ARIC
HEART FAILURE HOSPITAL RECORD ABSTRACTION FORM

ID NUMBER: 

FORM NAME: HFA DATE: 10/01/2015

VERSION: D

CONTACT YEAR NUMBER: 

FORM SEQUENCE NUMBER: 

General Instructions:
The Heart Failure Hospital Record Abstraction Form is completed for heart failure-eligible Community Surveillance hospitalizations. See Surveillance Procedure Manual for sampling rules. It should also be completed for all heart failure-eligible cohort hospitalizations. Refer to this form's question by question instructions for detailed information on each data item.
0.a. Hospital code number:  

0.b. Medical Record Number:  

0.c. Date of discharge (for nonfatal case) or death:  

Month  Day  Year  

0.d. What was the disposition of the patient on discharge?  

Deceased........ D  Alive ................. A  

Go to 0.e.  

**DISCHARGED ALIVE**  

0.d.1. Discharged to home/routine discharge  

0.d.2. Discharged to home health care  

0.d.3. Discharged/transferred to short-term care facility  

(e.g. inpatient rehabilitation center)  

0.d.4. Discharged to outpatient rehabilitation services/  

home physical therapy  

0.d.5. Discharged/transferred to long-term care facility  

(e.g., skilled nursing facility, nursing home)  

0.d.6. Discharged to hospice care (inpatient or outpatient)  

0.d.7. Left against medical advice  

0.d.8. Transferred to another hospital  

0.d.9. Disposition not stated  

**DECEASED**  

0.e. Was an autopsy performed?...........Yes........Y  

No....... N  

0.f. Was the patient either dead on arrival or did he/she die in the  

emergency room?  

Yes........ Y  

No........ N  

**ADVANCED DIRECTIVES**  

0.g. Was this patient on comfort care or hospice care at any  
time during this hospitalization?  

0.h Was this patient a DNR (Do Not Resuscitate) at any time  
during this hospitalization?
### SECTION I: SCREENING FOR DECOMPENSATION OR NEW ONSET

1. Was there evidence of the following conditions?  
   - a. Increasing or new onset shortness of breath  
   - b. Increasing or new onset edema  
   - c. Increasing or new onset paroxysmal nocturnal dyspnea  
   - d. Increasing or new onset orthopnea  
   - e. Increasing or new onset hypoxia

1. Was there evidence in the doctor’s notes that the reason for this hospitalization was heart failure?

3. **Is this a cohort participant?**

   3.a. Does this cohort hospitalization have the following 428 or I50.x code?

4. Did the patient have new onset or progressive symptoms/signs of heart failure:
   - a. At the time of admission to the hospital?
   - b. During this hospitalization?

5. Date of new onset or progression of symptoms/signs known (mm-dd-yyyy):
   - a. If exact date unknown, estimate weeks prior to this hospitalization:

6. Did the physician’s note or discharge summary indicate any of the following specific types of heart failure? (check all that apply)
   - a. Ischemic cardiomyopathy
   - b. Idiopathic/dilated cardiomyopathy
   - j. Other specific cardiomyopathy/heart failure

   j.1. If other cardiomyopathy, specify ____________________________

---

*If any response to items 1-2 is “Yes”, go to Item 3.*  
*If Item 3 is “Yes” and Item 3a is No, but cohort member does not meet any of the screening criteria (HF1a-e and HF2=No) go to Item 44. If all response to items 1-3 is “No /Not Recorded” go to Item 77.*

*If the response to both item 4a and 4b, is ‘No/Not Recorded’, skip items 5.*

---

Go to item 7
SECTION II: HISTORY OF HEART FAILURE

7. Prior to this hospitalization was there a history of any of the following:

- Diagnosis of heart failure
- Prior hospitalization for heart failure
- Treatment for heart failure

8. Was cardiac imaging performed prior to this hospitalization? Yes ☐ No/Unk ☐

8.a. Lowest Ejection Fraction recorded: ☐ %

8.a.1. Qualitative description:
- Normal………………….. N
- Decreased mildly…………. D
- Decreased moderately……….M
- Decreased severely………… S
- None of the above………… O

8. b. Year of lowest ejection fraction (yyyy) :

8.c. Type of imaging:

1. MUGA ☐
2. ECHO ☐
3. Cath/LV gram ☐
4. CT ☐
5. MRI ☐
6. Other ☐
7. Unknown ☐
### SECTION III: MEDICAL HISTORY

#### 9. General

<table>
<thead>
<tr>
<th>History of?</th>
<th>Yes</th>
<th>No/NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Excess alcohol use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Illicit drug use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Anemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Connective tissue disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Current smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Thyroid disease</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 10. Respiratory

<table>
<thead>
<tr>
<th>History of?</th>
<th>Yes</th>
<th>No/NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Asthma G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Chronic bronchitis/COPD G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Other chronic lung disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Pulmonary embolus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Coughing, phlegm, wheezing G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Sleep apnea</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 11. Cardiovascular

<table>
<thead>
<tr>
<th>History of?</th>
<th>Yes</th>
<th>No/NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Angina G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| b. Arrhythmia
  1) Atrial fibrillation/atrial flutter |   |   |
  2) Heart block or other bradycardia |   |   |
  3) Ventricular fibrillation or tachycardia |   |   |
## SECTION III: MEDICAL HISTORY (continued)

### 11. Cardiovascular (continued)

<table>
<thead>
<tr>
<th>History of?</th>
<th>Yes</th>
<th>No/NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>e. Cardiac procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) CABG</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>2) PCI</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>3) Valve surgery</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>4) Pacemaker</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>5) Defibrillator</td>
<td>[]</td>
<td>[]</td>
</tr>
</tbody>
</table>

- g. Coronary heart disease (within year) \(^G\)  
  - If Yes, go to item 11j.
- h. Coronary heart disease (ever) \(^G\)
- j. Hypertension
- k. Myocardial infarction
- l. Pulmonary hypertension
- m. Peripheral vascular disease
- o. Valvular heart disease

### 12. Gastrointestinal / Endocrine

| a. Diabetes | [] | [] |

### 13. Renal

| a. Dialysis | [] | [] |
SECTION III: MEDICAL HISTORY (continued)

14. **Neurology**

   History of?
   Yes  No/NR

   a. Stroke/TIA  
   b. Depression  

16. Were any of the following medical problems listed as precipitating factors (i.e. precipitated the onset of this event)?

   Yes  No/NR

   d. Noncompliance with diet  
   e. Noncompliance with medication  
   g. Pneumonia  
   j. Angina/Myocardial infarction  
   k. Atrial fibrillation/flutter  

SECTION IV: PHYSICAL EXAM – VITAL SIGNS

<table>
<thead>
<tr>
<th>At hospital admission (or at onset of event)</th>
<th>At hospital discharge (or last recorded)</th>
</tr>
</thead>
</table>

17. Blood pressure:
   a. ___ / ___ mmHg
   b. ___ / ___ mmHg

18. Heart rate: B, F, N
   a. ___ bpm

19. Height:
   a. ___ . ___ cm/ in  
   a.1. ___ cm/ in  
   c=cm, i=in

20. Weight: *F*
   a. ___ . ___ lbs/ kg  
   a.1. ___ lbs/ kg  
   b. ___ . ___ lbs/ kg  
   b.1. ___ lbs/ kg  
   l=lbs, k=kg
### SECTION V: PHYSICAL EXAM AND SYMPTOMS - FINDINGS

22. Did the patient have any of the following **GENERAL** signs or symptoms?

<table>
<thead>
<tr>
<th>Sign / Symptom</th>
<th>Anytime during hospitalization or at admission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>a. Lower extremity edema G, F, N</td>
<td></td>
</tr>
<tr>
<td>b. Jugular venous distension (JVD) B, F, N</td>
<td></td>
</tr>
<tr>
<td>c. Hepatojugular reflux F</td>
<td></td>
</tr>
<tr>
<td>d. Hepatomegaly F, N, B</td>
<td></td>
</tr>
<tr>
<td>e. Leg fatigue on walking B</td>
<td></td>
</tr>
</tbody>
</table>

