MINISTRY OF HEALTH AND LONG-TERM CARE
Primary Health Care Team

FACT SHEET

Title: HEART FAILURE MANAGEMENT INCENTIVE

Date: April 2008

Eligible Patient Enrolment Models (PEMs):

- ☑ Family Health Networks (FHNs)
- ☑ Family Health Groups (FHGs)
- ☑ Comprehensive Care Models (CCMs)
- ☑ Group Health Centre (GHC)
- ☑ St. Joseph's Health Centre (SJHC)
- ☑ Family Health Organizations (FHOs)
- ☑ Rural and Northern Physician Group Agreement (RNPGA)
- ☑ South Eastern Ontario Academic Medical Organization (SEAMO)
- ☑ Community Health Center (CHC)
- ☑ Community Sponsored Agreement Blended Salary Model (BSMs)

Appendix E, Section 3.2 of the Memorandum of Agreement (MOA) between the Ministry of Health and Long-Term Care and the Ontario Medical Association (OMA) includes provisions for a New Chronic Disease Management Incentive effective January 1st, 2008. Information and guidelines on how to submit for the Heart Failure Management Incentive are provided below.

- The Heart Failure (HF) Management Incentive fee code Q050A is a one hundred twenty five dollar ($125) annual payment available to physicians in the Patient Enrolment Models (PEMs) listed above for coordinating, and documenting all required elements of care for enrolled heart failure patients. This requires completion of a flow sheet to be maintained in the patient's record that includes the required elements of heart failure management consistent with the Canadian Cardiovascular Society Recommendations on Heart Failure 2006 and 2007.

- A physician is eligible to submit for the Heart Failure Management Incentive annually for an enrolled heart failure patient once all the required elements of the patient's heart failure care are documented and complete. This may be achieved after a minimum of two patient visits.

- Physicians may choose to use the attached Heart Failure Patient Care Flow Sheet or one similar to track a patient's care. All the required elements must be recorded. It is intended that the flow sheet be completed over the course of the year to support a planned care approach for heart failure management.

Flow Sheet Requirements:

The flow sheet must track the following:

- Comprehensive physical examination
- Laboratory monitoring of Na+, K+, serum creatinine and eGFR
- Patient education for modifiable risk factor reduction and self-management
- Pharmacologic management for appropriate use of first-line, symptom relief and preventive medications

Physicians will be required to coordinate care and ensure that all elements are documented in the flow sheet. Other interdisciplinary providers may assist in providing some elements of care and completing and maintaining the integrity of the flow sheet.

- To claim the Heart Failure Management Incentive, a physician may submit a Q050A fee code for an enrolled heart failure patient once per 365 day period. The Q050A may be submitted separately or in combination with other fee schedule codes once all required elements are completed.

- The Heart Failure Management Incentive (Q050A) is payable for patients enrolled with the billing physician. **Note**: In models that have group enrolment, a physician is eligible to submit and receive payment for the Q050A for patients affiliated to him/her by virtue of the physician's acknowledgement on the *Patient Enrolment and Consent to Release Personal Health Information* (E/C) form.

For more information, please contact your local Ministry office or your Ministry site team contact at 1-866-766-0266.

Heart Failure Patient Care Flow Sheet

Patient Name: _____ Diagnosis: □ Systolic Heart Failure (LVEF<40%) (consider referral for implantable cardioverter defibrillator (ICD) if LVEF<30%) □ Heart Failure with Preserved Systolic Function (PSF) (LVEF>40%) with no valvular abnormalities

Annual Influenza Vaccine: *(date)*_____ Pneumococcal Vaccine: *(date)*_____ *(Recommended for all individuals ≥65 years of age or those with high risk Medical conditions including chronic cardiac disease. A single re-immunization may be appropriate after 5 years.)*

Initial Investigations to Assist Diagnosis

Echocardiography: *consider within 1st yr of diagnosis* *(date)*_____

Chest radiograph: □ interstitial edema □ cardiomegaly □ pleural effusion *(date)*_____

Electrocardiogram: *(date)*_____

Laboratory Testing to Identify Systemic Disorders:

If diagnostic suspicion is high consider:
□ CBC □ electrolytes □ renal function □ urinalysis □ glucose
□ lipids □ liver enzymes □ thyroid

