



<b>Body System: Cardiovascular</b>		
<b>Session Topic: Heart Failure</b>		
<b>Educational Format</b>		<b>Faculty Expertise Required</b>
<b>REQUIRED</b>	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
<b>OPTIONAL</b>	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
<b>Professional Practice Gap</b>	<b>Learning Objective(s) that will close the gap and meet the need</b>	<b>Outcome Being Measured</b>
<ul style="list-style-type: none"> <li>• Family physicians have knowledge gaps with regard to evaluating and managing heart failure, analyzing electrocardiography, performing cardiovascular physical examinations, effective use of cardiac rehabilitation, and cardiovascular pharmacology.</li> <li>• Family physicians have knowledge gaps with regard to utilization of staging criteria for classifying at risk patients, selecting appropriate and effective treatment medications, and consistent adherence to current practice guidelines.</li> <li>• Diagnostic errors associated with heart failure in common in primary care.</li> <li>• Data to suggest that physicians following evidence-based clinical</li> </ul>	<ol style="list-style-type: none"> <li>1. Use current ACC/AHA guidelines to evaluate and classify patients with suspected heart failure.</li> <li>2. Use evidence-based criteria to identify appropriate diagnostic imaging and laboratory tests to identify causes or precipitating factors.</li> <li>3. Establish guideline-directed medical therapy (GDMT), as indicated by the initial evaluation.</li> <li>4. Develop collaborative care plans with patients that emphasize making healthy lifestyle changes and adherence to prescribed therapies.</li> </ol>	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>practice guidelines are less likely to underuse beta blockers in congestive heart failure treatment</p> <ul style="list-style-type: none"> <li>Physicians require training and strategies to improve documentation and decision making, improve the effectiveness of health coaching, and improve medication adherence.</li> <li>New 2017 ACC/AHA/HFSA heart failure guidelines</li> </ul>		
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**ACGME Core Competencies Addressed** (select all that apply)

X	Medical Knowledge		Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

**Faculty Instructional Goals**

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
  - Visit <http://www.aafp.org/journals> for additional resources
  - Visit <http://familydoctor.org> for patient education and resources
- Provide an overview of the 2017 ACC/AHA/HFSA heart failure guidelines, as well as strategies for implementation into practice.
- Provide strategies for using current ACC/AHA guidelines to evaluate and classify patients with suspected heart failure.
- Provide recommendations on the use of evidence-based criteria to identify appropriate diagnostic imaging and laboratory tests to identify causes or precipitating factors.
- Provide recommendations for establishing guideline-directed medical therapy (GDMT), as indicated by the initial evaluation, with an emphasis on consistent guideline adherence.



- Provide strategies and resources to develop collaborative care plans with patients that emphasize making healthy lifestyle changes and adherence to prescribed therapies.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.
- Provide instructions regarding the incorporation and use of the PCMH/ACO/Primary Care Core Measure Set into practice.

### Needs Assessment

Nearly 5.1 million people in the United States have heart failure (HF), over 23 million worldwide, and was the underlying cause of death in 57, 757 people in the U.S. in 2010.<sup>1-3</sup> In fact, current research suggests the HF prevalence has increased from 5.7 million to 6.5 million in Americans  $\geq 20$  years of age and projections show prevalence will increase by 46% from 2012 to 2030 resulting in more than 8 million people 18 years of age and older with HF.<sup>4</sup> Congestive heart failure (non-hypertensive) is the leading condition resulting in hospital readmissions among Medicare patients (aged 65 and older), the seventh leading cause for hospital readmissions among Medicaid patients (aged 18-64), and the eighth leading cause among uninsured patients (aged 18-64 years).<sup>5</sup> Recent studies from the Agency for Healthcare Research and Quality (AHRQ), demonstrate that home visiting programs and multidisciplinary clinic interventions for adult patients with heart failure reduced all-cause readmissions and mortality over three to six months. (Strength of recommendation [SOR]: A, based on consistent, good-quality patient-oriented evidence.) Structured telephone support reduced heart failure-specific readmissions and mortality over three to six months. (SOR: A, based on consistent, good-quality patient-oriented evidence.) However, structured telephone support did not reduce all-cause readmissions over a similar period. (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.)<sup>6</sup>

