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Training/Practice Contemporary Issues in Cardiology Practice

Optimizing Access to Heart Failure Care in Canada During the COVID-19 Pandemic

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ABSTRACT

The traditional model of heart failure (HF) care in Canada, which relies upon a multidisciplinary team and clinic-based care processes, has been undermined as a result of the COVID-19 pandemic. As the pandemic continues, we will be challenged to improve or maintain the health status of those with HF by optimizing guideline-directed care despite physical distancing constraints and a reduction in the health care workforce. This will require development of new strategies specifically targeted at decreasing the risk of decompensation and resultant HF hospitalization. As such, we must quickly pivot to the adoption and application of novel technologies and revise usual care models, processes, and workflow. The unprecedented COVID-19 crisis has delivered the Canadian HF community a burning platform for the design and implementation of innovative approaches to support the vulnerable population we serve; born out of necessity, we now have the opportunity to explore innovative approaches that might inform the

RÉSUMÉ

Au Canada, le modèle traditionnel des soins en insuffisance cardiaque (IC), qui repose sur une équipe multidisciplinaire et des processus de soins en milieu clinique, a été compromis en raison de la pandémie de la COVID-19. Puisque la pandémie se poursuit, nous serons mis au défi d'améliorer ou de maintenir l'état de santé des personnes atteintes d'IC en optimisant les soins orientés sur les lignes directrices, malgré les contraintes de la distanciation physique et de la réduction de la main-d'œuvre en santé. Cela demandera l'élaboration de nouvelles stratégies, particulièrement des stratégies qui viseront la diminution du risque de décompensation et d'hospitalisation consécutive à l'IC. Ainsi, nous devons rapidement nous tourner vers l'adoption et l'application de nouvelles technologies et revoir les modèles habituels de soins, les processus et le flux de travail. La crise sans précédent de la COVID-19 a montré à la communauté canadienne en IC le besoin urgent de concevoir et de mettre en place des approches innovantes

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Like all chronic disease, heart failure (HF) management is predicated on comprehensive assessment of illness risk and severity. The overarching goal is to purposefully target patients for timely monitoring and intervention, to maintain or restore health stability. The challenge we face during a pandemic lies in how to deliver this best care in a virtual manner.

future of HF care delivery in Canada. Herein, we provide perspectives from leadership within the Canadian Heart Failure Society on how to optimize HF care during the COVID-19 pandemic.

The Canadian Cardiovascular Society Rapid Response Team has recommended a transition to telehealth and virtual health strategies to meet the needs of all patients with cardiovascular disease through the COVID-19 pandemic.

The Canadian Heart Failure Society and Canadian Cardiovascular Society Guidelines Panel have previously reported on patient- and system-related barriers to accessing HF care in Canada,¹ however, reduced access to care must now be reconsidered with the lens of this pandemic. As such, we must deliberate on a number of additional issues (Table 1).

This document provides pragmatic solutions to challenges arising from physical distancing measures and aims to develop an inventory of remote care approaches that can be applied in a bespoke manner to optimize a given patient's care. Our population of interest is twofold and must include those whose care is currently coordinated through HF clinics (HFCs) as well as those without established linkages to a HF care provider.

Recognizing that “standard of care” is a fluid concept in the context of this pandemic, we offer practical and real-world guidance on 4 key topics related to the provision of HF services.

How to Transition Traditional HFC Care Into a System of Virtual Care

In response to this pandemic, HFCs have uniquely adapted to their local environment and the population they serve, largely offering consultation through virtual or telehealth. Many still have the ability to see urgent patients in person, but are doing so in a very deliberate and organized manner focusing on the most vulnerable. Management of these patients is challenged by imperatives for physical distancing and/or reduced access to laboratory services.