23. Did the patient have any of the following **RESPIRATORY** signs or symptoms?

<table>
<thead>
<tr>
<th>Sign / Symptom</th>
<th>Anytime during hospitalization or at admission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>a. Cough F</td>
<td></td>
</tr>
<tr>
<td>b. Dyspnea (Rest) B</td>
<td></td>
</tr>
<tr>
<td>c. Dyspnea (Walking) B, F, N</td>
<td></td>
</tr>
<tr>
<td>d. Dyspnea (Climbing or exertion) B, F, N</td>
<td></td>
</tr>
<tr>
<td>e. Stops for breath when walking N</td>
<td></td>
</tr>
<tr>
<td>f. Stops for breath after 100 yards N</td>
<td></td>
</tr>
<tr>
<td>g. Rhonchi G</td>
<td></td>
</tr>
<tr>
<td>h. Paroxysmal nocturnal dyspnea B, F, G</td>
<td></td>
</tr>
<tr>
<td>i. Orthopnea B</td>
<td></td>
</tr>
<tr>
<td>j. Pulmonary basilar rales B, G, F, N</td>
<td></td>
</tr>
<tr>
<td>k. Rales (more than basilar) B, G, F, N</td>
<td></td>
</tr>
<tr>
<td>l. Wheezing B</td>
<td></td>
</tr>
</tbody>
</table>

*If Yes, enter yes for 23c, 23d, 23e and 23f*
SECTION V: PHYSICAL EXAM AND SYMPTOMS - FINDINGS (continued)

24. Did the patient have any of the following CARDIOVASCULAR signs or symptoms?
   Anytime during hospitalization
   Yes  No/NR
   a.  S3 (gallop)\(^{B,F}\)  □  □
   c.  Chest Pain\(^{G}\)  □  □

SECTION VI: DIAGNOSTIC TESTS

27. Was a chest X-ray performed during this hospitalization?: Yes □ No/NR □ → Go to item 29.

28. Did the patient have any of the following signs on chest X-ray at any time during this hospitalization?
   Yes  No/Unknown
   b.  Alveolar/pulmonary edema\(^{B,F,N}\)  □  □
   c.  Interstitial pulmonary edema\(^{B,F,N}\)  □  □
   d.  Cardiomegaly\(^{B,F}\)  □  □
   e.  Cephalization/upper zone redistribution\(^{B,N}\)  □  □
   g.  Bilateral pleural effusion\(^{B,F,N}\)  □  □
   h.  Unilateral pleural effusion\(^{F,N}\)  □  □
   k.  Cardiothoracic ratio  ≥ 0.5\(^{B}\)  □  □
   l.  Congestive heart failure/ Pulmonary vascular congestion  □  □
29. Was a transthoracic echocardiogram performed?  Yes ☐ No/NR ☐  Go to item 30

If the response to item 29 is YES, complete items 29a-29c3, and 29d1-29d14.;
If the response is No/NR skip items 29a-29c3, and 29d1-29d14.

First transthoracic echocardiogram performed after onset or progression of heart failure.

a. Date (mm-dd-yyyy): □□□□□□□□

b. Ejection fraction: □□%  

c. Wall thickness: septal: □□□□□□□□ c.1. units □□ (1=cm, 2=mm)

  c.2. posterior: □□□□□□□□ c.3. units □□ (1=cm, 2=mm)

d. Record the following if present on transthoracic echocardiogram:

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>None</th>
<th>Present</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Left ventricular hypertrophy (LVH)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Impaired LV systolic function</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Impaired RV systolic function</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Aortic regurgitation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Aortic stenosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Tricuspid regurgitation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Mitral regurgitation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Mitral stenosis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Estimated RVSP/PASP:</td>
<td>□□□□□□□ mmHg</td>
<td>a. TR jet velocity: □□□□□□□ m/s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Pulmonary hypertension</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Yes ☐ No/Unknown/NR ☐

11. Regional wall motion abnormality ☐ ☐

12. Dilated left ventricle ☐ ☐

13. Dilated right ventricle ☐ ☐

14. Diastolic dysfunction ☐ ☐
30. Was a transesophageal echocardiogram performed?  Yes ☐  No/NR ☐

First transesophageal echocardiogram performed after onset or progression of event.

a. Date (mm-dd-yyyy):  

b. Ejection fraction:  


c. Record the following if present on transesophageal echocardiogram:

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>None</th>
<th>Present</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Impaired LV systolic function</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Impaired RV systolic function</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Regional wall motion abnormality</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Dilated left ventricle</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Dilated right ventricle</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Go to item 31.
31. Was a right cardiac catheterization performed? Yes □ No/NR □ → Go to item 32.
   a. Date (mm-dd-yyyy): ________________

