The Community Paramedic Experience in Wisconsin So Far

Marv Birnbaum, Jan Beyer, Dana Sechler, Lori Spencer

Community Paramedic Stakeholder Symposium
Milwaukee
28 January 2014
So Far
UWSMPH and UWHC

- 1996: Attempt in 1996 (Red River Project; Tim Fleming)
- 2007: Lori Spencer/Baraboo District Ambulance Service
- 2009: Established Steering Committee of all stakeholders
- 2009: Applied for MERC funding (BDAS) $150,0000
- 2011: Endorsement of all stakeholders
- 2011: Applied to CMS Innovation Grant (BDAS) $3.2 mil
- 2011: Applied w Consortium for CMS Innovation (BDAS) $27 mil
- 2013: Unable to complete Innovation-2 to CMS (BDAS & MFD) >$10 mil
- 2014: Proposal to Robert Wood Johnson Foundation (BDAS+MFD) $3 mil
Questions???

- Who?
- What?
- Where?
- When?
- Why?

What?
- Why?
- Where?
- Who?
- When?
- How?
- So What?
- Who says?
- Accountable to?
- Costs?
- Who Pays?
- Who Receives?
- Self-Supporting?
Reconcile Prescriptive Care
(Drugs, Care plan, Self Care)
Increase Compliance with Prescriptive Care
Increase Coordination of Care
(Elimination of Duplication)
Improve Communications
(Care-givers, Patient, Family)
Troubleshoot Support Equipment
(VADs, O₂ Concentrators, Nebulizers, CPAP, BiPAP, Peritoneal Dialysis)
Assessments
(History, Physical Exam, Laboratory, Screening, Setting))

Adjust Prescriptive Care*
Early Notification/Referrals
Prevention Health Behavior Counseling
(Environmental Adjustments; Life style, Diet; Immunizations)

Increased Stability
Slowed Progression
Decrease Stage of Disease (severity)

Detect Early Changes in Health Status
Risk Reduction
Prevent/Mitigate Complications
Decreased Number of Episodes
Decreased Severity of Episodes

Decreased Number of Admissions/Readmissions
(Hospital, ICU, ED, Clinics)
Decreased Length of Stay
Decreased Number of Drugs Prescribed
Decreased Number of EMS Transports
Decreased Use of Ancillary Services**

Improved Health Status
Improved Quality of Healthcare

Reduce the total costs of care (Economic, Opportunity, Emotional) by at least 10% for patients with a history of CHF, PN, AMI, or MS or major surgery (MS) by the end of the three years of the award;
Demonstrate increased satisfaction of 20% of the patients and families in the project with their health care by the end of the period of support (Patient, Family, Payers, Care-givers)

*on orders from a physician, nurse practitioner, or physician assistant
** Consultations, Social work, Home HealthPT/OT/Laboratory/Imaging, etc.
Aims and Goals (Impact)

- Improved Health Status
- Improved Quality of Healthcare
- Reduce the Total Costs of Care (Economic, Opportunity, Emotional) by at least 10% by the end of project
- Demonstrate Increased Satisfaction of 20% of the patients and families in the project with their health care by the end of the period of support

*Patient, Family, Payers, Care-givers*
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Improved Health Status

Improved Quality of Healthcare

Secondary Drivers (Interventions)  Primary Drivers (Outcomes)  Aims/Goals (Interventions)
Primary Drivers

- Increased Stability
- Slowed Progression
- Decrease Stage of Disease (severity)
- Detect Early Changes in Health Status
- Risk Reduction
- Prevent/Mitigate Complications
- Decreased Number of Episodes
- Decreased Severity of Episode
  - Number of (Admissions/Readmissions (Hospital, ICU, ED, Clinics)
  - Decreased Length of Stay
- Decreased Number of Drugs Prescribed
- Decreased Number of EMS Transports
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  - Decrease Stage of Disease (severity)

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Secondary Drivers

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- Demonstrate increased satisfaction of 20% of the patients and families in the project with their healthcare by the end of the period of support (Patient, Family, Payers, Care-givers)

*on orders from a physician, nurse practitioner, or physician assistant

** Consultations, Social work, Home Health, PT, OT, Laboratory, Imaging, etc.
HOW???

- Personnel
  - Selection
  - Education AND Training
    - Providers
    - Stakeholders
    - Organizations
    - Public
    - Continuing education
  - Competencies
    - Standards
    - Best Practices

- Legal issues
  - Scope of Practice
  - Licensing
    - Individual
    - Provider
HOW???

