



# *HOW SICK ARE YOUR PATIENTS?*

*REFLECTING PATIENT DISEASE  
BURDEN USING THE HCC RISK  
ADJUSTMENT MODEL*

JENNIFER L SCHEER MD, FAAFP

# *LEARNING OBJECTIVES*

1. Understand the basics of the CMS-Hierarchical Condition Category (HCC) Risk adjustment model
2. Outline the major differences between v24 and v28
3. Explain the transition from HCC v24 to HCC v28
4. Describe best practices for complete and accurate HCC capture

# *FINANCIAL DISCLOSURES*

None



# **1. UNDERSTAND THE BASICS OF THE CMS - HIERARCHICAL CONDITION CATEGORY (HCC) RISK ADJUSTMENT MODEL**

# *WHAT IS HCC?*

- Numerical method of communicating the severity and complexity of illness for an individual patient
- Originally designed to estimate future health care costs for patients
- Several different models exist, e.g. Medicare, Medicaid and Marketplace (ACA)
- Today we are focusing on the Medicare HCC model
  - Initiated in 2004
  - Has undergone several updates since

# HOW DOES HCC WORK?

1

CMS selects ICD-10 codes that imply increased future cost of care

- Groups similar codes into Categories
- Each Category is assigned a risk score (aka coefficient value)

2

Providers submit ICD-10 codes to CMS on medical claims

- Patient is assigned an HCC risk score based on the coefficient values of the categories into which those ICD-10 codes fall

3

HCC score  
X  
demographic and other factors  
= RAF (risk adjustment factor)

4

RAF is then used to set reimbursement rates to those who care for that patient

# *HOW DOES HCC IMPACT FAMILY PHYSICIANS?*

- CMS utilizes RAF to calculate reimbursement to Medicare Advantage Payers
- Payers utilize RAF (and other factors) to set **reimbursement rates** to health care providers
  - Codes this year are applied to CMS payment for the next year
  - HCC score resets back to 0.00 as of January 1st of each year
  - All diagnoses must be recoded each year
  - The average CMS patient has RAF score of 1.00
- CMS and other payers utilize HCC scores to risk-adjust **quality performance**

## High Level of Documentation & Coding Specificity

72 y/o male, aged non dual eligible with diabetes w/ CKD 3 (E11.22 & N18.3), morbid obesity (E66.01), peripheral vascular disease (I73.9), HF (I50.9), COPD (J44.9), dementia (F03.90), and amputated toe (Z89.Yx)

Patient Demographic Score	0.394
HCC 18 Diabetes w/ Chronic complications	0.302
HCC 138 CKD 3	0.069
HCC 22 Morbid Obesity	0.25
HCC 108 Vascular Disease	0.288
HCC 85 Congestive Heart Failure	0.331
HCC 111 COPD	0.335
HCC 189 Amputation Status	0.519
HCC 52 Dementia without complication	0.346
DIAB_CHF Disease Interaction	0.121
CHF_COPD Disease Interaction	0.155
CHF_RENAL Disease Interaction	0.156
D7 - 7 payment HCCs	0.126
Total RAF	3.392

**RAF of 3.392**

**Approximate Annual Premium = \$38,000**

## Lower Level of Documentation & Coding Specificity

72 y/o male, aged non dual eligible with Diabetes w/ CKD 3 (E11.22 & N18.3), venous insufficiency (I87.2), COPD (J44.9)

HF, Amputation status and Morbid Obesity not reported

Patient Demographic Score	0.394
HCC 18 Diabetes w/ Chronic complications	0.302
HCC 138 CKD 3	0.069
HCC 111 COPD	0.335
D3 - 3 payment HCCs	0
Total RAF	1.100

**RAF of 1.100**

**Approximate Annual Premium = \$12,000**

Provides additional \$26K to fund patient care



## High Level of Documentation & Coding

72 y/o male, aged non-dual eligible with Diabetes w/ CKD 3 (E11.22 & N18.3), Morbid obesity (E66.01), Peripheral vascular disease (I73.9), HF (I50.9), COPD (J44.9), Dementia (F03.90), and Amputation status (Z90.Y..)



