Heart Disease Community of Practice Series

Models of care in the Ambulatory Setting

Project ECHO
Palliative Care - Canada
BY Pallium Canada

Host and Moderator: Dr. José Pereira

Presenters: Dr. Leah Steinberg, Dr. Caroline McGuinty, Dr. Lynn Straatman, Dr. Michael Slawnych, Freya Kelly & Ruth Coulton

Date: March 9, 2022

Territorial Honouring

The Palliative Care ECHO Project

The Palliative Care ECHO Project is a 5-year national initiative to cultivate communities of practice and establish continuous professional development among health care providers across Canada who care for patients with life-limiting illness.

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The Palliative Care ECHO Project is supported by a financial contribution from Health Canada. The views expressed herein do not necessarily represent the views of Health Canada.

Health Canada Santé Canada

Project ECHO Palliative Care - Canada BY Pallium Canada

Introductions

Host and Moderator

Dr. José Pereira MBChB, CFPC(PC), MSc, FCFP
Professor and Director, Division of Palliative Care, Department of Family Medicine, McMaster University, Hamilton, Canada
Scientific Officer, Pallium Canada

Presenters

Dr. Leah Steinberg, MD, CFPC, FCFP, MA
Palliative Care Clinician, Sinai Health System
Assistant Professor, Division of Palliative Care, University of Toronto

Dr. Caroline McGuinty, MD FRCPC
Cardiologist, Advanced Heart Failure and Transplantation, Cardiac Palliative Care
University of Ottawa Heart Institute
Assistant Professor, University of Ottawa

Introductions

Presenters (cont.)

Dr. Lynn Straatman, MD FRCPC
Clinical Assistant Professor, UBC
Department of Medicine (Cardiology and Palliative Care)
Department of Pediatrics (Adolescent Health)
Medical Director, Cardiac Function Clinic
Co-chair Physician Diversity, Equity and Inclusion Committee, VCH

Dr. Michael Slawnych, MD FRCPC
Clinical Assistant Professor
Department of Cardiology, St Paul's Hospital
University of British Columbia

Freya Kelly, RN
Advanced Practice Nurse, University of Ottawa Heart Institute

Ruth Coulton, RN
Nursing Coordinator, University of Ottawa Heart Institute

Disclosure

Relationship with Financial Sponsors:

Pallium Canada

- Not-for-profit
- Funded by Health Canada

Disclosure

This program has received financial support from:

- Health Canada in the form of a contribution program
- Generates funds to support operations and R&D from Pallium Pocketbook sales and course registration fees

Host/ Presenters:

- Dr. José Pereira: Scientific Officer, Pallium Canada
- Dr. Leah Steinberg: Pallium Canada (education material), HPCO (clinical advisory committee, educator)
- Dr. Caroline McGuinty: Servier (consulting fees), Novartis (speaker fees)
- Dr. Lynn Straatman- Servier, Novartis, Astra Zeneca, BI, Medtronic, Pfizer, Eli Lilly, Bayer, Merck (clinical trials)
- Dr. Michael Slawnych – Novartis
- Freya Kelly – None to disclose.
- Ruth Coulton- None to disclose.

Disclosure

Mitigating Potential Biases:

- The scientific planning committee had complete independent control over the development of program content

Welcome and Reminders

- Please introduce yourself in the chat!
- Your microphones are muted. There will be time during this session for questions and discussion.
- You are also welcome to use chat function to ask questions, add comments or to let us know if you are having technical difficulties, but also feel free to raise your hand!
- This session is being recorded and will be emailed to registrants within the next week.
- Remember not to disclose any Personal Health Information (PHI) during the session
- This 1-credit-per hour Group Learning program has been certified by the College of Family Physicians of Canada for up to **12 Mainpro+** credits

Objectives of this Series

After participating in this program, participants will be able to:

- Describe what others have done to integrate palliative care services into their cardiac clinics
- Describe how to integrate palliative care into the cardiac programs and services they offer
- Share knowledge and experience with their peers
- Describe existing and emerging models of care for various care settings, including home care, ambulatory care and in-patient settings

Overview of Topics

Session #	Session title	Date/ Time
Session 1	Overview of Models of Care in Different Care Settings	January 11, 2022 from 12-1pm ET
Session 2	Models of Care in the Home Care Setting	February 9, 2022 from 12-1pm ET
Session 3	Models of Care in the Ambulatory Setting	March 9, 2022 from 12-1pm ET
Session 4	Models of Care in the In-Patient Setting	April 13, 2022 from 12-1pm ET