System (how will it work?)
  – Who says?
  – Coordination and Control
  – Recruitment of patients
    - Referrals only
    - Consent
    - Follow-up
  – Medical Records
  – Critical pathways/protocols
  – Competition
How???

- Accountability
  - Oversight
  - Medical Control
  - Supervision
  - Responsibility
  - CQI

- Costs
  - Resources
  - Opportunity
  - Cost-savings (amount, for whom?)

- Income
  - Who pays how much to whom?
  - Who receives?
  - Self-supporting?
So What?

- Improved Health Status
- Improved Quality of Healthcare
- Reduced Total Costs of Care
  - Decreased admissions, readmissions (hosp/ICU/ED)
  - Decreased EMS Transports
- Increased Satisfaction
  - Patient
  - Family
  - Payers
  - Care-givers
Next Steps

- Standards and best practices
- Scope of services (from CMS)
  - Chronic Heart Failure (CHF)
  - COPD
  - Asthma
  - Diabetes
  - Post-pneumonia
  - Post-major surgery
  - Post AMI
- Codify reimbursement
- Modify curriculum
- Share case reviews/continuing ed.
- Licensing
Next Steps

- Standards and best practices
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# In-patient Stats

<table>
<thead>
<tr>
<th></th>
<th>2010-2012</th>
<th>Ave/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Hospital Discharges with CHF</td>
<td>6,755</td>
<td>2,277</td>
</tr>
<tr>
<td>Number Readmitted within 30 Days Discharge</td>
<td>1,013 (15.0%)</td>
<td>307 (15.0%)</td>
</tr>
<tr>
<td>Average Hospital Length of Stay (days)</td>
<td>6.6</td>
<td>6.6</td>
</tr>
<tr>
<td>Admitted to ICU</td>
<td>58 (5.7%)</td>
<td>20 (5.7%)</td>
</tr>
<tr>
<td>Average Length of Stay in ICU (days)</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Total Hospital Charges</td>
<td>$60.6 mil</td>
<td>20.2 mil</td>
</tr>
<tr>
<td>Reimbursement to Hospital</td>
<td>$29.605 mil (48.9%)</td>
<td>$9.868 mil (48.9%)</td>
</tr>
<tr>
<td>Un-reimbursed Charges</td>
<td>$30.384 mil (51.2%)</td>
<td>$12.128 mil (51.2%)</td>
</tr>
</tbody>
</table>
## CHF Clinic Stats

<table>
<thead>
<tr>
<th></th>
<th>2010-2012</th>
<th>Average/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Patient Visits</td>
<td>2,290</td>
<td>763</td>
</tr>
<tr>
<td>Admissions to Hospital</td>
<td>11</td>
<td>3-4</td>
</tr>
<tr>
<td>Average Charges*</td>
<td>$1,130</td>
<td>$1,130</td>
</tr>
<tr>
<td>Average Reimbursement/visit</td>
<td>$450</td>
<td>$450</td>
</tr>
<tr>
<td></td>
<td>(38.9%)</td>
<td>(38.9%)</td>
</tr>
<tr>
<td>Total Charges Billed</td>
<td>$116.4 mil</td>
<td>$38.8 mil</td>
</tr>
<tr>
<td>Total Charges Reimbursed</td>
<td>$46.3 mil</td>
<td>$15.4 mil</td>
</tr>
<tr>
<td></td>
<td>(39.8%)</td>
<td>(39.8%)</td>
</tr>
<tr>
<td>Non-reimbursed Charges</td>
<td>$70.1 mil</td>
<td>$23.4 mil</td>
</tr>
<tr>
<td></td>
<td>(60.2%)</td>
<td>(60.2%)</td>
</tr>
</tbody>
</table>
Projected US prevalence of HF from 2012 to 2030 is shown for different races.