Required Elements of Care		**Date:**	**Date:**
Physical Examination*	Weight kg./lbs.		
	Symptoms of Heart Failure	□ Fatigue □ Dyspnea at rest □ Dizziness and/or syncope □ Orthopnea □ Dyspnea on exertion □ Paroxysmal nocturnal dyspnea	□ Fatigue □ Dyspnea at rest □ Dizziness and/or syncope □ Orthopnea □ Dyspnea on exertion □ Paroxysmal nocturnal dyspnea
	NYHA Functional Capacity Classification ○	□ Class I □ Class II □ Class III □ Class IV	□ Class I □ Class II □ Class III □ Class IV
	Blood Pressure / Heart Rate		
	JVP Elevation	□ Yes □ No	□ Yes □ No
	Pitting Edema	□ Yes □ No Where: ----------	□ Yes □ No Where: ----------
	Lung Crackles and/or wheezing		
	Signs of Pharmacological Intolerance *(see reverse)*		
Lab*	Na+	mmol/L	mmol/L
	K+	mmol/L	mmol/L
	Serum Creatinine •• ♂ <110 umol/L; ♀ < 90 umol/L		
	eGFR (caution if < 60mL/min)		
Patient Self Management*	# ER visits for HF since last assessment		
	Education / self management training	□ Patient medication use □ Daily weight monitoring Δ □ Salt / fluid vigilance Δ □ Exercise / activity	□ Patient medication use □ Daily weight monitoring Δ □ Salt / fluid vigilance Δ □ Exercise / activity
	Target Modifiable Risk Factors for Heart Failure and Coronary Artery Disease	□ Hypertension □ Smoking □ Diabetes □ Overweight / obesity □ Hyperlipidemia	□ Hypertension □ Smoking □ Diabetes □ Overweight / obesity □ Hyperlipidemia
	Collaborative Goal Setting Indicate goal →		
	Self Management Challenge Indicate challenge →		

Pharmacologic Management * For Systolic Heart Failure

NB: The CCS Guidelines are specific for the treatment of heart failure with systolic dysfunction and do not apply to patients with PSF. However, the following drug agents can be used to treat the underlying cause of heart failure with PSF. Please refer to recommendations on reverse.

First Line	ACE inhibitor (ACEI) □ Intolerant □ Contraindicated	Agent / dose Target dose reached? □ Yes □ No	Agent / dose Target dose reached? □ Yes □ No
First Line	Beta (β) Blocker □ Intolerant □ Contraindicated	Agent / dose Target dose reached? □ Yes □ No	Agent / dose Target dose reached? □ Yes □ No
First Line	Angiotensin Receptor Blocker (ARB) if ACEI intolerant	Agent / dose Target dose reached? □ Yes □ No	Agent / dose Target dose reached? □ Yes □ No
Symptom Relief	Loop Diuretic minimum effective dose	Agent / dose	Agent / dose
Symptom Relief	Spironolactone (LVEF<30%) Class III – IV Heart Failure	dose	dose
Symptom Relief	Digoxin If A-fib or advanced HF	dose	dose
Preventive	Consider ASA	dose	dose
Preventive	Anticoagulant therapy if A-fib present	Agent / dose	Agent / dose

○ **NYHA Classification**: **Class I** – no symptoms; **Class II** – symptoms with ordinary activity; **Class III** – symptoms with less than ordinary activity; **Class IV** – symptoms at rest
•• An increase in serum creatinine up to 30% is not uncommon when an ACEI or ARB is introduced; if stabilizes at <30% above baseline, may continue medication however closer long-term monitoring may be required.
Δ Essential for patients with fluid retention or congestion not easily controlled with diuretics, or in patients with significant renal dysfunction

Date printed: January 1, 2008

***Required for Heart Failure Management Incentive**

Evidence-based drugs and oral doses for Systolic Heart Failure [1]		
Drug	**Start Dose**	**Effective Target Dose Range[2]**
ACEI		
Captopril	6.25mg – 12.5 mg tid	25mg – 50mg tid
Enalapril	1.25mg – 2.5mg bid	10mg bid
Ramipril	1.25mg – 2.5mg bid	5mg bid
Lisinopril	2.5mg – 5mg od	20mg – 35mg od
β-Blocker		
Metoprolol tartrate	6.25mg bid	50mg–100mg bid
Bisoprolol	1.25mg od	10mg od
Carvedilol *	3.125mg bid	25mg bid
ARB		
Candesartan **	4mg od	32mg od
Valsartan	40mg bid	160mg bid
Aldosterone antagonist		
Spironolactone ***	12.5mg od	50mg od

* Contained within the American College of Cardiology/American Heart Association Practice Guidelines
** Not recommended for heart failure with PSF
***Spironolactone can increase serum potassium, especially during an acute dehydrating illness where renal dysfunction can worsen.