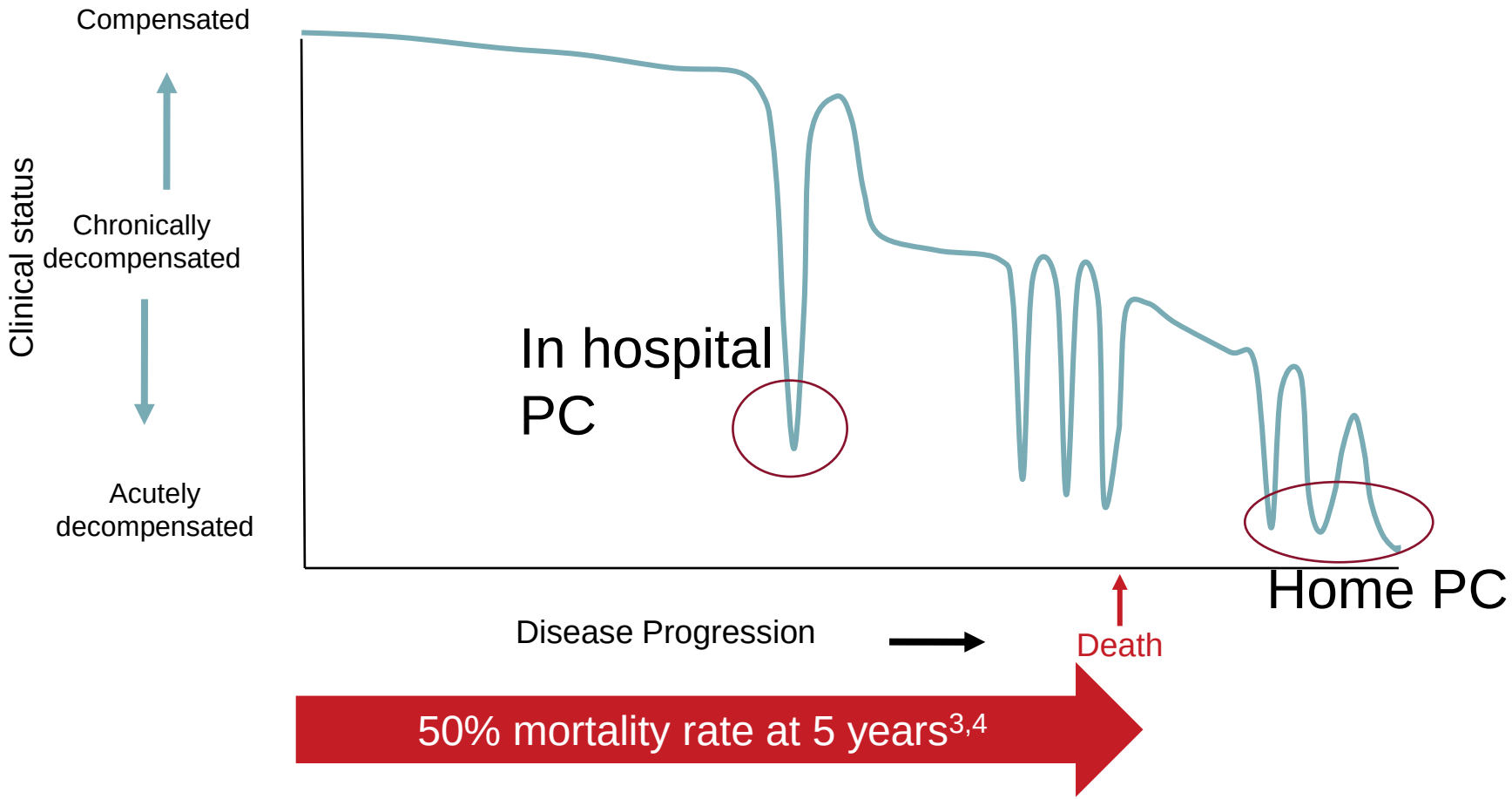
Models of care in the Ambulatory Setting

Objectives of this Session

After participating in this session, participants will be able to:

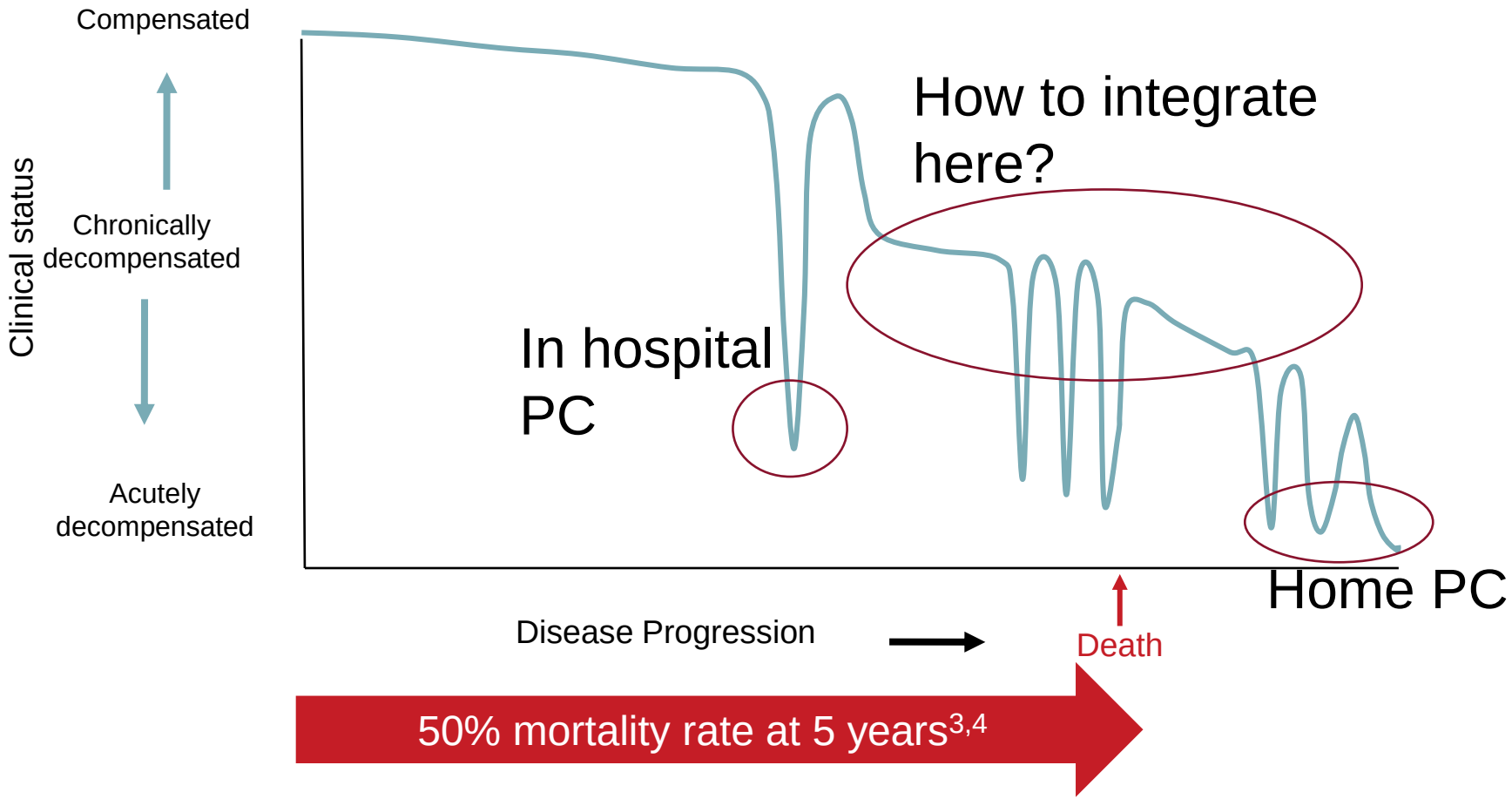
- Learn the role of supporting patients with advanced heart failure in the ambulatory setting.
- Appreciate how programs across Canada manage this care setting and how they were able to implement it in their clinic environment
- Explore the challenges and benefits of providing a palliative approach to care in the ambulatory setting.