Projected Increases in Direct and Indirect Costs attributable to HF from 2012 to 2030
Clinical course of CHF with Types and Intensities of Available Therapies.

Transition to Advanced Heart Failure:
- Oral therapies failing
- A time for many major decisions
- Consider MCS and/or transplantation, if eligible
- Consider inversion of care plan to one dominated by a palliative approach, which may involve formal hospice

Traditional Care
Including disease-modifying therapies

Palliative Care
Including symptom management
Prognosis Not Only about Expectations for Survival.

- Costs/Burden
  - Direct Medical Costs
  - Indirect Costs
  - Lost Opportunities
  - Caregiver Burden

- Outcomes Relevant to an Individual Patient
- Quality of Life
  - Symptoms
  - Physical Function
  - Mental
  - Emotional
  - Social

Survival
Aims and Goals (Impact)

- Improved Health Status
- Improved Quality of Healthcare
- Reduce the Total Costs of Care
  (Economic, Opportunity, Emotional) by at least 10% for patients with a history of CHF by the end of project
- Demonstrate Increased Satisfaction
  of 20% of the patients and families in the project with their health care by the end of the period of support

*Patient, Family, Payers, Care-givers*
# ACCF/AHA vs NYHA

<table>
<thead>
<tr>
<th>ACCF/AHA Stage</th>
<th>NYHA (N/Y)</th>
<th>NYHA Functional Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>N/A</td>
<td>No limitation of physical activity</td>
</tr>
<tr>
<td>B</td>
<td>I</td>
<td>No signs of HF</td>
</tr>
<tr>
<td>C</td>
<td>II</td>
<td>Slight limitation of physical activity</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>Comfortable at rest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symptoms w routine physical activity</td>
</tr>
<tr>
<td>D</td>
<td>IV</td>
<td>Physical activity → symptoms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symptoms at rest</td>
</tr>
</tbody>
</table>
Stages in the development of HF and recommended therapy by stage.

**STAGE A**
- At high risk for HF but without structural heart disease or symptoms of HF
- e.g., Patients with:
  - HTN
  - Atherosclerotic disease
  - DM
  - Obesity
  - Metabolic syndrome
  - Using cardiotoxins
  - With family history of cardiomyopathy

**STAGE B**
- Structural heart disease but without signs or symptoms of HF
- Development of symptoms of HF
  - e.g., Patients with:
    - Previous MI
    - LV remodeling including LVH and low EF
    - Asymptomatic valvular disease

**STAGE C**
- Structural heart disease with prior or current symptoms of HF
- Refractory symptoms of HF at rest, despite GDMT
  - e.g., Patients with:
    - Marked HF symptoms at rest
    - Recurrent hospitalizations despite GDMT

**STAGE D**
- Refractory HF

**THERAPY**

**STAGE A**
- Goals:
  - Heart healthy lifestyle
  - Prevent vascular, coronary disease
  - Prevent LV structural abnormalities

- Drugs:
  - ACEI or ARB as appropriate patients for vascular disease or DM
  - Statins as appropriate

**STAGE B**
- Goals:
  - Prevent HF symptoms
  - Prevent further cardiac remodeling

- Drugs:
  - ACEI or ARB as appropriate
  - Beta blockers as appropriate

**STAGE C**
- Goals:
  - Control symptoms
  - Improve HRQOL
  - Prevent hospitalization
  - Prevent mortality

- Strategies:
  - Identification of comorbidities

**STAGE D**
- Goals:
  - Control symptoms
  - Patient education
  - Reduce hospital readmissions
  - Prevent mortality

- Drugs for routine use:
  - Diuretics for fluid retention
  - ACEI or ARB

**THERAPY**

**THERAPY**

**THERAPY**

**THERAPY**

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### Management of Co-Morbidities