Multicomponent interventions such as home visiting programs and multidisciplinary clinic interventions for heart failure reduced all-cause readmissions and mortality over three to six months. Key components of these interventions included heart failure education emphasizing self-care, heart failure pharmacotherapy emphasizing adherence, face-to-face contact after hospital discharge, mechanisms for post-discharge medication adjustment, and streamlined mechanisms to contact care delivery personnel (e.g., a patient hotline). These higher-intensity interventions were delivered by teams of clinicians.

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have knowledge gaps with regard to evaluating and managing heart failure, analyzing electrocardiography, performing cardiovascular physical examinations, effective use of cardiac rehabilitation, and cardiovascular pharmacology.<sup>7</sup> More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly) *Heart Failure* sessions suggest that physicians have knowledge and practice gaps with regard to utilization of staging criteria for classifying at risk patients (e.g. NYHA & ACC); selecting appropriate and effective treatment medications (e.g. extended-release vs. immediate release Metoprolol, appropriate use of beta blockers, appropriate use of statins, etc.); better awareness of



drug interactions; effective lifestyle modification counseling; and consistent adherence to current practice guidelines.<sup>8-11</sup>

Diagnostic errors associated with heart failure in common in primary care; particularly, process breakdowns frequently involved the patient-practitioner clinical encounter (78.9%) but are also related to referrals (19.5%), patient-related factors (16.3%), follow-up and tracking of diagnostic information (14.7%), and performance and interpretation of diagnostic tests (13.6%).<sup>12</sup> CME outcomes data from the American Academy of Family Physicians (AAFP) Advanced Cardiac Testing CME Program, as well as data from a national study of the National Research Network (NRN), indicate that cardiac tests ordered by family physicians vary regionally, and that physician-patient communication gaps, as well as coordination of care gaps exists and are barriers to optimal patient care. It is well established that interpretation of ECGs is within the scope of family medicine, and that the diagnosis and management of cardiovascular disorders is routinely taught in family medicine residency programs.<sup>13</sup> However, studies suggest that family practice residents have considerable deficiencies in ECG interpretation skills.<sup>14</sup> Documentation of diagnostic imaging is also inconsistent among many primary care providers; therefore, family physicians should be familiar with ACR practice guidelines for communication of diagnostic imaging findings.<sup>15,16</sup> Family physicians can also improve clinical decision making by utilizing clinical decision support tools and documenting decision making.<sup>17,18</sup> Physicians require training and strategies to improve documentation and decision making, improve the effectiveness of health coaching, and improve medication adherence.<sup>17-23</sup>

The goal for using any cardiac imaging or stress test should be to maximize usefulness without unnecessary cost or harm to the patient, however, some studies suggest that 30% to 50% of cardiovascular imaging tests are partially or totally inappropriate.<sup>24</sup> Physicians must always consider the safe and effective use of diagnostic imaging, as risks of diagnostic imaging include cancer from radiation exposure and nephrogenic systemic fibrosis, and the overuse of health care services leads to poor quality and high costs.<sup>25-28</sup> Physicians should consult Choosing Wisely<sup>®</sup> recommendations when considering cardiac imaging tests:<sup>29-35</sup>

Physicians may improve their care of patients with HF by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:<sup>36-39</sup>

- The initial evaluation of patients with suspected heart failure should include a history and physical examination, laboratory assessment, chest radiography, and electrocardiography. Echocardiography can confirm the diagnosis.
- A displaced cardiac apex, a third heart sound, and chest radiography findings of pulmonary venous congestion or interstitial edema are good predictors to rule in the diagnosis of heart failure.
- Systolic heart failure can be effectively ruled out with a normal B-type natriuretic peptide or N-terminal pro-B-type natriuretic peptide level.
- Systolic heart failure can be effectively ruled out when the Framingham criteria are not met.
- Treatment of stage A heart failure should focus on reducing modifiable risk factors, including management of hypertension and hyperlipidemia.