Table 1. COVID-19-specific barriers to accessing heart failure care

Reduced availability of multidisciplinary health care teams (MD, NP, RN, pharmacy and allied health providers) due to:
Physical limitations of distancing
Redeployment of usual MDs to other services
Limitations of telehealth/virtual visit infrastructure for existing and new patients
Reduced availability of primary care provider (MD or NP)
Reduced availability of monitoring services (laboratory, imaging, other testing)
Reduced availability of medications or barriers to accessing GDMT
Special access forms
Requirement for specific clinical criteria (eg, BNP, LVEF)
Reduced availability of usual transportation
Reduced availability of surgical/interventional procedures
Patient fear of engaging with the health care system, even for routine tests, leading to excessive delays in accessing care or advice

BNP, B-type natriuretic peptide; GDMT, guideline-directed medical therapy; LVEF, left ventricular ejection fraction.

pour aider la population vulnérable dont nous nous occupons; par la force des choses, nous avons maintenant la possibilité d'explorer les approches novatrices qui peuvent façonner l'avenir de la prestation des soins en IC au Canada. Dans le présent article, nous donnons des perspectives de la direction de la Société canadienne d'insuffisance cardiaque sur la façon d'optimiser les soins en IC durant la pandémie de la COVID-19.

The pursuit of pharmacotherapy optimization under these circumstances is subject to much debate. So-called, “triple therapy” for HF with reduced ejection fraction (HFrEF) dramatically reduces mortality and hospitalization; in clinical trials, these effects are early and substantial. However, safely initiating and up-titrating these medications, as well as newer HFrEF therapies, might necessitate laboratory monitoring, which is challenged in the current environment.

In balancing these competing priorities, our approach is to be practical and pragmatic. Practitioners must be deliberate in their choices related to medication initiation/titration and must not be constrained by traditional HFrEF management algorithms—this might include treatment with a novel therapy earlier in the patient's disease course or in the absence of diagnostic imaging data (Table 2). Key enablers will include retaining a minimum health human resource compliment to support the virtual HFC activity as well as extended public coverage for newer treatments.

How to Leverage Remote Monitoring for Those With an Established HF Care Provider and Which Patients Would Benefit From Being On-boarded to Support Care at This Time

The universal uptake of HF remote monitoring (RM) technologies has been limited in the absence of clear benefit from clinical trials.² Lessons learned from earlier efforts have helped provide the framework for an ideal intervention (Supplemental Table S1).

Currently, RM systems allow for continuous electrocardiogram recordings, as well as intermittent measurements of heart rate, blood pressure, oxygen saturation, and/or body weight. This can be performed using traditional devices (eg, tracking vital signs and weight) or wearable technologies (eg, smart watches, patches, and textiles). Some platforms allow patients to self-monitor their symptoms and engage with their clinician via Bluetooth and other real-time technologies. Tablet- or smartphone-based platforms can integrate these

Table 2. Considerations for virtual heart failure management

Continue all current therapy, including renin-angiotensin-aldosterone system blockers
Do not delay initiation or up-titration of life-saving therapy. This might be critical for individual patient- and system-level outcomes
Fill prescriptions digitally. This might mean a change in practice, but is absolutely necessary to minimize touch points with the health care system
Defer imaging studies where feasible and “choose wisely”
Look closely at the laboratory tests you order—are they really needed or nice to have?
Address and/or update goals of care status for all patients
Conduct visits virtually using existing resources and infrastructure. Specifically avoid the default of sending someone to the emergency room if possible

data, send alerts to the HF team, and trigger a variety of clinical actions.

RM has increasingly involved data from cardiac implantable electronic devices, which can be used to monitor rhythm, hemodynamics, physiological data, and alert clinicians to early signs of HF decompensation. Perhaps the most promising strategy to date comes from implantable hemodynamic monitoring devices³ although access to this technology is likely to remain quite limited.

It should be noted that many HFCs lack the infrastructure to support RM. It is also recognized that currently, technology-enabled RM tools are not feasible for many highly vulnerable patients, including those with cognitive and/or visual impairment, frailty, limited caregiver support, and limited access to (or familiarity with) Internet or app-based solutions. As well, many practitioners will require up-skilling to interpret and action the data that emerge.

