 25% never filled their prescriptions. GDMT for HF has repeatedly been shown to reduce hospitalizations and death in both randomized controlled trials (RCTs) and observational studies, whereas nonadherence to GDMT has been shown to be one of the strongest predictors of hospitalizations and death in HF. Similarly, lower adherence to lifestyle modifications, such as exercise and dietary or fluid restrictions, have also been associated with an increased risk of hospitalization and death.

Some of the strongest predictors of adherence in patients with CV diseases are SDOH. Therefore, adherence likely mediates the relationship between SDOH and outcomes in HF (Fig. 1). However, little is known about how to effectively improve adherence in HF. A meta-analysis of medication-adherence interventions to improve HF hospitalizations and reduce mortality showed a significant but modest impact on adherence, hospitalizations, and deaths. The studies included were highly heterogeneous, and singling out effective interventions is challenging. Furthermore, most studies did not individually show improvement in outcomes, and one explanation may be that most interventions aiming to improve adherence did not directly address SDOH.

A relatively new type of intervention, referred to as social prescribing (SP), is specifically designed to address SDOH and

---

Received for publication November 1, 2023. Accepted December 27, 2023.

Corresponding author: Dr Louise Pilote, Research Institute of the McGill University Health Center, 5252 Boulevard de Maisonneuve West, Office 2B-39, Montréal, Québec H3A 1A1, Canada. Tel.: +1-514 934-1934, ext 44722; fax: +1-514 843-1676.

E-mail: louise.pilote@mcgill.ca

See page 974 for disclosure information.
is gaining popularity.\textsuperscript{21} Using a consensus process, Muhl et al.\textsuperscript{22} established an internationally accepted conceptual and operational definition of SP: linking health and social services in the community for the benefit of socially vulnerable populations. Practically speaking, a lay worker (eg, someone who does not hold a professional degree in social work), called a "link worker," evaluates a patient’s social needs and SDOH and then performs SP, consisting of targeted referrals to services or supports within the community. SP is already an important part of patient care in the United Kingdom, where primary care networks have worked with nationally funded link workers since 2019.\textsuperscript{21} However, SP has not yet been integrated into the Canadian health system nor has it been integrated in specialty clinics such as HF clinics, even in the United Kingdom. In fact, SP has almost exclusively been studied in primary care settings, yet referral centres that care for some of the sickest and most vulnerable patients with HF are often the most disconnected from the community, its resources, and its stakeholders.

Several studies support the effectiveness of SP to address social needs and SDOH-related vulnerabilities (Fig. 1). A systematic review of SP showed that, in the United Kingdom, it is associated with a 28% reduction in presentation to primary care and a 24% reduction in presentation to emergency services.\textsuperscript{23} An RCT on SP also showed that—for an equal number of visits to primary care—SP led to more medication prescriptions, suggesting an increased willingness to take medications and to a decreased number of referrals to specialists. SP has also been shown to improve health behaviours: notably, increased physical activity.\textsuperscript{24} In qualitative studies, SP beneficiaries reported that link workers had helped them “identify their needs and take action in improving their health”\textsuperscript{25} and have identified the development of trust with their link worker as the main enabler of their behavioural changes.\textsuperscript{26,27}

Many of the SDOH addressed with SP have implications for adherence. For instance, SP was effective at reducing reported loneliness and isolation,\textsuperscript{28} which are associated with both adherence and adverse outcomes in HF.\textsuperscript{29,30} It has also effectively reduced unemployment as well as food and housing insecurity: all strongly associated with adherence.\textsuperscript{31,32}

In summary, SODH have been strongly associated with both adherence and adverse outcomes in HF. International society guidelines recommend addressing SDOH in clinical practice and research but offer little guidance. Indeed, addressing SDOH in patients with cardiovascular diseases poses many challenges. SP could help address such social needs and could have a substantial impact in referral centres, especially in patients with HF who are among the most vulnerable patients. SP is a way to link clinical to social needs and presents a novel avenue to improve adherence and reduce adverse outcomes in Canadian patients with HF.

**Funding Sources**

No funding was provided for this article.

**Disclosures**

The authors have no conflicts of interest to disclose.

**References**