- To prevent symptomatic heart failure, ACE inhibitors and beta blockers should be used in all patients with stage B or C heart failure who have a reduced ejection fraction.
- Patients with stage C heart failure and fluid retention should be treated with diuretics in addition to ACE inhibitors and beta blockers.
- ACA/AHA guidelines for lifestyle management to reduce cardiovascular risk through counseling, management, and prevention
- The combination of sacubitril/valsartan (Entresto) may be an alternative to angiotensin-converting enzyme inhibitors in patients with heart failure.
- Aldosterone antagonists and beta blockers decrease mortality in patients with symptomatic heart failure.
- The sinus modulator ivabradine (Corlanor) decreases the risk of cardiovascular death or hospitalization in patients with sinus rhythm, with a heart rate of more than 70 beats per minute, and who are taking the tolerated or target dosage of a beta blocker.
- Consider referral for device therapy (implantable cardioverter-defibrillators and cardiac resynchronization therapy) in patients with reduced ejection fraction and symptomatic heart failure or ischemic cardiomyopathy whose life expectancy is more than one year.

Faculty should be prepared to discuss the following is a summary of key points from the 2017 American College of Cardiology/American Heart Association/Heart Failure Society of America (ACC/AHA/HFSA) Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure (HF).<sup>36</sup>

**Biomarkers:**

- For prevention: The 2017 Focused Update gives a Class IIa recommendation (Level of Evidence: B-R) for utilizing natriuretic peptide biomarker-based screening for those at risk of developing HF, followed by team-based care including a cardiovascular specialist optimizing guideline-directed medical therapy (GDMT), to prevent the development of left ventricular dysfunction (systolic or diastolic) or new-onset HF.
- For diagnosis: The 2017 Focused Update gives a Class I recommendation (Level of Evidence: A) for measurement of natriuretic peptide biomarkers in patients presenting with dyspnea, to support a diagnosis or exclusion of HF.
- For prognosis or added risk stratification: The 2017 Focused Update gives a:
  - Class I recommendation (Level of Evidence: A) for measurement of B-type natriuretic peptide (BNP) or N-terminal (NT)-proBNP for establishing prognosis or disease severity in chronic HF.
  - Class I recommendation (Level of Evidence: A) for measurement of baseline natriuretic peptide biomarkers and/or cardiac troponin on admission to the hospital to establish a prognosis in acutely decompensated HF.
  - Class IIa recommendation (Level of Evidence: B-NR) for measurement of a pre-discharge natriuretic peptide level during a HF hospitalization, to establish a post-discharge prognosis.
  - Class IIa recommendation (Level of Evidence: B-NR) for measurement of other clinically available tests, such as biomarkers of myocardial injury or fibrosis, in patients with chronic HF for additive risk stratification.
- Stage C HF With Reduced Ejection Fraction (HFrEF): Summarized earlier here in a previous Journal Scan on the HF Focused Update on Pharmacological Therapy.



- Stage C HF With Preserved EF (HFpEF): The 2017 Focused Update gives the following:
  - Class IIa recommendation (Level of Evidence: B-R) for use of aldosterone antagonists in appropriately selected patients with HFpEF (with EF  $\geq$ 45%, elevated BNP or HF admission within 1 year, estimated glomerular filtration rate  $>$ 30 and creatinine  $<$ 2.5 mg/dl, potassium  $<$ 5.0 mEq/L), to decrease hospitalizations.
  - Class III recommendation (Level of Evidence: B-R) for routine use of nitrates or phosphodiesterase-5 inhibitors to increase activity or quality of life (QoL) in patients with HFpEF, as there is no benefit.
  - Class III recommendation (Level of Evidence: B-C) for routine use of nutritional supplements in patients with HFpEF, as there is no benefit.