- Guideline-directed medical and device therapy
  - ACE inhibitor/ARB
  - Beta blocker
  - Aldosterone receptor antagonist
  - Diuretic
  - Hydralazine and isosorbide dinitrate
  - Digoxin
  - Discontinuation of drugs that may worsen HF
  - Biomarker-related therapeutic goals
  - HF-related devices (MCS, CRT, ICD)
  - Management of comorbidities (examples)
    - Ischemic heart disease
    - Antithrombotic therapies
    - Arrhythmia/arrhythmia risk
    - Hypertension
    - Diabetes mellitus
    - Chronic renal failure
    - Chronic obstructive pulmonary disease
    - Secondary prevention interventions (eg, lipids, smoking cessation, influenza and pneumococcal vaccines)

### Patient and Family Education

- Patient/family education
  - Diet and fluid restriction, weight monitoring
  - Recognizing signs and symptoms of worsening HF
  - Risk assessment and prognosis
  - QOL assessment
  - Advance care planning (eg, palliative care and advance directives)
  - CPR training for family members
  - Social support

### Physical Activity / Cardiac Rehabilitation

- Physical activity/cardiac rehabilitation
  - Exercise regimen
  - Activities of daily living
  - Functional status assessment and classification

### Psychosocial Factors

- Psychosocial factors
  - Sex-specific issues
  - Sexual activity
  - Depression screening

### Clinician Follow-Up and Care Coordination

- Clinician follow-up and care coordination
  - Cardiologists and other relevant specialists
  - Primary care physician
  - Advanced practice nurse
  - Other healthcare providers (eg, home care)
  - Medication reconciliation
  - Establishment of electronic personal health records
  - Socioeconomic and cultural factors
  - Culturally sensitive issues

### Socioeconomic and Cultural Factors

- Education and health literacy
- Social support
Primary Care Paramedic (PCP)

Thank You!
### Recommendations for Hospital Discharge

<table>
<thead>
<tr>
<th>Recommendations or Indications</th>
<th>COR</th>
<th>LOE</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance improvement systems in the hospital and early postdischarge outpatient setting to identify HF for GDMT</td>
<td>I</td>
<td>B</td>
<td>82, 365, 706, 792–796</td>
</tr>
<tr>
<td>Before hospital discharge, at the first postdischarge visit, and in subsequent follow-up visits, the following should be addressed:</td>
<td></td>
<td></td>
<td>204, 795, 797–799</td>
</tr>
<tr>
<td>a. initiation of GDMT if not done or contraindicated;</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b. causes of HF, barriers to care, and limitations in support;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. assessment of volume status and blood pressure with adjustment of HF therapy;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. optimization of chronic oral HF therapy;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. renal function and electrolytes;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. management of comorbid conditions;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. HF education, self-care, emergency plans, and adherence; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. palliative or hospice care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary HF disease-management programs for patients at high risk for hospital readmission are recommended</td>
<td>I</td>
<td>B</td>
<td>82, 800–802</td>
</tr>
<tr>
<td>A follow-up visit within 7 to 14 d and/or a telephone follow-up within 3 d of hospital discharge are reasonable</td>
<td>Ila</td>
<td>B</td>
<td>101, 803</td>
</tr>
<tr>
<td>Use of clinical risk-prediction tools and/or biomarkers to identify higher-risk patients are reasonable</td>
<td>Ila</td>
<td>B</td>
<td>215</td>
</tr>
</tbody>
</table>

COR indicates Class of Recommendation; GDMT, guideline-directed medical therapy; HF, heart failure; and LOE, Level of Evidence.

Indications for CRT therapy algorithm.