Polypharmacy Combinations and Potential Drug Interactions:

Amiodarone↑/ β-Blocker	Can increase the effect of the β-Blocker
Amiodarone↑/ Warfarin	Can increase the effect of Warfarin
Amiodarone↑/ Digoxin	Can increase serum Digoxin levels ~ 2 fold
Digoxin / β-Blocker	Carvedilol may increase Digoxin levels ~25%; added pharmacological effect on heart rate
Digoxin / Loop Diuretics	Can increase the Digoxin effect
Digoxin / Spironolactone	May increase Digoxin levels
Spironolactone /ACEI or ARB	Can elevate serum potassium levels
ACEI / ARB	This combination is indicated in patients with impaired LVSF when they remain symptomatic (i.e. NYHA II-IV) despite OPTIMAL dosage of ACEI and β-blockers. Close monitoring of renal function is required due to increased risk.
Calcium channel blockers	Negative inotropic calcium channel blockers (nifedipine, verapamil, diltiazem) can exacerbate heart failure and should be used with caution or avoided if possible
NSAIDs/ ASA	Can exacerbate heart failure and should be used with caution or avoided if possible. High doses of ASA may share the same risks as NSAIDs and may aggravate heart failure, especially in unstable patients.
Rosiglitazone products	Treatment with all rosiglitazone products (Avandia, Avandamet, Avandaryl) is contraindicated in patients with any stage of heart failure.
Pioglitazone hydrochloride (Actos)	Can cause fluid retention which can exacerbate or lead to congestive heart failure. It is not indicated in patients with NYHA Class II, III and IV cardiac status[3].

↑Close monitoring of TSH and LFT is recommended to avoid toxicity

Indications of Pharmacologic Intolerance:
- Symptomatic hypotension: Check blood pressure supine and standing within 3-5 minutes to determine if present, may require slower uptitration
- Renal dysfunction: An increase in serum potassium and creatinine beyond an acceptable elevation threshold
- Bradycardia

Treatment of Heart Failure with PSF
Recommendations for treatment of this condition remain speculative because of the limited data available on various therapies however, the Canadian Cardiovascular Society endorses the following:

Practical Tips:
- It is very important to control the co-morbidities, such as hypertension and diabetes mellitus, that are often associated with heart failure with PSF
- Diuretics should not be used excessively due to risk of decreasing cardiac output and compromise of renal function

ACEI	May improve relaxation and cardiac distensibility directly and should be considered for most patients
β-Blocker	May be useful to improve symptoms by decreasing heart rate and increasing diastolic filling time and should be considered for most patients
ARBs	May be considered to reduce heart failure hospitalizations
Diuretics	Should be used to control pulmonary congestion and peripheral edema
Calcium channel blockers	May be considered to minimize symptoms of heart failure
Digoxin	May be considered to minimize symptoms of heart failure

Recommendations on the use of β-Blockers

- All heart failure patients with an LVEF equal to or less than 40% should receive a b-blocker proven to be beneficial in large-scale clinical trials
- Patients with NYHA class I or II can be safely initiated and titrated with a β-blocker by non-specialist physicians
- Patients with NYHA class III - IV symptoms, close monitoring is required by a physician experienced in the care of heart failure patients
- Patients with NYHA class IV symptoms should be stabilized before initiation of a β-blocker
- Therapy should be initiated at a low dose and slowly titrated to the target dose used in large-scale clinical trials or the maximum tolerated dose if less than the target dose
- If concomitant reactive airways disease is present, consider using more selective β1 blockade (eg. Bisoprolol, Metoprolol)
- If the patient is hypotensive, consider reducing the dose of other medications or change the timing of medications before reducing the b-blocker dosage.
- If AV block is present, consider decreasing other AV blocking drugs, such as digoxin or amiodarone.

β-Blockers are contraindicated in patients with the following conditions:

- Symptomatic hypotension despite adjustment of other therapies
- Severe reactive airways disease (stable chronic obstructive pulmonary disease is not a contraindication)
- Symptomatic bradycardia
- Significant atrioventricular block without a permanent pacemaker

[1] Adapted from the Canadian Cardiovascular Society consensus conference recommendations on heart failure 2006: Diagnosis and management, p.28. Table 3.
[2] The target drug dose should be either the dose used in large scale clinical trials or a lesser but maximum dose that is tolerated by the patient.
[3] Health Canada, Drugs & Health Products, Advisories Warnings and Recalls. November 6, 2001

Prevention and Management of Heart Failure

Highlights from the Canadian Cardiovascular Society Consensus Conference recommendations on Heart Failure 2006 and 2007

Primary Prevention

Patients at Risk of Developing Heart Failure:

- Clinical assessment is recommended in all patients to identify known or potential risk factors for heart failure:
  - Hypertension
  - Ischemic Heart Disease
  - Diabetes Mellitus
  - Hyperlipidemia
  - Smoking
  - Obesity-independent risk factor due to changes in LV structure and function
- All modifiable risk factors for heart failure, including those for coronary artery disease, such as hypertension, diabetes and hyperlipidemia, should be treated in accordance to current national guidelines.