Although a clear benefit of most RM technologies has not been established in all patients with HF, RM might be considered in those subsets who need heart rate or blood pressure assessment during titration of HF therapies, in those with tenuous hemodynamics or deemed to be at risk for decompensation, or in patients who meet indication for ambulatory vital sign or electrocardiogram monitoring. [Supplemental Table S2](#) shows the advantages and limitations for each consideration and the potential applicability in the Canadian context.

The COVID-19 pandemic appears to have accelerated the uptake of RM technology, and might drive solutions for better workflow integration. For now, clinicians should be encouraged to marshal whatever RM resources are available in their local environment to supplement and enhance virtual HF care.

How to Facilitate Access to Patients Without Established Linkages to a HF Care Provider

A virtual evaluation for HF as an initial assessment is challenging, but not impossible, without previously establishing a clinical baseline and HF etiology. Virtual consultation between a primary care provider and specialist with secure messaging and bidirectional communication has been implemented across multiple jurisdictions in Canada and this has been expanded to include HF subspecialty consultation as well.

This type of virtual consultation for primary care providers might be enabled by telephone support (eg, Rapid Access to Consultative Expertise in British Columbia) or through a secure online platform (eg, Building Access to Specialists through eConsultation in Ontario). These systems could also facilitate direct-to-patient consultation, especially for low- or medium-risk patients who are unattached to a HF clinician, as a broad safety net.

Patients without established connection to a HF care provider face additional barriers to accurate diagnosis and management of symptoms; this is further amplified in the absence of a primary care provider. Many provinces have physician directories, which serve as central repositories for specialty services (eg, [Pathways](#) in British Columbia). These sites commonly host patient and provider resources, links for clinical decision support tools, and have features to enable

electronic distribution of educational materials, a key enabling strategy for virtual care.

Home care clients and long-term care residents represent a particularly vulnerable population in whom HF is common. Most Canadian provinces use International Resident Assessment Instrument standardized information systems, which can be used to identify those who require urgent HF assessment.⁴

By leveraging and strengthening existing linkages between primary care, home, and community care and specialist support, we might be able to select patients who are high-risk for decompensation, thus affording an opportunity to prioritize testing and clinical review through established HFC structures and bypass the emergency room.

How to Risk-Stratify Patients and Tailor Therapies According to Risk

Ambulatory HF patients can be stratified into risk groups on the basis of clinical parameters, patient-derived data, and objective risk scores ([Supplemental Table S3](#)). During the COVID-19 pandemic, it is prudent to consider an individualized approach to the provision of care on the basis of risk assessment as well as advanced care plans. Available risk scores have reasonable predictive accuracy for mortality, however, data are lacking for robust risk models related to HF hospitalization.⁵

We draw particular attention to high-risk patients with advanced HF who might be candidates for mechanical circulatory support or transplantation. It is anticipated that high-risk patients will require, at minimum, an initial in-person visit to develop a care plan; subsequent visits should be performed virtually and supported by a “hospital in the home” approach including intravenous diuretic administration, where available. In all cases, advanced care planning is critical.

Intermediate-risk patients should continue to be monitored for HF symptoms using virtual care options. Intensity and frequency should be customized and self-management approaches encouraged when feasible. Medication management including diuretic titration is critical to avoiding fluid congestion.

Low-risk patients should have continued access to HFC resources as needed, however, routine follow-up and testing can be deferred unless there is a change in patient symptoms or status.

Conclusion

Crisis management through physical distancing might have unintended consequences on urgent services. Access to care is paramount for many clinical conditions, including HF, for which a timeline for decompensation can be clearly articulated. As the pandemic progresses, there will be increasing pressure on the health system as those who have been “waiting it out” at home with semiurgent status become urgent or emergent.

As such, public health imperatives that constrain traditional HF service delivery models must be accompanied by rapid system redesign initiatives and be coupled with messaging that encourages the continued use of the health

system by individuals with serious conditions, and those requiring access to highly specialized or regional services.

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Supplementary Material

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