### ACCF/AHA Stages of CHF

**Yancy et al (2013)**

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<th>Stage A</th>
<th>Stage B</th>
<th>Stage C</th>
<th>Stage D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factors present. No structural heart disease. No symptoms. Disease management emphasis on limiting risk factors.</td>
<td>Structural heart disease. No symptoms of HF. Disease management focus on treating structural heart disease</td>
<td>Structural heart disease. Symptoms of heart failure. Disease management emphasis on reducing morbidity and mortality</td>
<td>Heart failure symptoms refractory to conventional treatment. Disease management emphasis on reducing morbidity and mortality (VAD, transplant, or palliative care)</td>
</tr>
</tbody>
</table>
Projected prevalence of HF from 2012 to 2030 is shown for men and women in the United States.
Applying Classification of Recommendation and Level of Evidence.

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<th>LOE</th>
<th>References</th>
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<tbody>
<tr>
<td><strong>Diuretics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuretics are recommended in patients with HFrEF with fluid retention</td>
<td>I</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>ACE inhibitors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors are recommended for all patients with HFrEF</td>
<td>I</td>
<td>A</td>
<td>343, 412-414</td>
</tr>
<tr>
<td><strong>ARBs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARBs are recommended in patients with HFrEF who are ACE inhibitor intolerant</td>
<td>I</td>
<td>A</td>
<td>108, 345, 415, 450</td>
</tr>
<tr>
<td>ARBs are reasonable as alternatives to ACE inhibitors as first-line therapy in HFrEF</td>
<td>Ia</td>
<td>A</td>
<td>451-456</td>
</tr>
<tr>
<td>Addition of an ARB may be considered in persistently symptomatic patients with HFrEF on GDMT</td>
<td>Ib</td>
<td>A</td>
<td>420, 457</td>
</tr>
<tr>
<td>Routine combined use of an ACE inhibitor, ARB, and aldosterone antagonist is potentially harmful</td>
<td>II: Harm</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Beta blockers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of 1 of the 3 beta blockers proven to reduce mortality is recommended for all stable patients</td>
<td>I</td>
<td>A</td>
<td>346, 416-419, 448</td>
</tr>
<tr>
<td><strong>Aldosterone receptor antagonists</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aldosterone receptor antagonists are recommended in patients with NYHA class II–IV who have LVEF ≤35%</td>
<td>I</td>
<td>A</td>
<td>425, 426, 478</td>
</tr>
<tr>
<td>Aldosterone receptor antagonists are recommended in patients following an acute MI who have LVEF ≤40% with symptoms of HF or DM</td>
<td>I</td>
<td>B</td>
<td>446</td>
</tr>
<tr>
<td>Inappropriate use of aldosterone receptor antagonists may be harmful</td>
<td>II: Harm</td>
<td>B</td>
<td>479, 480</td>
</tr>
<tr>
<td><strong>Hydralazine and isosorbide dinitrate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The combination of hydralazine and isosorbide dinitrate is recommended for African Americans with NYHA class II–IV HFrEF on GDMT</td>
<td>I</td>
<td>A</td>
<td>423, 424</td>
</tr>
<tr>
<td>A combination of hydralazine and isosorbide dinitrate can be useful in patients with HFrEF who cannot be given ACE inhibitors or ARBs</td>
<td>Ia</td>
<td>B</td>
<td>449</td>
</tr>
<tr>
<td><strong>Digoxin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digoxin can be beneficial in patients with HFrEF</td>
<td>Ia</td>
<td>B</td>
<td>484-491</td>
</tr>
<tr>
<td><strong>Anticoagulation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with chronic HF with permanent/persistent paroxysmal AF and an additional risk factor for cardioembolic stroke should receive chronic anticoagulant therapy*</td>
<td>I</td>
<td>A</td>
<td>508-514</td>
</tr>
<tr>
<td>The selection of an anticoagulant agent should be individualized</td>
<td>I</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td>Chronic anticoagulation is reasonable for patients with chronic HF who have permanent/persistent paroxysmal AF but are without an additional risk factor for cardioembolic stroke*</td>
<td>Ia</td>
<td>B</td>
<td>509-511, 515-517</td>
</tr>
<tr>
<td>Anticoagulation is not recommended in patients with chronic HFrEF without AF, a prior thromboembolic event, or a cardioembolic source</td>
<td>II: No Benefit</td>
<td>B</td>
<td>518-520</td>
</tr>
<tr>
<td><strong>Statins</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statins are not beneficial as adjunctive therapy when prescribed solely for HF</td>
<td>II: No Benefit</td>
<td>A</td>
<td>533-538</td>
</tr>
<tr>
<td><strong>Omega-3 fatty acids</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omega-3 PUFA supplementation is reasonable to use as adjunctive therapy in HFrEF or HFrEF patients</td>
<td>Ia</td>
<td>B</td>
<td>539, 540</td>
</tr>
<tr>
<td><strong>Other drugs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional supplements as treatment for HF are not recommended in HFrEF</td>
<td>II: No Benefit</td>
<td>B</td>
<td>544, 545</td>
</tr>
<tr>
<td>Hormonal therapies other than to correct deficiencies are not recommended in HFrEF</td>
<td>II: No Benefit</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td>Drugs known to adversely affect the clinical status of patients with HFrEF are potentially harmful and should be avoided or withdrawn</td>
<td>II: Harm</td>
<td>B</td>
<td>546-557</td>
</tr>
<tr>
<td>Long-term use of an infusion of a positive inotropic drug is not recommended and may be harmful except as palliation</td>
<td>II: Harm</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>II: No Benefit</td>
<td>A</td>
<td>551, 574, 575</td>
</tr>
</tbody>
</table>