Diagnosis

- The diagnosis of clinical heart failure is made when symptoms and signs of impaired cardiac output and/or volume overload are documented in the setting of abnormal systolic and/or diastolic cardiac function.
- Initial investigations should be targeted to confirm or exclude heart failure as the diagnosis and to identify systemic disorders that may affect its development or progression.
- Two-dimensional and Doppler transthoracic echocardiography are the initial imaging modalities of choice in patients suspected to have heart failure because they assess systolic and diastolic ventricular function, wall thickness, chamber sizes, valvular function and pericardial disease.

Heart Failure Incentive – Management Fee

Clinical History & Physical Examination

- Relevant clinical history, physical examination should be performed on all patients to assess their current status and response to treatment, as well as identify modifiable factors that may affect the progression of heart failure. These risk factors can be targeted for potential goal setting and patient self-management.

Laboratory Testing & Monitoring

- When initiating or significantly adjusting the dosage of ACEI, ARBs, Spironolactone and diuretics, blood work should be checked for electrolyte status and renal function with close monitoring as required.

Patient Activation, Self Care and Secondary Prevention

- Patient education to improve recognition of early warning symptoms and signs and to provide the patient with strategies to intervene early and prevent further acute deterioration. This may be accomplished through the use of a care team approach to service delivery.
- The patient and the care team should collaboratively work together to set goals for treatment that are mutually important to the patient and provider and develop a care plan or action plan to direct the patient's own self care. Strategies to overcome barriers and challenges to effective self-management should also be discussed to enhance success.
- Identify and target modifiable risk factors known to precipitate the development and progression of heart failure and coronary artery disease. Treat in accordance with national guidelines.

Pharmacologic Management

- Contraindications for the use of a drug in an individual patient should be carefully evaluated before prescribing, and emergent new signs and symptoms should be assessed to determine whether they could be side-effects related to the drug.
- All patients with heart failure and an LVEF less than 40% should be treated with an angiotensin-converting enzyme inhibitor (ACEI) in combination with a beta-blocker unless a specific contraindication exists.
- ARBs should be used in patients who cannot tolerate ACE inhibition
- In patients who are already on combination ACEI with beta-blocker, but continue to have heart failure symptoms or hospitalizations, an ARB should be added.
- A loop diuretic is recommended for most patients with heart failure and congestive symptoms. Once acute congestion is cleared, the lowest minimal dose should be used that is compatible with stable signs and symptoms.

Drug	Use	Role
Digoxin	Symptom Relief	For patients in sinus rhythm who continue to have moderate to severe persistent symptoms despite optimized heart failure medical therapy, digoxin is recommended to relieve symptoms and reduce hospitalizations.
Spironolactone	Symptom Relief	Should be considered for patients with an LVEF less than 30% and severe symptomatic chronic heart failure despite optimization of other recommended treatments, if serum creatinine is less than 200 umol/L and potassium is less than 5.2 mmol/L.
Loop Diuretic	Symptom Relief	Recommended for most patients with heart failure and congestive symptoms. Once acute congestion is cleared, the lowest minimal dose should be used that is compatible with stable signs and symptoms.
Nitrates	Symptom Relief	Can be useful to relieve orthopnea, paroxysmal nocturnal dyspnea, exercise-induced dyspnea or angina in patients when use as tablet, spray or transdermal patch, but continuous use should generally be avoided because most patients will develop tolerance.
A.S.A	Preventive	Should be considered in heart failure patients if there is a clear indication for secondary prevention of atherosclerotic disease. The dose of ASA used should be between 81mg and 325mg; the lower dose appears to be associated with a lower risk of gastrointestinal symptoms. High doses of ASA may share the same risks as nonsteroidal anti-inflammatory drugs (NSAIDs) and may aggravate heart failure, especially in unstable patients.
Calcium Channel Blockers	Caution	Dihydropyridine calcium channel blockers can cause fluid retention, mimicking worsening heart failure and occasionally exacerbating heart failure.

Heart Failure and Treatment of Diabetes

Diabetes mellitus is a well-established risk factor for coronary artery disease. It is recognized, however, that diabetes mellitus may produce heart failure independently of coronary artery disease by causing a diabetic cardiomyopathy.

