CORRIDOR CONSULTS

Is Titrating Too Complex? Should We Focus On Initiating? Focusing On Optimized Results For Patients with HFrEF

Robert S. McKelvie, MD, PhD, FRCP(C) Professor of Medicine Western University London, Ontario



Disclosures Related to this Presentation

- Grants: Novartis and AstraZeneca
- Consulting Fees: Novartis and AstraZeneca





The Heart Failure Cycle













Changes in the Population Pyramid

1950

2008

2050 (Projection)



Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare.





With Each Subsequent HF Hospitalisation, the Risk of Death Almost Doubles for Patients with Symptomatic Chronic HF

Median survival (50% mortality) for patients with HF after each HF hospitalisation



First hospitalisation refers to patients who were hospitalised for HF for the first time from 1 Jan 2000-31 Dec 2004

CI, confidence interval; HF, heart failure

Setoguchi S et al. Am Heart J. 2007;154:260-266





MORTALITY RATE IS HIGHER FOR HEART FAILURE THAN SOME CANCERS





1. Mamas et al. Eur J Heart Fail. 2017;19(9):1095-1104; 2. Benjamin et al. Circulation 2017;135(10):e146-e603; 3. Roger et al. JAMA 2004;292:344-50





Decline In Systolic Function Leads To Activation Of Three Major Neurohormonal Systems



Wester



Incremental Benefit of Drug Therapies for HFrEF

Summary results of treatment effect vs. placebo for selected drug group or combination of groups and for each endpoint

	All-cause Mortality	CV Mortality	All-cause Hospitalization	Hospitalization for HF
ARNI+BB+MRA	0.38 (0.20-0.65)	0.36 (0.16–0.71)	0.58 (0.36-0.92)	0.27 (0.07–1.07)
ACEI+BB+MRA+IVA	0.41 (0.21–0.70)	0.41 (0.19–0.82)	0.58 (0.36-0.92)	0.25 (0.07–0.99)
ACEI+BB+MRA	0.44 (0.27–0.67)	0.45 (0.25–0.75)	0.65 (0.45–0.93)	0.34 (0.13–0.91)
ACEI+BB	0.58 (0.42–0.73)	0.56 (0.37–0.75)	0.75 (0.54–0.92)	0.34 (0.17–0.56)
ACEI+MRA	0.58 (0.36–0.90)	0.56 (0.31–0.95)	0.69 (0.45–0.96)	0.36 (0.12–0.96)
BB	0.58 (0.34–0.95)	0.62 (0.27–1.32)	0.86 (0.59–1.18)	0.45 (0.13–1.39)
ACEI	0.84 (0.67–1.01)	0.81 (0.60–1.04)	0.89 (0.71–1.05)	0.52 (0.32–0.76)

ARNI, angiotensin-receptor-neprilysin inhibitor, BB, beta-blocker Komajda M et al. *Eur J Heart Fail* 27 May 2018. doi:10.1002/ejhf.1234





DAPA-HF: Reduction in CV death, HF hospitalization, urgent HF visit

Primary composite outcome CV Death/HF Hospitalization/Urgent HF Visit







(ARNi + BB + MRA + SGLT2 inhibitor) vs limited conventional therapy (ACEi/ARB + BB)



Primary endpoint: Composite of CV death or first hHF

ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNi, angiotensin receptor neprilysin inhibitor; BB, β blocker; CI, confidence interval; CV, cardiovascular; HF, heart failure; HFrEF, heart failure with reduced ejection fraction; MRA, mineralocorticoid receptor antagonist; SGLT2, sodium-glucose co-transporter 2





Updated Canadian Cardiovascular Society Guidelines for Treatment of HFrEF

Towards 4 Pillars of Care



Presented at Canadian Cardiovascular Congress, October 2020





Are we actually optimizing our HF patients? Contemporary outpatient HFrEF patients, CHAMP-HF



ARNI, angiotensin-receptor-neprilysin inhibitor; EF, ejection fraction; HFrEF, heart failure with reduced ejection fraction Green SJ et al. J Am Coll Cardiol 2018; 72(4):351-366.





QUALIFY Registry: Adherence to GDMT – Canada

Patients treated with ACEIs or ARBs = 86.8% Patients treated with B-blockers = 95.3%

MRA









No

Impact of delay to therapy per year in Canada Imputed from the PARADIGM-HF Trial results

Outcome	Actual Benefit	Potential Benefit
CV death and 1 st HF hospitalization	569	4, 187
CV death	387	2, 849
1 st HF hospitalization	340	2, 498
All-cause mortality	340	2, 498
30-day HF re-admission	448	3, 299

Huitema, McKelvie et al., CJC Open 2020





Building a model for supporting system integration for heart failure care in Ontario

സ്



Canadian Journal of Cardiology 34 (2018) 863-870

Review

The Spoke-Hub-and-Node Model of Integrated Heart Failure Care

Ashlay A. Huitema, MD,^a Karen Harkness, RN, PhD,^b George A. Heckman, MD, MSc,^c and

Robert S. McKelvie, MD, PhD^a

^a Western University, London, Ontario, Canada ^b McMaster University, Hamilton, Ontario, Canada