*In the absence of contraindications to anticoagulation.

ACE indicates angiotensin-converting enzyme; AF, atrial fibrillation; ARB, angiotensin-receptor blocker; COR, Class of Recommendation; DM, diabetes mellitus; GDMT, guideline-directed medical therapy; HF, heart failure; HFrEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; LOE, Level of Evidence; LVEF, left ventricular ejection fraction; MI, myocardial infarction; N/A, not available; NYHA, New York Heart Association; and PUF, polyunsaturated fatty acids.
### Recommendations for Treatment of Stage B HF.

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>COR</th>
<th>LOE</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>In patients with a history of MI and reduced EF, ACE inhibitors or ARBs should be used to prevent HF</td>
<td>I</td>
<td>A</td>
<td>314, 342–345</td>
</tr>
<tr>
<td>In patients with MI and reduced EF, evidence-based beta blockers should be used to prevent HF</td>
<td>I</td>
<td>B</td>
<td>346–348</td>
</tr>
<tr>
<td>In patients with MI, statins should be used to prevent HF</td>
<td>I</td>
<td>A</td>
<td>104, 349–354</td>
</tr>
<tr>
<td>Blood pressure should be controlled to prevent symptomatic HF</td>
<td>I</td>
<td>A</td>
<td>27, 94, 311–313</td>
</tr>
<tr>
<td>ACE inhibitors should be used in all patients with a reduced EF to prevent HF</td>
<td>I</td>
<td>A</td>
<td>65, 344</td>
</tr>
<tr>
<td>Beta blockers should be used in all patients with a reduced EF to prevent HF</td>
<td>I</td>
<td>C</td>
<td>N/A</td>
</tr>
<tr>
<td>An ICD is reasonable in patients with asymptomatic ischemic cardiomyopathy who are at least 40 d post-MI, have an LVEF ≤30%, and on GDMT</td>
<td>IIa</td>
<td>B</td>
<td>355</td>
</tr>
<tr>
<td>Nondihydropyridine calcium channel blockers may be harmful in patients with low LVEF</td>
<td>III: Harm</td>
<td>C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

ACE indicates angiotensin-converting enzyme; ARB, angiotensin-receptor blocker; COR, Class of Recommendation; EF, ejection fraction; GDMT, guideline-directed medical therapy; HF, heart failure; ICD, implantable cardioverter-defibrillator; LOE, Level of Evidence; LVEF, left ventricular ejection fraction; MI, myocardial infarction; and N/A, not available.