## Lower Level of Documentation & Coding

Specificity

72 y/o male, aged non dual eligible with Diabetes w/ CKD 3 (E11.22 & N18.3), Venous insufficiency (I87.2), COPD (J44.9)  
HF, Amputation status, Vascular disease and Morbid Obesity not reported



# HOW DOES HCC WORK?

The blackboard contains the following key mathematical expressions and diagrams:

- Wave Number and Energy:**

$$k = \frac{2\pi}{\lambda} = \frac{2\pi}{L} \left( \frac{1}{2} + k \right) \Rightarrow k \in \mathbb{Z}$$

$$E = h\nu = \hbar\omega = \hbar \frac{2\pi}{h} \left( \frac{1}{2} + k \right) = \left( \frac{1}{2} + k \right) \frac{h^2}{2mL^2}$$
- Wave Function and Probability Density:**

$$\psi(x) = \sqrt{\frac{2}{L}} \sin \frac{n\pi x}{L}$$

$$|\psi(x)|^2 = \frac{2}{L} \sin^2 \frac{n\pi x}{L}$$
- Expectation Values:**

$$\langle x \rangle = \int_0^L x |\psi(x)|^2 dx = \frac{L}{2}$$

$$\langle x^2 \rangle = \int_0^L x^2 |\psi(x)|^2 dx = \frac{L^2}{3}$$
- Diagram:** A rectangular box representing a potential well with length L. Inside, a horizontal line represents the energy level E. To the left, a vertical arrow labeled E represents an oscillating electric field. A curved arrow labeled i represents the current.
- Graphs:**
  - Graph 1: A plot of the wave function  $\psi(x)$  vs position x, showing a single sine wave peak from 0 to L.
  - Graph 2: A plot of  $k$  vs  $x$ , showing discrete values at  $k = \frac{n\pi}{L}$  for  $n=1, 2, 3, 4$ .

## Risk Score Calculation



## **2. OUTLINE THE MAJOR DIFFERENCES BETWEEN CMS HCC V24 AND V28**

# *WHY CHANGE MODELS?*

- Previous risk models were based on ICD-9-CM diagnosis codes
  - Many of these codes were no longer correctly mapped to an HCC
- Costs were based on 2015 data
- CMS decided not to include HCCs (and diagnoses) in the V28 model if:
  - The conditions did not accurately predict costs
  - Coefficients were small
  - The conditions they represent are uncommon
  - Conditions that did not have “well-specified” diagnostic coding criteria

# OVERVIEW OF DIFFERENCES

- Changes the names and numbers of HCCs
- Adds 29 payment HCCs
- Changes how the HCCs are mapped
- Changes the coefficient HCC values
- Removes 2294 diagnosis codes formerly mapped to an HCC for payment
- Adds 268 diagnosis codes not previously mapped to an HCC for payment

	<b>v24</b>	<b>v28</b>
Structure	ICD-9	ICD-10
HCC Categories	86	115
ICD Codes	9,797	7,770
Codes Added		209
Codes Removed		2,236

# *CONDITIONS ADDED AND REMOVED*

## ADDED

- **End-stage heart failure**
- Anorexia nervosa
- Bulimia nervosa
- **Severe (persistent) asthma**
- Malignant pleural effusion
- **Alcoholic hepatitis with and without ascites**
- Toxic liver disease with hepatitis
- Primary sclerosing cholangitis
- Other cholangitis
- Obstruction of the bile duct
- Malignant ascites
- Presence of artificial leg(s)
- Phantom pain syndrome

## REMOVED:

- **Protein-Calorie Malnutrition**
- **Angina Pectoris**
- **Atherosclerosis of Arteries of the Extremities, with Intermittent Claudication**
- **Immunocompromise due to drugs**
- **Major depressive disorders, mild, partial or complete remission and recurrent major depressive disorder, unspecified**
- **Unspecified mood disorder**
- Subsequent and sequela suicide attempt
- Diagnoses for mild, unspecified remission, subsequent encounter and some sequela codes

# **3. EXPLAIN THE TRANSITION FROM HCC V24 TO HCC V28**

# *TIMING OF THE CHANGE*

Payment Year 2024  
2023 Dates of Service  
v24=67% v28=33%

Payment Year 2026  
2025 Dates of Service  
v24=phased out v28=100%



Payment Year 2025  
2024 Dates of Service  
v24=33% v28=67%





## **4. DESCRIBE BEST PRACTICES FOR COMPLETE AND ACCURATE HCC CAPTURE**

# *ACCURACY AND COMPLETENESS*

Always document and code all conditions which are present and relevant to patient care – with or without HCC risk

Be certain to support each diagnosis with documentation - what are you doing about this condition, how does it impact patient care?