Integration of Palliative Care



1. Gheorghiade et al. Am J Cardiol 2005;96:11G–17G; 2. *Setoguchi et al* Am Heart J 2007;154:26026; 3. Benjamin et al. Circulation 2017;135(10):e146-e603; 4. Roger et al. JAMA 2004;292:344–50

Integration of Palliative Care



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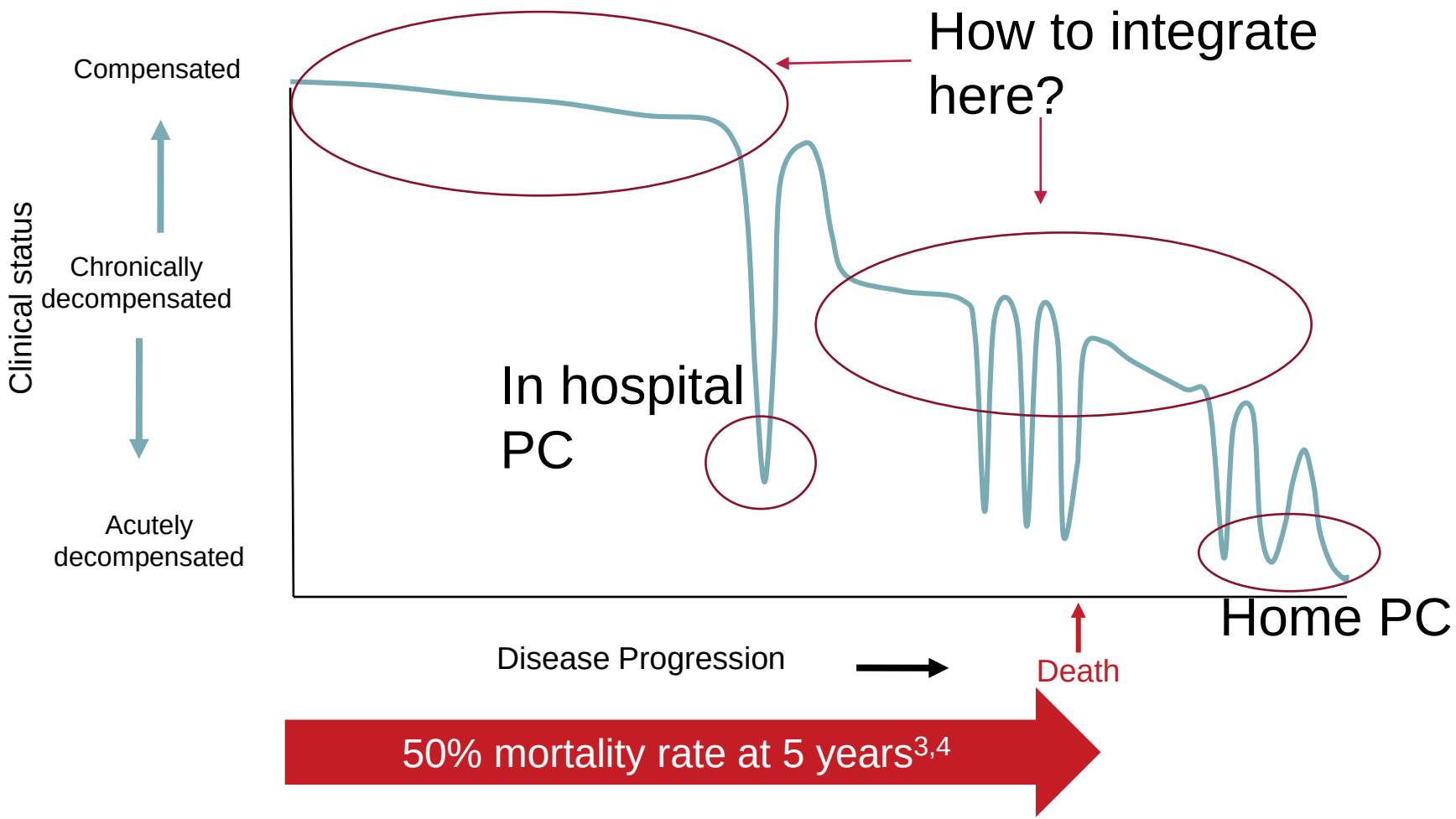
Integration of Palliative Care



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Evidence for the Ambulatory Model

- Small studies of integrated palliative care in the ambulatory setting suggest improved symptoms.
  - Reduce symptom burden and depression and enhance QOL in patients with symptomatic heart failure.

- While the evidence base for palliative care in HF is promising, data suggests that quality of life may not be improved, highlighting a need to better understand the nature of suffering and care experiences for these patients.

