Improving Patient Outcomes by Improving the Coordination of Care and Changing Maladaptive Behaviors
None of the faculty, planners, speakers, providers, nor CME committee members have any relevant financial relationships with commercial interests.

There is no commercial support for this CME activity.
Heart Failure
Risk Factors

- Coronary Artery Disease
- Previous Heart Attack
- High Blood Pressure
- Abnormal Heart Valves
Other Risk Factors

- Heart Muscle Disease (Cardiomyopathy)
- Heart Defects Present at Birth
- Severe Lung Disease
- Obesity
- Diabetes
- Sleep Apnea
Why is Heart Failure Important?
Heart Failure Statistics

- 5.8 million have been diagnosed
- 670,000 each year and it is on the rise
- Over 1 million people are admitted each year
- 25% of Patients are readmitted within 30 days
- 75% percent of these admissions are preventable
- Risk increases over age 65 years old
- By 2030, >8 million people in the United States (1 in every 33) will have HF
U.S. Spending

Heart failure costs the nation an estimated $30.7 billion each year.

Total costs for HF, are estimated to increase from $31 billion in 2012 to $70 billion in 2030.

The estimated prevalence and cost of care for HF will increase markedly because of aging of the population.
All segments of the elderly population are growing rapidly.
U.S. health care spending is highly focused on the costliest patients

**Share of Total Population**
- 10% (10% of the population accounts for 66% of health expenditures)
- 15%
- 25%
- 50%

**Share of Health Expenditures**
- 66%
- 21%
- 11%
- 3%


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Identifying the Problem

This highly concentrated spending is centered on patients >65 years of age with at least one chronic disease, heart disease being the most common.

Nearly two-thirds of 30-day hospital readmissions are caused by poor discharge planning, noncompliance, lack of understanding the treatment plan, inadequate follow-up and delays in seeking treatment.

Strategies to prevent HF and improve the efficiency of care are needed.
We know that **Outpatient Care** is Lacking:

- Patient education on disease process or how to manage symptom exacerbation which could improve self-efficacy
- Providers knowing and/or following evidence-based guidelines
- Good communication between specialist, hospitalist and primary care providers and the patients
- Adequate access to care and care coordination is not being done consistently
Self-Efficacy Could be the Key

Numerous empirical studies have investigated the relationships between cardiovascular diseases and self-efficacy.

A study by (Steca, 2013) underlined the importance of working on illness perception and self-efficacy beliefs to contrast depression and to improve health and life satisfaction in patients with coronary artery disease.

They found a strong link between self-efficacy and life satisfaction and a lesser relationship between the severity of the disease and life satisfaction.

Life satisfaction improved if patients felt they could manage their disease independently.
Living with Heart Failure

Living with heart failure is challenging and turbulent.

Patients suffer from a wide range of symptoms like breathlessness, fluid retention, functional impairment, and fatigue (Chu et al., 2014).

Many report poor coping, poor quality of life, and emotional distress (Seah, Tan, Gan, & Wang, 2015; Son et al., 2012).

Patients experience reoccurring hospitalizations, higher levels of depression and strained marriage and family relationships (Heo et al., 2014).
Heart Failure Program

Clinic inside the clinic- Riverside Medical Clinic (RMC)

Gap in access to care

Many patients seek care at the emergency room due to lack of understanding and confidence to handle their symptoms

RMC identified 13% of their patient population with heart failure readmit after 30 days

Initials goals for the heart failure clinic

- Improve heart failure outcomes
- Decrease hospital admissions
- Improve self-efficacy by improving patients ability to manage their symptoms
- Improve patients quality of life
## Case Study

### PATIENT

65 year old female patient with diagnosis of diastolic heart failure, Diabetes type 2, obesity, hypothyroidism, chronic venous stasis ulcers, sleep apnea, restrictive lung disease

Patient had multiple hospitalizations prior to heart failure program

Uncontrolled symptoms: SOB, chronic cellulitis

Recognized need for coordination of care between specialist: cardiologist, endocrinologist, PCP, pulmonologist

### MEDICATIONS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose/Regimen</th>
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<tr>
<td>Advair HFA 115-21 MCG/ACT</td>
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<tr>
<td>ASA 81 mg</td>
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<td>Cardura 2 mg BID</td>
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<td>Lasix 40 mg BID</td>
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<td>Valsartan 160 mg BID</td>
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<td>Levothyroxine 100mcg daily</td>
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<tr>
<td>Lisinopril 40 mg BID</td>
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<td>Ativan 1 mg daily at night</td>
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<tr>
<td>Metformin 1000 mg BID</td>
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<tr>
<td>metoprolol 25 mg BID</td>
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<tr>
<td>NIFEdipine 30 mg q 24 hours</td>
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<tr>
<td>Protonix 40 mg daily</td>
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<td>KLOR-CON 10MEQ daily</td>
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Initial Vital Signs

Temp: 98.3 F
Blood pressure: 178/95
Pulse: 56
Resp: 20 on continues O2 at 4L
SpO2: 95%
Ht: 5’4
Wt: 302
BMI: 51.91
BS: 300 fasting

Time between visits 6-8 months
Heart Failure Program

Initial assessment with patients include:
- Weight
- VS
- Diet and exercise information
- Complete and thorough evaluation of medications and medical history
- A cardiac self-efficacy questionnaire is given at the initial visit and again at 3 months to assess improvement in self-efficacy
- Patients are re-evaluated on a monthly basis
- Patients are enrolled in the program for a period of 6 months if symptom free
Patient Education

Patient will be taught the disease process of heart failure and will have take home educational material.

Education will focus on fluid management and nutrition:
- Use of Lasix
- Diet and exercise
- Medication management
- Blood pressure and weight management
- Identification of symptom exacerbation
- Patient will be seen once a month by the heart failure nurse practitioner.
Coordination of Services

Connected patient with:

- Case management to follow progress
- Dietitian for weight loss
- Pulmonologist: follow up on sleep apnea (did not have CPAP due to poor fit)
- Cardiologist: baseline, echo and stress test
- Endocrinology: For improved control of diabetes
- Diabetic educator: for improved dietary control
- Health education: Healthy weight class
- Identified depression in patient, sent to psychologist
Change in Treatment Plan

Added Aldactone 25 mg for better management of fluid overload
Added Lantus 10 units nightly for better control along with Glipizide 10 mg daily
Wound care along with compression and elevation for chronic venous stasis
Decrease salt intake and restricted fluid
Pulmonologist found better fit for CPAP
Health education program patient lost 25 lbs
Patient is seen in the heart failure program once a month to manage symptoms
Zoloft 25 mg daily added to combat depression exacerbated by chronic illness
Patient is seeing a psychologist for cognitive behavioral training to help with obesity
Final Outcomes

- **Weight**: 275 lb
- **Blood pressure**: 142/78
- **Symptoms Control**:
  - Decreased SOB,
  - Decrease anxiety,
  - Decreased incident of cellulitis
  - Improved venous stasis ulcer wounds
- **Hospitalizations visits**:
  - No hospital visits for 1.5 years post heart failure program
- **Urgent care/ Emergency room visits**:
  - One ER visit for anxiety related chest pain over 1 year ago

**Improved knowledge of**:
- Disease process
- Diet and exercise
- Medication management
- Fluid management

**Improved symptoms of**:
- Fluid overload
- Obesity
- Blood sugar control
- Cellulitis and venous ulcers
- Depression
References


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