Metformin may be considered a first-line agent for diabetes treatment if the eGFR is greater than 30mL/min. However, care should be taken to temporarily discontinue metformin if renal function worsens significantly.

Treatment with all rosiglitazone products is contraindicated in patients with any stage of heart failure (i.e. NYHA Class I, II, III or IV)[4]

Pioglitazone hydrochloride (Actos) can cause fluid retention which can exacerbate or lead to congestive heart failure. It is not indicated in patients with NYHA Class II, III and IV cardiac status[5].

Heart Failure with Renal Dysfunction

If eGFR<60mL/min, please consult the Canadian Society of Nephrology website for summary guideline and algorithm for detection, monitoring and referral of chronic kidney disease. http://csnscn.ca/english/professional%20practice/guidelines/implementationcommittee/

Renal Function Status	Criteria	Management
Stable Renal Function	Serum creatinine levels less than 200umol/L	Should receive standard therapy with an ACE inhibitor, ARB or spironolactone, but monitoring of serum potassium and creatinine levels should be more frequent.
Acute Renal Dysfunction	Generally diagnosed when serum creatinine levels increase by more than 30% of baseline value over several days or when oliguria and rising serum creatinine are present.	Volume status and clinical perfusion must be repeatedly assessed. This includes body weight, urine output, blood pressure, serum electrolytes and renal function. In stable patients who are not oliguric the dose of diuretics, ACE inhibitors, ARBs and spironolactone may be reduced until renal function stabilizes. In oliguric patients, drugs that impair renal function should be reviewed daily.
Severe Renal Dysfunction	Serum creatinine levels greater than 250umol/L or an increase of more than 50% from baseline	Routine use of ACEI, ARBs or spironolactone with severe renal dysfunction is not routinely recommended due to a lack of evidence for efficacy in heart failure patients. Use of digoxin should be re-evaluated in heart failure patients with severe renal dysfunction; the trough digoxin level (at least 8 hours after a dose) should be checked, and the dose should be adjusted to maintain a trough level less than 1nmol/L. For patients with more rapid deterioration in renal function, digoxin should be withheld and re-evaluated once renal function has stabilized.

[4] Health Canada, Drugs & Health Products, Advisories Warnings and Recalls. November 1, 2007.
[5] Health Canada, Drugs & Health Products, Advisories Warnings and Recalls. November 6, 2001

Assessment of the Elderly Heart Failure Patient

Should be assessed for relevant co-morbid conditions, including cognitive impairment, dementia and depression that may affect treatment, adherence to therapy, follow-up or prognosis. Those with cognitive impairment, a capable caregiver should be identified.

Heart failure therapies should be similar to those in younger patients, although their use may depend primarily on concomitant conditions.

Care must be taken with titration of medications to target doses to avoid adverse drug events (ADEs) as elderly patients are most vulnerable. Cardiovascular medications are frequently associated with ADEs in the elderly with falls being a common presentation, often from postural hypotension.

Ethical and End-of-Life Issues

Patients with heart failure should be approached early in the heart failure disease process regarding their prognosis, advanced medical directives and wishes for resuscitative care. These decisions should be reviewed regularly and specifically after any change in the patient's condition.

A substitute decision-maker (proxy) should be identified, and where possible, a living will should be discussed with patients to clarify wishes for end-of-life care.

As patients near the end of life, physicians should readdress goals of therapy – balancing quantity and quality of life, with a shift of focus to quality of life. Palliative care consultation should be considered.

Psychosocial issues (e.g. Depression, fear, isolation, home supports and need for respite care) should be re-evaluated routinely.

Caregivers of patients with advanced heart failure should be evaluated for coping and degree of caregiver burden.

When to Consider Referral for Specialist Consultation

- New-onset heart failure
- A recent heart failure hospitalization
- Heart failure associated with ischemia, hypertension, valvular disease, syncope, renal dysfunction, other multiple co-morbidities;
- Heart failure of unknown etiology;
- Intolerance to recommended drug therapies or poor compliance with treatment regimen

Recommended Resources

Managing Congestive Heart Failure Heart and Stroke Foundation http://ww2.heartandstroke.ca/	A learning program developed to help patients take charge of controllable aspects of their illness and its effects on their daily activities. There are 7 learning sessions or modules. Patients can use the program by themselves, with their family or with a group of people.
Educational Modules on Heart Failure The Heart Failure Society of America (HFSA) http://www.hfsa.org/hf_modules.asp	The HFSA has developed and published a series of modules designed to help patients and their loved ones, and individuals at risk communicate better with their doctor or nurse. These modules are not intended to replace regular medical care.