Bekelman DB, Nowels CT, Allen LA et al (2011) Outpatient palliative care for chronic heart failure: a case series. J Palliat Med 14(7): 815–821
Evangelista LS, Lombardo D, Malik S, Ballard-Hernandez J, Motie M, Liao S. Examining the effects of an outpatient palliative care consultation on symptom burden, depression, and quality of life in patients with symptomatic heart failure. *J Card Fail*. 2012;18(12):894-899. doi:10.1016/j.cardfail.2012.10.019
Quinn, KL, Shurrab M, Gitau K et al. Association of Receipt of Palliative Care Interventions with Health Care Use, Quality of Life, and Symptom Burden Among Adults with Chronic Noncancer Illness: A systematic review and meta-analysis. JAMA 2020 Oct 13;324(14):1439-1450.

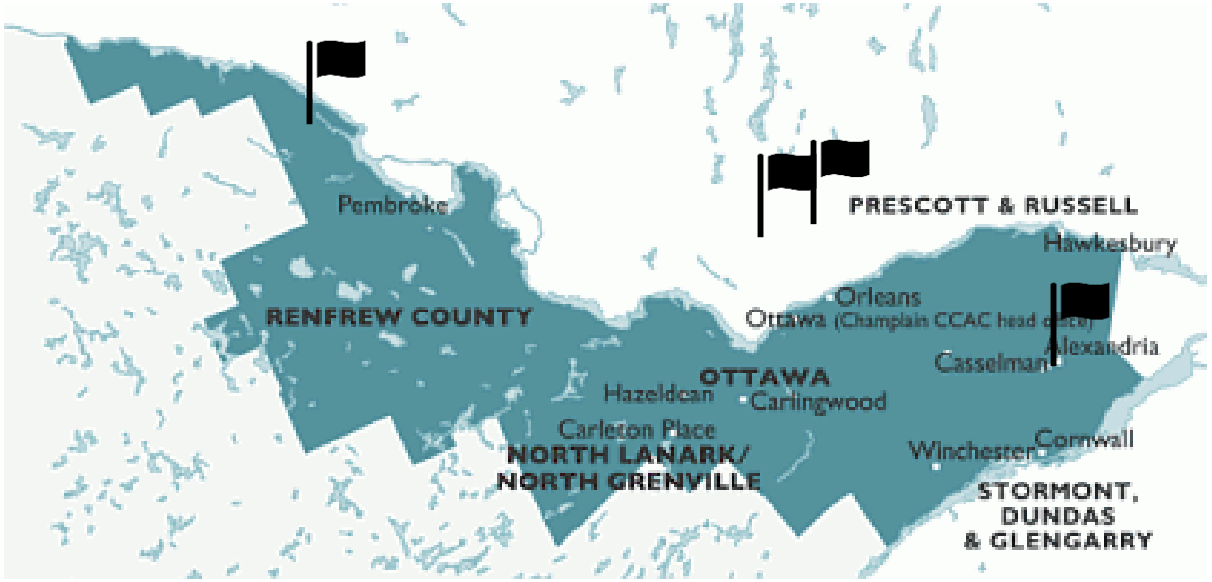
Why develop an ambulatory model?

- **The best outpatient model of care as well as the timing of care for these patients remains to be determined.**
- Patients with HF report a preference for integration of palliative care into their cardiac care suggesting that embedding palliative care into a cardiac clinic is a viable model.
- An embedded model allows patients with high need for specialist level palliative care to access that care, while avoiding them needing to go elsewhere for that support.
- **Ambulatory setting can offer a needs-based service as home-based services are often prognostication-based, creating a barrier to access.**

UOHI Cardiac Palliative and Supportive Care Clinic

Improve quality of care for patients with end stage heart disease

1. Manage heart failure symptoms and exacerbations.
2. Manage symptom burden.
3. Goals of care discussion
4. Community care referral and coordination