^cUniversity of Waterloo/Schlegel UW Research Institute for Aging, Canadian Integrated Heart Failure Care, Waterloo, Ontario, Canada

ABSTRACT

Heart failure (HF) is a significant public health concern. Specialized HF clinics provide the optimal environment to address the complex needs of these patients and improve outcomes. The current and growing population of patients with HF outstrips the ability of these clinics to deliver care. Integrated care is defined as health services that are managed and delivered so that people receive a seamless continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation, and palliative care services. This approach requires coordination across different levels and sites of care within and beyond the health sector, according to changing patient needs throughout their lives. The spoke-hub-and-node (SHN) model represents an organization of care that works collaboratively with the primary care sector and is highly integrated with community-based multidisciplinary teams of health care professionals and specialty care. The purpose of this article is to analyze the requirements for successful implementation of SHN models. We consider the respective roles of HF clinics, HF nurse specialists, pharmacists, palliative care teams, telemonitoring, and solo practitioners. We also discuss levels of care delivery and the importance of patient stratification and nationt flow. The SHN approach has the notential to build on and improve the chronic care model (CCM) to deliver centralized services to preserve high-quality patient-centred care at affordable costs.

RÉSUMÉ

L'insuffisance cardiague (IC) est un problème de santé publiqu important. Les cliniques spécialisées dans la prise en charge de l'IC offrent un environnement optimal pour répondre aux besoins complexes de ces patients et pour améliorer leurs résultats. La population actuelle et toujours croissante de natients atteints d'IC dénasse la canacité de ces cliniques de prodiguer des soins. On entend par soins intégrés des services de santé qui sont gérés et fournis de manière à ce que les patients recolvent un continuum sans heurt de services de promotion de la santé, de prévention des maladies, de diagnostic, de traitement, de prise en charge des maladies, de réadaptation et de soins palliatifs. Cette approche nécessite une coordination entre différents naliers et centres de soins tant à l'intérieur qu'à l'extérieur du secteur de la santé. en fonction de l'évolution des besoins du patient tout au long de sa vie. Le modèle en étoile représente une organisation des soins caractérisée par le travail en collaboration avec le secteur des soins primaires et une forte intégration avec les équipes pluridisciplinaires des professionnels de la santé et des soins spécialisés ancrés dans la communauté. Cet article vise à analyser les conditions de la réussite de la mise en œuvre des modèles en étoile. Nous analysons les rôles respectifs des cliniques de traitement de l'IC, du personnel infirmi er spécialisé en IC, des équipes de soins palliatifs, de la télés urveillance et des praticiens indépendants. Nous abordons également les paliers de prestation de soins et l'importance de la stratification et du cheminement des patients. L'approche en étoile peut permettre de tirer parti du modèle des soins chroniques en l'améliorant pour fournir des services centralisés dans le but de continuer à dispenser des soins de haute qualité avés sur le patient, à des coûts abordables.

Heart failure (HF) is a significant public health concern, affecting more than 500,000 Canadians. HF cases have increased 139% form 2010 to 2016, with a continued expected rise, greatly due to the aging population.^{1,2} The prevalence of

Received for publication January 5, 2018. Accepted April 27, 2018. Corresponding author: Dr Robert S. McKelvie, St Joseph's Health Care Corres Room BJ-628. Concence Street Look of Drazie Net AV2.

Center, Room B3-628, 268 Grosvenor Street, London, Ontario N6A 4V2, Canada. Tel.: +1-519-646-6175.

E-mail: Robert.McKelvie@sjhc.london.on.ca See page 868 for disclosure information. HF is approximately 35%, increasing with age to approximately 23% for those older than age 85.¹ Annual morality is approximately 12% overal, approaching 25% among those older than age 85.² There are more than 75,000 new cases och year, and more than 60,000 parients die each year.¹ Despite current management 50% of patients die within 5 years of diagnosis.³

HF represents the second leading cause of hospital admissions for Canadians older than age 65 and the fifth leading cause of medical admissions overall.⁶ Compared with

https://doi.org/10.1016/j.cjca.2018.04.029 0828-282X/© 2018 Canadian Cardiovascular Society. Published by Elsevier Inc. All rights reserved.



August 23, 2018



orHealth



Integrated Model of Heart Failure Care: Spoke-Hub-Node



Two-way communication among levels of care: i.e. face-to-face visits, phone, e-consult

Patient Risk and Complexity

LEVELS OF PATIENT CARE AND SETTING



SPOKE Stable, low risk, few co-morbidities Community provider office or clinic



COMMUNITY HUB Moderate risk multiple, stable co-morbidities Local hospital or community setting



TERTIARY NODE

High risk, multiple co-morbidities, complex needs Advanced cardiac hospital The intensity and level of care may vary over time with the patient's complexity and risk changes, but the goal is to ensure that high quality care is available as close to home as possible and that care is coordinated across all levels of care.





Summary

- HF is associated with great morbidity and mortality; greater than some cancers
- Recent CCS HF Guidelines state 4 drug groups need to be initiated in HF patients
- Recent CCS guidelines also state optimization should be completed within 3 months
- Therefore, initiating alone is not enough, we need to optimize to reduce hospitalizations and save lives
- We also need to critically analyze how we manage patients with HF and work to create change in the system for the benefit of the patients



