

# Re-Imagining Care for Older Adults with Heart Failure and Other Serious Illnesses

Kieran Quinn, Sarina R. Isenberg, Susanna Mak and Leah Steinberg

## Abstract

**Most patients with heart failure prefer to die at home and want to avoid unnecessary or aggressive treatments as they approach the end of life. Collaborative care models that provide coordinated, linked services from palliative and subspecialty practitioners may enable more effective heart failure-specific palliation in the home setting. Using both administrative health data at ICES and qualitative data from interviews with cardiology and palliative care physicians and nurse practitioners, researchers have found new evidence that collaborative care integrated into a regionally organized system of palliation positively impacts outcomes for people with heart failure and meets quality indicators for end-of-life heart failure care across Ontario.**

## Background

Innovative models of collaborative palliative care are urgently needed to meet care gaps among people with heart failure (McDonagh et al. 2021; Wachterman et al. 2022). Most people living with chronic heart failure die in hospital despite many preferring an out-of-hospital death and care at home (Gomes et al. 2013; Heyland et al. 2006; Quinn et al. 2020). These person-specific preferences are recognized at a system level; avoidance of unwanted healthcare and an at-home death are quality indicators for end-of-life care used at both provincial and national levels (De Roo et al. 2013, 2014; HQO 2018). An important challenge for meeting these quality indicators is system-wide organization and acceptance of delivery of home-based palliative care.

## A Palliative Care Model that Works for People

Our model focuses on integrating a palliative approach to care within existing cardiology care. Home-based palliative care and primary care clinicians support people with heart failure at home with traditional symptom management, which includes diuretic management when appropriate. The clinicians provide home visits and telephone support throughout the person's illness, with support from provincial homecare

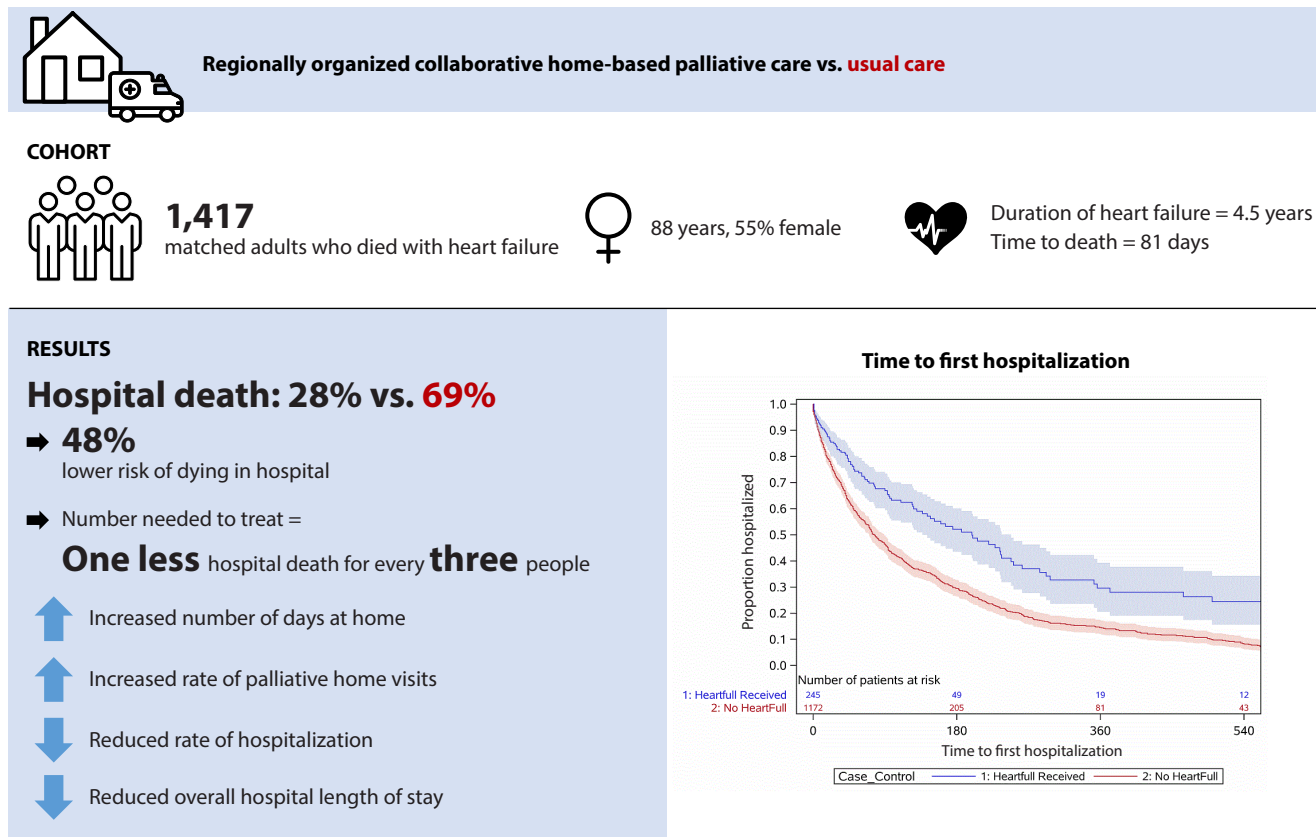
services. The teams receive education about medical management of advanced heart failure, such as diuretic escalation for congestion. This education includes the development of a home-based diuretic protocol. Cardiologists support and mentor the teams and continue to be involved in the patient's care when needed. This integration allows patients to be cared for at home, leading to a substantive proportion dying at home (Steinberg et al. 2022). By integrating a palliative approach to care, the model emphasizes shared decision making, where patient goals, values and treatment preferences are explored. This leads to goal-concordant care wherein treatment and care decisions are made that align with a person's individual goals and values in the context of their clinical status.