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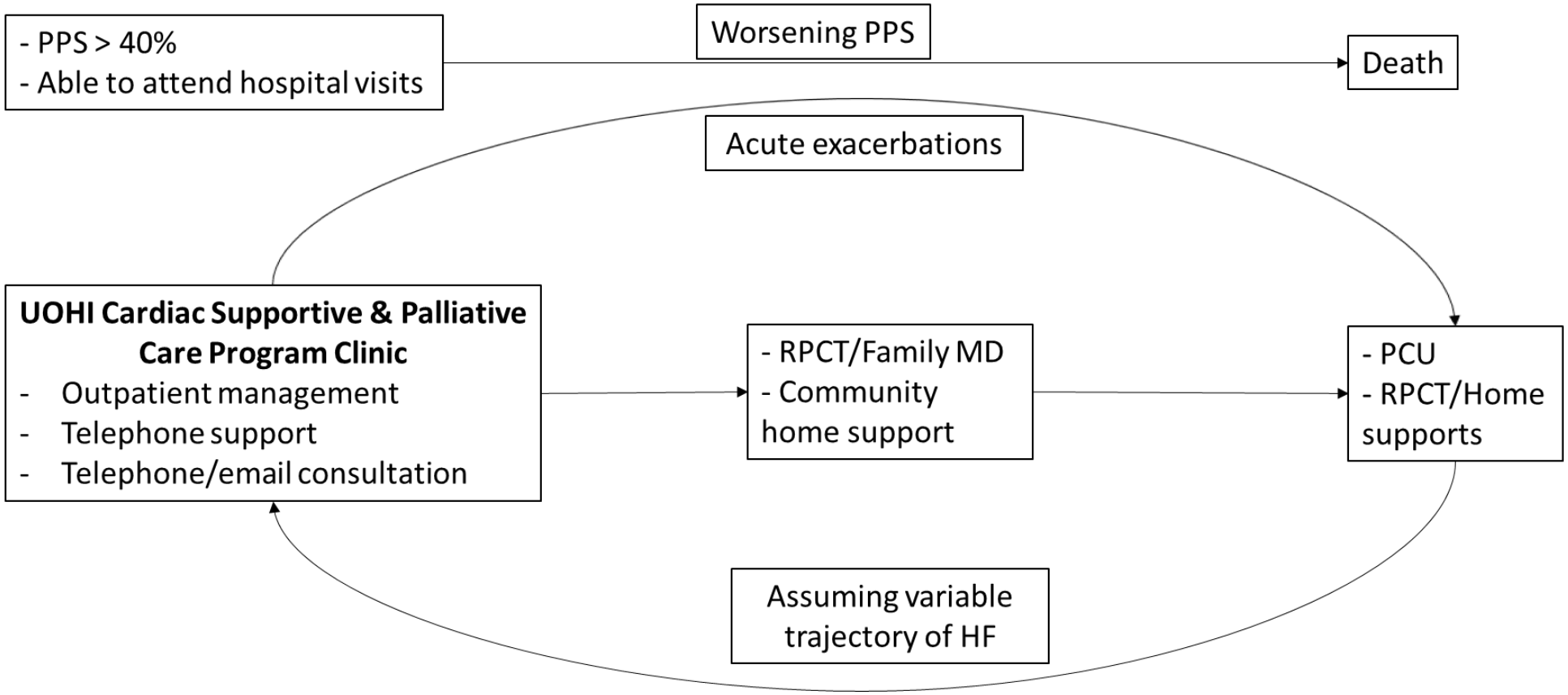
UOHI Cardiac Palliative and Supportive Care Clinic

- Our team consists of one physician and one full time advanced practice nurse.
- Resources at UOHI include dietitian, Psychology, Social work.
- Clinic runs one full day per week.

