VentricHealth

VIVIO® AND HEART FAILURE MANAGEMENT

Important Tips for Clinicians: Successfully Diagnose, Document and Code with Vivio



For value-based care organizations, accurate diagnosis, documentation and coding of heart failure can have important implications for both patient care and risk adjustment.

The Vivio® System provides objective evidence of elevated left ventricular end diastolic pressure (LVEDP)—the clinical hallmark of heart failure—to assist in the diagnosis of Stage B and Stage C heart failure.

From Diagnosis to Treatment

- Given Vivio's superior sensitivity and specificity in comparison to either BNP/NT-proBNP or echocardiography, a positive test allows you to confidently diagnose heart failure.
- With a positive Vivio test, and the accompanying KCCQ-12 test score, you can definitively stage where a patient is at within the trajectory of heart failure.
- I50.1, Left Ventricle Failure, Unspecified, is the most specific ICD-10 code following a Vivio-supported diagnosis of either Stage B or Stage C heart failure.[1]
  - I50.1 maps to HCC 226 under the current v28 CMS HCC-RAF model and also includes multiple disease interactions for heart failure with both diabetes and CKD, the primary Stage A at-risk population.[2]
- Confidently begin treatment immediately—initiate or escalate GDMT medications with particular focus on SGLT2 inhibitor, ARB or ACEi, and nsMRA—all available now in multiple generic forms.
- Result: not only are you changing the trajectory of heart failure for the patient, the average one-year total cost savings per patient with an earlier, outpatient HF diagnosis is up to $21,800.

Frequently Asked Questions for Physicians

Ventric Health engaged FTI Consulting, a national firm specializing in Medicare risk adjustment operations, to evaluate Vivio's use in heart failure diagnosis and RAF coding. Several frequently asked questions about Vivio and risk adjustment are listed here.

Q **Can I confidently diagnose heart failure based on a positive Vivio test for elevated left ventricular end diastolic pressure (LVEDP)?**

A Yes, in a patient with risk factors, a positive Vivio test—indicating LVEDP is over 18 mmHg—can be used to diagnose heart failure in a compliant manner. Since heart failure is a gradual hemodynamic disease, elevated left ventricle filling pressure is typically the first measurable reflection.

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Q How does the Kansas City Cardiomyopathy Questionnaire (KCCQ-12) fit in following a positive Vivio test for elevated LVEDP?

A The KCCQ-12 is a well-known and thoroughly validated clinical assessment tool for collecting patient-reported signs and symptoms in heart failure that allows you to appropriately identify the stage of heart failure, i.e., Stage B or Stage C, and triage care. To learn more about the KCCQ-12: https://www.ahajournals.org/doi/10.1161/CIRCOUTCOMES.115.001958

! *FTI Consulting's audit confirmed that a positive Vivio test, accompanied by a complete chart note, can support a heart failure diagnosis and the use of ICD-10 code I50.1.*

Q What is the most appropriate ICD-10 code to use on a claim following a positive Vivio test?

A The most specific ICD-10 diagnostic code following a positive Vivio test for either Stage B or Stage C heart failure is I50.1, Left Ventricle Failure, Unspecified.

Q What Hierarchical Condition Category (HCC) does I50.1 map to within the Centers for Medicare & Medicaid Services (CMS) Risk Adjustment program?

A I50.1 Left Ventricle Failure, Unspecified, maps to HCC 226, Heart Failure, Except End Stage and Acute. This HCC continues to be included under the CMS-HCC v28 risk adjustment model with its Risk Adjustment Factor (RAF) weight varying by patient enrollment segment. HCC 226 also has several disease interactions which can add additional RAF weighting.

Q What is needed to ensure a diagnosis of heart failure meets CMS requirements?

A Vivio can be used to diagnose heart failure in a compliant manner when the following are appropriately taken into consideration:

- Focused testing on appropriately at-risk patients (e.g. >65 years old with T2D or CKD 3+)
- Documentation of any diagnosis includes the relevant information related to the assessment and treatment plan (i.e. DSP or M.E.A.T.)
- GDMT is initiated for patients wherever possible and appropriate
- Patients are monitored with Vivio + KCCQ annually for changes in LVEDP or symptom burden

Q Has any appropriate independent third-party validated Vivio regarding its ability to diagnose and justify reporting heart failure for RAF purposes?

A Ventric Health engaged FTI Consulting—a national firm that specializes in Medicare risk adjustment operations who most recently conducted a large-scale audit of UnitedHealth Group's Medicare risk adjustment operation—to evaluate the use of Vivio and offer their assessment of its ability to diagnose heart failure and the implication for RAF coding. FTI Consulting's audit of Vivio confirmed that a positive Vivio test can be used to diagnose heart failure and, when accompanied by a complete chart note, support the use of ICD-10 diagnosis code I50.1. Visit ventrichealth.com/user-support to see the full FTI paper.

Q What does the data say about the potential for lowering the total cost of care with earlier diagnosis of heart failure?

A Multiple studies reflect an average savings from initial diagnosis with a PCP vs. initial diagnosis during an in-patient presentation is $17,500 with an additional $4,300 annual savings from overall reduced hospitalizations.[3,4,5]

Q What is the typical implication to RAF scores when a patient is compliantly diagnosed with heart failure?

A Based on analysis done for Ventric Health by Accorded, a national actuarial firm, the impact of HCC 226 including typical disease interaction factors could yield an additional blended RAF weight of 0.51.

[1] FTI Consulting, Review of Vivio System, October 2025 [2] 2024 CMS Midyear Final ICD-CM Mapping to HCC v28 [3] Ezekowitz JA, Kaul P, Bakal JA, Quan H, McAlister FA. Trends in heart failure care: has the incident diagnosis of heart failure shifted from the hospital to the emergency department and outpatient clinics? European Journal of Heart Failure. 2011;13(2):142-147. doi:https://doi.org/10.1093/eurjhf/hfq185. [4] Anojhaan Arulmuruganthavadivel, Holt A, Parveen S, et al. Importance of diagnostic setting in determining mortality in patients with new-onset heart failure: temporal trends in Denmark from 1997 to 2017. European Heart Journal – Quality of Care and Clinical Outcomes. 2021;8(7):750-760. doi:https://doi.org/10.1093/ehjqcco/qcab073. [5] Lewis EF, Lamas GA, O'Meara E, et al. Characterization of health-related quality of life in heart failure patients with preserved versus low ejection fraction in CHARM. European Journal of Heart Failure. 2007;9(1):83-91. doi:https://doi.org/10.1016/j.ejheart.2006.10.012.

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