**Anemia: The 2017 Focused Update gives a:**

- Class IIb recommendation (Level of Evidence: B-R) for intravenous iron replacement in patients with New York Heart Association (NYHA) class II and III HF and iron deficiency (ferritin  $<$ 100 ng/ml or 100-300 ng/ml if transferrin saturation  $<$ 20%), to improve functional status and QoL.
- Class III recommendation (Level of Evidence: B-R) that erythropoietin stimulating agents should not be used in patients with HF and anemia to improve morbidity and mortality, as there is no benefit.

**Hypertension: The 2017 Focused Update gives a:**

- Class I recommendation (Level of Evidence: B-R) for targeting an optimal blood pressure (BP) of  $<$ 130/80 mm Hg in those with hypertension and at increased risk (stage A HF).
- Class I recommendation (Level of Evidence: C-EO) for titration of GDMT to attain systolic BP (SBP)  $<$ 130 mm Hg in patients with HFrEF and hypertension.
- Class I recommendation (Level of Evidence: C-LD) for titration of GDMT to attain SBP  $<$ 130 mm Hg in patients with HFpEF and persistent hypertension after management of volume overload.

**Sleep-Disordered Breathing: The 2017 Focused Update gives a:**

- Class IIa recommendation (Level of Evidence: C-LD) for a formal sleep assessment in patients with NYHA class II–IV HF and suspicion of sleep-disordered breathing or excessive daytime sleepiness.
- Class IIb recommendation (Level of Evidence: B-R) for utilization of continuous positive airway pressure in patients with cardiovascular disease and obstructive sleep apnea, to improve sleep quality and daytime sleepiness.
- Class III recommendation: Harm (Level of Evidence: B-R) for use of adaptive servo-ventilation in patients with NYHA class II–IV HFrEF and central sleep apnea, as it causes harm.

There is data to suggest that physicians following evidence-based clinical practice guidelines are less likely to underuse beta blockers in congestive heart failure treatment.<sup>27</sup> This is significant, as recent research suggests that beta blocker therapy reduces mortality in patients with heart failure with reduced ejection fraction.<sup>40</sup> These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear



understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

The American Academy of Family Physicians Academy has participated in the Core Measures Collaborative (the Collaborative) convened by America's Health Insurance Plans (AHIP) since August 2014. The Collaborative is a multi-stakeholder effort working to define core measure sets of various specialties promoting alignment and harmonization of measure use and collection across both public and private payers.

Participants in the Collaborative included Centers for Medicare and Medicaid Services (CMS), the National Quality Forum (NQF), private payers, provider organizations, employers, and patient and consumer groups. This effort exists to decrease physician burden by reducing variability in measure selection, specifications and implementation—making quality measurement more useful and meaningful for consumers, employers, as well as public and private clinicians.

With significant AAFP input, a PCMH/ACO/Primary Care Core Measure Set has been developed for primary care. The goal of this set is to decrease burden and allow for more congruence between payer reporting programs.<sup>41</sup>

#### Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- Diagnosis and evaluation of heart failure<sup>38</sup>
- Heart Failure Due to Reduced Ejection Fraction: Medical Management<sup>37</sup>
- 2017 ACCF/AHA guideline for the management of heart failure<sup>36</sup>
- AHA/ACC guideline on lifestyle management to reduce cardiovascular risk<sup>39</sup>
- NICE Acute heart failure: diagnosing and managing acute heart failure in adults<sup>42</sup>
- Appropriate and safe use of diagnostic imaging<sup>25</sup>
- ACR practice guideline for communication of diagnostic imaging findings<sup>16</sup>
- Clinical decision support: using technology to identify patients' unmet needs<sup>17</sup>
- Thinking on paper: documenting decision making<sup>18</sup>
- Medication adherence: we didn't ask and they didn't tell<sup>19</sup>
- Health Coaching: Teaching Patients to Fish<sup>20</sup>
- An organized approach to chronic disease care<sup>21</sup>
- The integrated summary: a documentation tool to improve patient care.<sup>22</sup>
- Engaging Patients in Collaborative Care Plans<sup>23</sup>
- Heart Failure | Overview (patient education)<sup>43</sup>

#### References



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