Out-Patient Algorithm

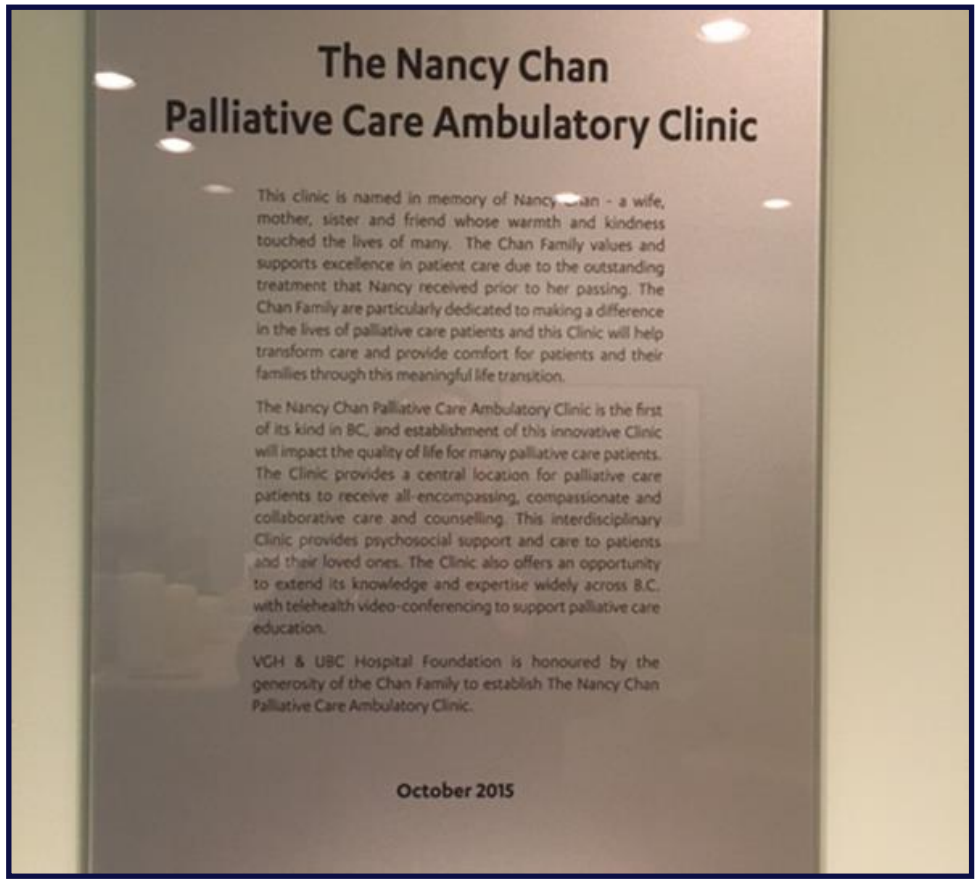
Palliative Community Resources

- Bruyère
- Palliative Care Unit (PCU)/Other Hospice
- Regional Home Based Palliative Care Team (RPCT)



Nancy Chan Palliative Care Ambulatory Clinic

- Donor family approached VGH UBC Hospital Foundation
- Wanted to support palliative care in Vancouver community
- They were provided with four diverse opportunities
- Family chose to support the ambulatory clinic



Nancy Chan Palliative Care Ambulatory Clinic

- Run as a pilot project from 2015-2020
- Funds in the gift were provided for the clinic lease, equipment and for a half-time administration position
- Team consists of a clinical nurse specialist, physician, and social worker
- New patients are assessed by all team members on their first visit and then as needed going forward

Partnership with Cardiology

- In 2018 to boost clinic referrals we reached out to multiple services
- Cardiology very receptive
- After 6 months they decided to establish dedicated cardiac palliative care clinic
- Initial funding provided by Department of Cardiology
  - One half-day per week for receptionist, social worker, and clinical nurse specialist
- As of 2020 Vancouver Coastal Health has assumed all funding

What did we do?

- What constraints were imposed by your particular situation?
  - Starting a new clinic you need to get
    - Physician agreement - may not be comfortable referring/more comfortable with cure or stability
    - Department - resources - PC is multidisciplinary
- What advantages might have your situation offered?
  - Already an established model that could be utilized (cost lower/infrastructure in place)

What worked?

- Patients and their care-givers have found the resource valuable
  - It addresses symptom control better
  - Reduces caregiver stress
  - Creates a space to discuss advance care planning

- Referring physicians have found the resource useful
  - Multiple referrals (from the converted)

- Pilot project money needed to show value but then you need to be able to make your case to funders - this takes time, data and tenacity

What did not work?

- Choose your collaborators that have a similar vision of what palliative and symptomatic care is?

- Expect it is going to take time to get everything up and running.
  - Expect push back from all sides - be prepared to mitigate and manage expectations

- You are going to need to educate your referring physicians

What is left to be seen?

- What is the potential for growth?
  - Of the cardiac palliative care clinic itself
  - Other collaborations with subspecialty services - Nephrology, BMT
  - Linkage between subspecialty palliative care clinics and regional programs

Palliative Home Inotropes

What is an inotrope?

- An agent that alters the force of muscular contractions
- Positive inotrope increases the strength of muscular contraction

Palliative Home Inotropes

- Improve symptoms at heart failure EOL
- Risk of arrhythmia
- Improved functional status, decreased NT-pro BNP and decreased costs associated with continuous home infusion of dobutamine.
- Data suggests reduced inpatient days and costs.
- Recent data reported median survival 9 months for patients on home.

Hashim T, Sanam K, Revilla-Martinez M, et al. Clinical characteristics and outcomes of intravenous inotropic therapy in advanced heart failure. Circ Heart Fail 2015; 8:880–886.

