

HCC interaction: atrial fibrillation and heart failure

CMS HCC disease interaction definition:

Interactions allow for a higher risk score for certain conditions when the presence of another disease is indicative of higher cost. Disease interactions are additive factors and increase payment accuracy. This additive factor for interaction applies to diagnoses within HCC 85 heart failure and HCC 96 specified heart arrhythmias.¹

Fast facts:

- Atrial fibrillation is the most common arrhythmia with a prevalence of 3.03 million patients in the US.²
- The incidence of atrial fibrillation increases with advancing age and is the cause of 750,000 hospitalization and approximately 130,000 deaths each year.³
- According to the American Heart Association (AHA), approximately 5.1 million people in the United States have heart failure and half of them die within 5 years of diagnosis.^{4,5}
- Atrial fibrillation and heart failure have shared risk factors which include hypertension, diabetes mellitus, ischemic heart disease and valvular heart disease.⁶

Temporal relations of AF and CHF

Atrial fibrillation may precipitate heart failure with 7.8% of newly diagnosed AF patients developing CHF in the first year after diagnosis. It has also been observed that heart failure increases risk of atrial fibrillation.⁷ This may be due to sharing of risk factors but also because one may directly predispose to the other. For those with either condition, developing the second condition has a negative impact on survival.

For patients with AF the incidence of HF is 33 per 1000 person years and for those with HF the incidence of AF is approximately 54 per 100 person years.⁸

The Framingham Heart Study demonstrated that in patients with new onset AF, 26% had a concurrent or previous diagnosis of HF. An additional 16% of patients developed HF during the follow-up period. Among patients with new onset HF, 24% had concurrent or previous AF, and 17% developed AF during the 5.6 year follow up period.

Documentation tips:

Document, assess and report the applicable conditions in each category yearly. You do not need to link them or state a cause/effect relationship.

To support and accurately code heart failure, document:

- Clinical findings; signs/symptoms (fatigue, SOB/dyspnea, palpitations, angina, edema, etc.), lab/test results
- The type: congestive, right, left, systolic, diastolic, or combined systolic/diastolic
- Include the functional class and/or stage to indicate severity/progression
- If it is acute, chronic, or acute on chronic
- Status: asymptomatic, stable, compensated, decompensated, exacerbated, etc.
- Underlying cause, if known
- Complications, if any
- Plan of care

ICD-10 “Heart failure” codes:

- I50.1 Left ventricular failure
- I50.2- Systolic (congestive) heart failure
 - 5th character = 0: Unspecified, 1: Acute, 2: Chronic, or 3: Acute on chronic
- I50.3- Diastolic (congestive) heart failure
 - 5th character = 0: Unspecified, 1: Acute, 2: Chronic, or 3: Acute on chronic
- I50.4- Combined systolic/diastolic (congestive) heart failure
 - 5th character = 0: Unspecified, 1: Acute, 2: Chronic, or 3: Acute on chronic
- I50.9 Heart failure, unspecified (CHF NOS)

To support and accurately code atrial fibrillation and other arrhythmias within HCC 96 document:

- Clinical findings: signs/symptoms
- The type: paroxysmal, persistent, chronic/permanent
- Plan of care

- I44.2 Atrioventricular block, complete
- I47.0 Re-entry ventricular arrhythmia
- I47.1 Supraventricular tachycardia
- I47.2 Ventricular tachycardia
- I47.9 Paroxysmal tachycardia, unspecified
- I48.0 Paroxysmal atrial fibrillation
- I48.1 Persistent atrial fibrillation
- I48.2 Chronic atrial fibrillation
- I48.3 Typical atrial flutter
- I48.4 Atypical atrial flutter
- I48.91 Unspecified atrial fibrillation
- I48.92 Unspecified atrial flutter
- I49.2 Junctional premature depolarization
- I49.5 Sick sinus syndrome

Atrial fibrillation type	Description
Paroxysmal AF	Terminates spontaneously in <7 days
Persistent AF	Continuous AF that is sustained >7 days
Permanent AF	Does not terminate with attempts at pharmacologic or electrical cardioversion

1. <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/mc86c07.pdf> - Pg 9
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4. Go AS, M. D. (2013). Heart disease and stroke statistics--2013 update: a report from the American Heart Association. *Circulation*, 127(1)
5. Levy D, K. S. (2002). Long-term trends in the incidence of and survival with heart failure. *N Engl J Med.*, 347(18):1397-402.
6. Ho KK, P. J. (1993). The epidemiology of heart failure: the Framingham Study. *J Am Coll Cardiol*, 22:6A–13A.
7. Miyasaka Y, B. M. (2006). Incidence and mortality risk of congestive heart failure in atrial fibrillation patients: a community-based study over two decades. *European Heart Journal*, (8):936-41.
8. Wang TJ, L. M. (2003). Temporal relations of atrial fibrillation and congestive heart failure and their joint influence on mortality: the Framingham Heart Study. *Circulation*, 107(23):2920-5