32. Was coronary angiography performed? Yes □ No/NR □ → Go to item 33.
   a. Date (mm-dd-yyyy): ________________
   b. Record the following:
      1. Ejection fraction: □ □ %
      2. Coronary stenosis:
         a. Left main:
         b. Left anterior descending artery and branches:
         c. Left circumflex/marginal artery:
         d. Right coronary artery and branches:
         e. Intermediate ramus:

3. Were coronary bypass grafts present? Yes □ No/NR □ → Go to Item 33.
   a. Number of occluded grafts: □ □
### SECTION VI: DIAGNOSTIC TESTS (continued)

33. Was a cardiac radionuclide ventriculogram performed?  
   Yes [ ]  No/NR [ ]  
   Go to item 34.
   - Date: [ ]-[-][-]  
   - Ejection fraction: LV: [___] %  
   - RV: [___] %  
   (mm-dd-yyyy)

34. Was a cardiac Magnetic Resonance Imaging (MRI) performed?  
   Yes [ ]  No/NR [ ]  
   Go to item 35.
   - Date: [ ]-[-][-]  
   - Ejection fraction: LV: [___] %  
   - RV: [___] %  
   (mm-dd-yyyy)

35. Was a cardiac CT scan performed?  
   Yes [ ]  No/NR [ ]  
   Go to item 36.
   - Date: [ ]-[-][-]  
   - Ejection fraction: LV: [___] %  
   - RV: [___] %  
   (mm-dd-yyyy)

36. Was a stress test performed?  
   Yes [ ]  No/NR [ ]  
   Go to item 37.
   - Date: [ ]-[-][-]  
   - Ejection fraction: LV: [___] %  
   (mm-dd-yyyy)
   - c. Ejection fraction: LV: [___] %
### SECTION VII: BIOCHEMICAL ANALYSES

<table>
<thead>
<tr>
<th>Item</th>
<th>a. Worst*</th>
<th>b. Last</th>
<th>c. Upper Limit Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. Hemoglobin (g/dL)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>38. Hematocrit (%)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>39. BNP (pg/mL)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>40. ProBNP (pg/mL)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>41. Troponin T (ng/mL)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>42. Troponin I (ng/mL)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
<tr>
<td>43. Sodium (mEq/L)</td>
<td>[ ] . [ ]</td>
<td>[ ] . [ ]</td>
<td></td>
</tr>
</tbody>
</table>

* Worst = highest value with exception of hemoglobin, hematocrit, and sodium. For these items worst is the lowest value (L*)

44. Record the value of the first, last, and highest measurements of serum creatinine (mg/dL):

| a1: First: | [ ] [ ] [ ] a2. date: [ ] [ ] [ ] [ ] (mm/dd/yyyy) |
| b1. Last (if more than one): | [ ] [ ] [ ] b2. date: [ ] [ ] [ ] [ ] (mm/dd/yyyy) |
| c1 Highest of remaining values (if more than two): | [ ] [ ] [ ] c2. date: [ ] [ ] [ ] [ ] (mm/dd/yyyy) |

Note: "When Item 44 is completed for cohort member who did not meet any of the screening criteria (HFA1a-e=N, HFA2=N, AND HFA3A=N), go to item 77"

45. BUN (mg/dL) a. Worst: [ ] [ ] [ ] b. Last: [ ] [ ] [ ]

* Worst = highest value with exception of hemoglobin, hematocrit, and sodium. For these items worst is the lowest value (L*)
### SECTION IX: MEDICATIONS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prior to hospitalization or progression in hospital</th>
<th>At hospital discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>59. ACE inhibitors</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>60. Angiotensin II receptor blockers</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>65. Beta blockers</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>67. Digitalis^G</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>68. Diuretics^G</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>69. Aldosterone Blocker</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>70. Lipid lowering agents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Statins</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>b. Other</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>71. Nitrates</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
<tr>
<td>72. Hydralazine</td>
<td>Yes □ No/NR □</td>
<td>Yes □ No/NR □</td>
</tr>
</tbody>
</table>

73. IV drugs during this hospitalization?
   a. IV inotropes: Yes □ No/NR □
   b. IV diuretics: Yes □ No/NR □

### SECTION XI: ADMINISTRATIVE

77. Time taken to abstract (mins): □□□□
78. Abstractor number: □□□
79. Date abstract completed (mm-dd-yyyy): □□□□□□□□