We used various methods and data sources to gain an in-depth understanding of how an innovative model of home-based palliative care that uses shared decision making to promote goal-concordant care can improve end-of-life care for people with heart failure. These data included population-level data held at ICES linked to detailed electronic medical records of 250 people with heart failure receiving home-based palliative care, as well as rich data from semi-structured interviews with cardiology and palliative care physicians and nurse practitioners who care for people with heart failure within Ontario.

Our first study matched 245 people with chronic heart failure who received the collaborative care model to 1,172 who received usual care between 2013 and 2019 in Ontario (Quinn et al. 2022). Overall, people with chronic heart failure who received collaborative, home-based palliative care were 50% less likely to die in hospital and twice as likely to die at home compared to people who received usual care (Figure 1).

Put another way, collaborative home-based palliative care prevented one hospital death for every three people who received it. The model – which involved primary care providers, cardiologists and palliative care specialists – led to fewer visits to the emergency department, fewer admissions to the hospital and a lower likelihood of dying in the hospital compared to usual care. The care model emphasized shared

**FIGURE 1.**  
**Outcomes of a collaborative model of palliative care delivery for people with heart failure**



Heartfull: The regional care model under which patients received collaborative home-based palliative care.

decision making; home-based management of heart failure; standardized protocols for clinical care; education of patients, families and clinicians; and collaboration between healthcare professionals. A lack of clinical measures such as left ventricular ejection fraction limited our ability to measure the alignment of clinical care with guideline recommendations for pharmacotherapy and other heart failure-specific interventions.

**What People Taking a Palliative Approach to Care Really Want**

Next, we conducted a study that characterized the treatment preferences, care setting and end-of-life outcomes for people with heart failure (Campos et al. 2022). We found that people’s initial treatment preferences were diverse and changed as their illness progressed. Our model of care was able to support these dynamic and evolving preferences over time – rather than just at the very end of life. For example, among patients who initially prioritized quantity of life, nearly half changed their treatment preferences prior to death. Most people changed their preferences to avoid hospitalization and focus on comfort at home.