Submit each condition with HCC risk at least once during every calendar year

- For visits during CY2024, be certain to include conditions with HCC risk in both v24 and v28 on claims to payers
- For visits during CY2025, prioritize conditions included in v28, but of course address all which remain clinically relevant to patient care

# *SUPPORTING DOCUMENTATION*

## M.E.A.T.

- Monitor
- Evaluate
- Assess/Address
- Treat

## T.A.M.P.E.R.

- Treatment
- Assessment
- Monitor/Medicare
- Plan
- Evaluate
- Referral

One element is enough  
More than one is better  
If none, do not submit on the  
claim

# BE CAUTIOUS DOCUMENTING “HISTORY OF ...”

**DOCTORS**

... in the past; no longer an issue; cured; gone

**CODERS**

... previously diagnosed; ongoing; something to factor into diagnosis and treatment

Try “Known” Instead -

“79 y.o. male with known CHF, CAD, CKD...” - coders understand that the patient has ongoing CHF, CAD, CKD...

# *DEEPER DIVE INTO ...*

Cardiovascular – Heart failure, CAD and Vascular disease

Diabetes

Pulmonary

Behavioral Health

Obesity & Malnutrition

Cancer

“Status” conditions

# CARDIOVASCULAR – HEART FAILURE

## Key things to know:

- Most all forms of HF carry HCC risk
  - Acute, Chronic, Acute on chronic
  - HFrEF, HFpEF, HFmrEF, Right-sided etc.
- Non-ischemic cardiomyopathy also carries HCC risk
- **Important to capture even if well-compensated due to medical therapy**

## What's new in v28?

- Acute, chronic, acute on chronic and cardiomyopathy all assigned the same coefficient value (aka “constrained”)
- HCC 222 – “End Stage” Heart Failure added
  - Significantly higher coefficient value than the other categories
  - Synonymous with Advanced, Stage D, NYHA III or IV
  - Also code the specific type of HF
  - [2022 AHA/ACC/HFSA Guidelines](#)

# CARDIOVASCULAR – CAD

## Key things to know:

- Coronary artery disease alone does not carry HCC risk
- CAD with angina is included in the HCC model
- Acute MI (STEMI/NSTEMI/Type 2) included
  - Can be coded for 4 weeks after the acute event
  - Then becomes “Old MI” – no HCC risk

## What’s new in v28?

- Unstable angina is included
- Other forms of angina (stable, unspecified, refractory, other) removed
- Acute MI still included

# VASCULAR DISEASE

## Key things to know:

- Important to think about the entire vascular bed – heart, brain, extremities, mesenteric, renal etc.
- **Call out complications, especially gangrene or skin ulcerations**
- Thromboembolic disease is included in the HCC model
  - Acute and Chronic DVT
  - Acute and Chronic PE

## What's new in v28?

- Aortic atherosclerosis removed
- Aortic aneurisms (unruptured) removed
- Extremity atherosclerosis without rest pain, gangrene or ulceration removed
- Acute and chronic thromboembolism remain
- “Other thrombophilia” or “Hypercoagulable state” removed



# DIABETES

## Key things to know:

- Specify any/all complications of diabetes
  - Hyper or Hypoglycemia
  - Chronic - renal, vascular, neurologic, ophthalmologic, foot ulcers etc.
  - Acute – ketoacidosis, hyperosmolarity
- “Uncontrolled diabetes” is not preferred terminology – consider “Diabetes with Hyperglycemia” instead
- Additional “with or without long-term insulin” code for Type 2
- Does diabetes “resolve”?
  - ADA position is “usually not” [Consensus Report: Definition and Interpretation of Remission in Type 2 Diabetes](#)