Inotrope Comparison

Dobutamine	Milrinone
• greater increase in heart rate • greater increase in myocardial oxygen consumption • greater proarrhythmic effect, including ventricular tachycardia • attenuated effect in patients who receive beta blockers • Short half life	• more hypotension • greater reduction in pulmonary arterial pressure • Long half life (2-4 hours) • greater hemodynamic effects when the patient is on beta blockers. • More expensive

Guglin et al. Int J Gen Med. 2014; 7: 237–251

Home Milrinone Protocol

Stability criteria:

Patients will be considered stable for 7 – 10 days prior to referral to CCAC
Stable vital signs or asymptomatic hypotension
No symptomatic ventricular arrhythmias/No ICD shocks in the previous 3 months
Normal electrolytes at time of discharge
Improved mentation/alertness during hospitalization or discharged with minimal cognitive impairment
Patient must be able to self-report signs and symptoms of potential deterioration to CCAC nurse during visit and to Cardiac Palliative APN during regular working hours at any other time
Patient must be prepared to come to HI for follow-up visit.

Case-Based Discussion

Ruth Coulton RN
Advanced Practice Nurse, University of Ottawa Heart Institute

Case Presentation

- 95F
- PMHx: Severe aortic stenosis with normal LV function (declined TAVI in 2018), severe tricuspid regurgitation, atrial fibrillation, hearing and visual impairments.

- Referred July 2020 for progressive symptoms of heart failure.

What can we offer in ambulatory setting?

How might this differ to in-hospital or home palliative consultation?

Case Presentation

- Hospital admission for HF in previous year but referring physician recognized decline in function and increase in symptoms.
- Main concern is fatigue and poor appetite.
- Daughter’s main concern is acute exacerbation/suffering at home.
- Increasing caregiver burden.

What are your impressions and recommendations?

Opportunity for ACP

- Goals of care discussed:
  - Patient wants to avoid hospitalizations.
  - Wishes to stay home for EOL.
  - Family supports EOL at home but requires support.

Case Presentation – Transitioning to Community

- Initial improvement in symptoms within 2 weeks of initial appointment with increased dose of diuretics.
- Worsening symptoms in October 2020 in context of HF exacerbation.
- Admitted December 2020 with bowel obstruction, managed conservatively.
- Referred to home palliative program and continues to be followed in ambulatory program until her death in April 2021.
- Symptom management kit in the home and increased home care supports for EOL.

Discussion questions

- What can we do better to support patients with HF between hospital stays and EOL at home/in PCU?
- What is the best model of care in the ambulatory setting?

Discussion questions

- What can we do better to support patients with HF between hospital stays and EOL at home/in PCU?

- What are different models of care in the ambulatory setting?
- What have others seen or done?
- What are some of the challenges of ambulatory care?
  - Timing?
  - Silo effect?

- What is the role for primary palliative care in the outpatient setting?

Wrap Up

- Please fill out the feedback survey following the session! Link has been added into the chat
- A recording of this session will be e-mailed to registrants within the next week
- Please join us for the next session in this series:
  - **Models of Care in the In-Patient Setting**
  - **April 13, 2022 from 12-1pm ET**
- If you would like to present a case at one of our upcoming sessions, contact echo@pallium.ca

Thank You

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Dobutamine

- Synthetic catecholamine
- Stimulates both ß1- and ß2-receptors, mild α1 stimulation
- Potent inotrope, with weaker chronotropic activity.
- net vascular effect is often MILD VASODILATION, particularly at lower doses.
- Significantly increases myocardial oxygen consumption which can induce ischemia.
- Tolerance can develop and malignant ventricular arrhythmias can be observed at any dose.

Overgaard, C. Circulation. 2008;118:1047-1056)

Milrinone

- Phosphodieterase inhibitor
  - Increases cAMP by inhibiting its breakdown within the cell, which leads to increased myocardial contractility.
  - Increased cAMP causes peripheral vasodilation

Milrinone

- Potent inotrope and vasodilator.
- Pulmonary vasodilator = lowers pulmonary vascular resistance
- Longer half life (2-4 hours)
- Particularly useful if adrenergic receptors are downregulated or desensitized in chronic HF
- Increases cardiac index by 24%–42%, decreases pulmonary capillary wedge pressure by 24%–33%, and reduces systemic vascular resistance by 15%–31%, with dose-dependent effect.
- Milrinone causes nonsustained ventricular tachycardia in 3.7% of patients and sustained ventricular tachycardia in 0.5%

Anderson JL Am Heart J. 1991 Jun; 121(6 Pt 2):1956-64
Guglin et al. Int J Gen Med. 2014; 7: 237–251.