Overall, 83% of people experienced an out-of-hospital death. People who initially prioritized quantity of life were 75% less likely to die at home and more likely to experience frequent hospitalizations compared with people who initially prioritized quality of life at home.

Our results from this study yield a more detailed understanding of the interaction of advanced care planning and patient preferences. Shared decision making for personalized treatment is dynamic and can be enacted earlier than at the very end of life to support improved care and outcomes for people with heart failure (Campos et al. 2022).

**What Care Providers Think**

Our third study entailed qualitative interviews with 17 healthcare providers (11 palliative care and six cardiology physicians and nurse practitioners) – all of whom were involved with the regional model of palliative care delivery for people with heart failure (Graham et al. 2022). We identified facilitators of a collaborative care model at two levels related to:

- healthcare providers (e.g., ongoing professional education to expand competency) and
- interpersonal relationships (e.g., shared care between specialties and effective communication within the care team).

Ongoing barriers to implementing the care model were identified at two levels related to:

- healthcare providers (e.g., apprehension of cardiology practitioners to introduce palliative care) and
- system-level factors (e.g., lack of availability of personal support worker hours in the home).

We concluded that a collaborative shared model of care delivery between palliative care and cardiology improved knowledge exchange, collaboration and communication between specialties and led to more comprehensive care for people with heart failure. Furthermore, addressing ongoing healthcare provider and system-level barriers will help improve care delivery. Our findings emphasize the acceptability of the program from a provider perspective, which is encouraging for future implementation and scale.

## Implications

Our research significantly advances Canadian health services and policy research to improve care delivery for older adults with a serious illness such as heart failure. The evidence provides a framework to scale the model for improved care delivery and capacity across a health system, including the potential for people with other chronic conditions. More specifically, it supports improved delivery of integrated care

near the end of a person's life, including in the comfort of their own home (Laupacis 2022; Quinn et al. 2022).

In addition, we identified several person-centred and clinical measures (e.g., quality of life and left ventricular ejection fraction) that were unavailable in health administrative data, highlighting the need to improve routine data collection. We suggest that areas for policy development include expanded access for people with other chronic illnesses, increasing health-care capacity through collaborative palliative care, increasing provider training to enhance clinical care and engaging in future research on scalability and cost-effectiveness.

Finally, we were able to show that a palliative approach to care supported people as their treatment preferences changed over the last months of their life. This is important as it demonstrated that we can integrate a palliative approach to care earlier in the disease trajectory and create flexibility in the location of care.

## Conclusion

Together, these findings hold promise that improved care and delivery of goal-concordant care may be achieved through delivery of an innovative care model of regionally organized home-based palliative care for people with heart failure. Expanded access for all people with heart failure at a provincial and a national level will ensure a broader impact and facilitate further study of its cost-effectiveness at a health-system level. This approach may also inform targeted strategies to tailor its delivery to people with other chronic serious illnesses and ensure delivery of high-value, person-centred care when and where people need it. **HQ**

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## About the Authors

**Kieran Quinn**, MD, PhD, FRCPC, is a general internist and palliative care clinician-scientist at Sinai Health and an adjunct scientist at ICES in Toronto, ON. He can be reached by e-mail at [kieran.quinn@mail.utoronto.ca](mailto:kieran.quinn@mail.utoronto.ca).

**Sarina R. Isenberg**, MA, PhD, is the chair of Mixed Methods Palliative Care Research at Bruyère Research Institute and the Department of Medicine at the University of Ottawa and an adjunct scientist at ICES in Ottawa, ON.

**Susanna Mak**, MD, PhD, FRCPC, is a heart failure cardiologist at Sinai Health and a clinician scientist at the Lunenfeld-Tanenbaum Research Institute in Toronto, ON.

**Leah Steinberg**, MD, MA, FCFP, is a family physician practising palliative care at Sinai Health and an assistant professor in the Division of Palliative Care at the University of Toronto in Toronto, ON.