## What’s new in v28?

- 3 diabetes categories – all with the same coefficient value (aka “constrained”)
  - Acute complications (HCC 36)
  - Chronic complications (HCC 37)
  - Uncomplicated, hyper/hypoglycemia or other specified complications (HCC 38)
- Despite constraining, still important to capture complications
  - Full picture of burden of disease
  - Complications themselves can add HCC weight (separate from the diabetes)
  - Additive value if patient has conditions falling into multiple HCC categories
- Pancreas Transplant added - higher coefficient value than other DM categories
- Drug or Chemical-induced removed
  - Type 1, Type 2, “Due to underlying condition” and “Other specified” remain

# PULMONARY

## Key things to know:

- COPD and Emphysema included
  - Not recommended to diagnose based on CXR with “hyperinflation”. CT or PFT’s preferred, symptoms and treatment also important
  - Simple chronic bronchitis = “smoker’s cough”
- Acute and chronic respiratory failure included
  - Chronic hypoxic resp failure = RA O2 sat persistently below 91% (i.e. most patients who qualify for home O2)

## What’s new in v28?

- Severe Asthma added
  - “Persistent” is implied by coding “Severe”
  - Several definitions exist:
    - [Severe asthma guidelines \(thoracic.org\)](http://thoracic.org)
    - [Classifying Asthma Severity and Treatment Determinants \(nih.gov\)](http://nih.gov)
- Mild and Moderate asthma not included

# BEHAVIORAL HEALTH

## Significant conditions included:

- Major depressive disorder
- Substance use disorders
  - including in remission
- Schizophrenia, Bipolar and Other psychoses
- Personality disorders

## Changes for v28:

- Removed –
  - Bipolar and Major depressive disorder in remission (full, partial or unspecified)
  - Major depressive disorder, mild (single episode or recurrent)
  - Major depressive disorder, unspecified severity
- Left in -
  - Bipolar disorder, not in remission
  - Major Depressive disorder, moderate or severe, currently active in the HCC model
- Some “unspecified” SUD codes removed, (specific ones left in)

# *OBESITY & MALNUTRITION*

## Key things to know:

- Morbid obesity included
  - BMI  $\geq$  40
  - BMI  $\geq$  35 with comorbid conditions
    - Two comorbid conditions usually recommended
    - aka Severe or Class 2 obesity with associated conditions
- **Important to call out the diagnosis, not just the BMI**

## What's new in v28?

- Malnutrition removed
  - Also Cachexia, Kwashiorkor and Nutritional marasmus

# CANCER

## Key things to know:

- Very important to differentiate between “active” cancer and “history of” cancer
  - Active ... has HCC risk
    - Documented, ongoing treatment plan
    - Documented that pt has decided against treatment
  - Personal history of ... does not have HCC risk
    - Malignancy excised or eradicated (NED)
    - No current malignant disease and no documented treatment directed to that site
- Don't overlook “Secondary” (i.e. metastatic) cancers - very high coefficient value

## What's new in v28?

- Rearranged and split up categories
- No significant removals or additions

# *STATUS CONDITIONS*

## **Significant conditions included:**

- Solid organ transplants
- Bone marrow and Stem cell transplants
- Ostomies
- Amputations

## **What's new in v28?**

- Dialysis status removed
- Subsequent encounters and Sequela of amputations removed
  - Initial encounter and complications included
  - Acquired absence of lower extremities and presence of artificial limb included
  - Phantom pain syndromes added

# *REVIEW OF LEARNING OBJECTIVES*

1. Understand the basics of the CMS-Hierarchical Condition Category (HCC) Risk adjustment model
  - Numerical method of communicating patient severity and complexity of illness
  - Impacts reimbursement and quality performance
2. Outline the major differences between v24 and v28
  - About 2300 removals, 270 additions
  - RAF scores overall predicted to decrease
3. Explain the transition from HCC v24 to HCC v28
  - Patients seen in CY 2024: RAF calculated using 33% v24, 67% v28
  - Patient encounters Jan 1, 2025 and beyond: fully v28
4. Describe best practices for complete and accurate HCC capture
  - Capture all conditions impacting patient care
  - Support all with clear documentation
  - Understand the details on some of the more common disease states seen in Family Medicine

# *REFERENCES*

**What Family Physicians Need to Know About the Wave of 2024 HCC Changes**

<https://www.aafp.org/pubs/fpm/issues/2023/1100/hcc-update.html>

**Centers for Medicare & Medicaid Services**

<https://www.cms.gov/medicare/payment/medicare-advantage-rates-statistics/risk-adjustment>