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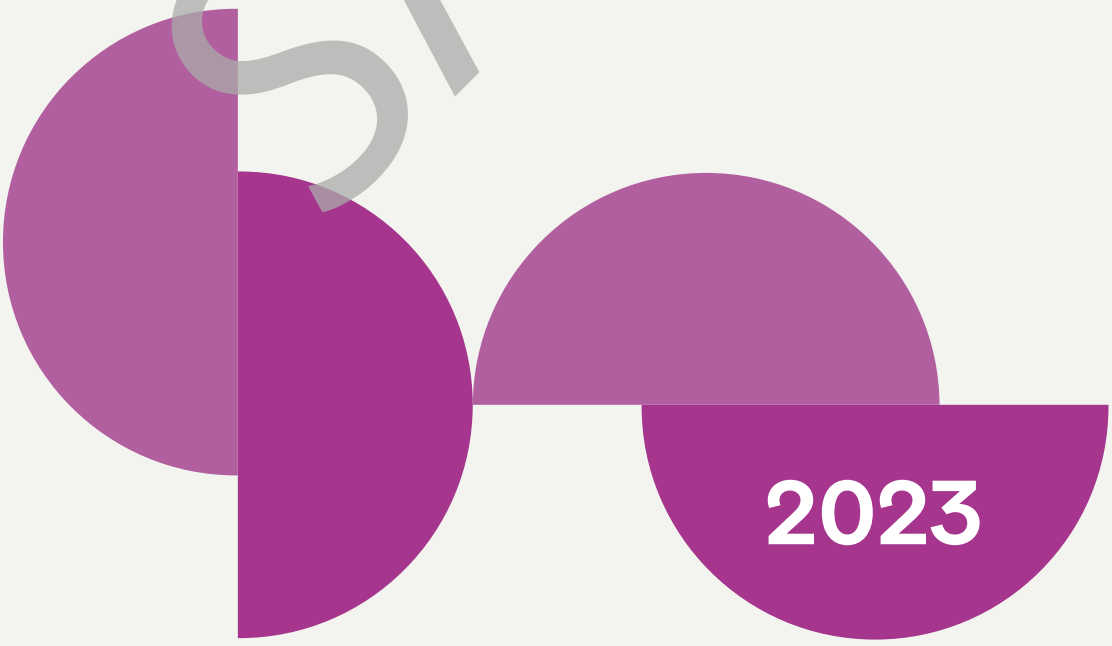
Risk Adjustment Coding and HCC Guide

Simplifying the RA/HCC systems and optimization opportunities



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Introduction

The traditional fee-for-service payment model has been widely used since the 1930s when health insurance plans initially gained popularity within the United States. In this payment model, a provider or facility is compensated based on the services provided. This payment model has proven to be very expensive. Closer attention is being paid to healthcare spending versus outcomes and quality of care and this has been compared to the healthcare spending of other nations. This has caused a need to develop a system to evaluate the care being given.

In the 1970s, Medicare began demonstration projects that contracted with health maintenance organizations (HMO) to provide care for Medicare beneficiaries in exchange for prospective payments. In 1985, this project changed from demonstration status to a regular part of the Medicare program, Medicare Part C. The Balanced Budget Act (BBA) of 1997 named Medicare's Part C managed care program Medicare+Choice, and the Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2003 again renamed it to Medicare Advantage (MA).

Medicare is one of the world's largest health insurance programs, and about one-third of the beneficiaries on Medicare are enrolled in an MA private healthcare plan. Due to the great variance in the health status of Medicare beneficiaries, risk adjustment provides a means of adequately compensating those plans with large numbers of seriously ill patients while not overburdening other plans that have healthier individuals. MA plans have been using the Hierarchical Condition Category (HCC) risk-adjustment model since 2004.

The primary purpose of a risk-adjustment model is to predict (on average) the future healthcare costs for specific consortiums enrolled in MA health plans. The Centers for Medicare and Medicaid Services (CMS) is then able to provide capitation payments to these private health plans. Capitation payments are an incentive for health plans to enroll not only healthier individuals but those with chronic conditions or who are more seriously ill by removing some of the financial burden.

The MA risk-adjustment model uses HCCs to assess the disease burden of its enrollees. HCC diagnostic groupings were created after examining claims data so that enrollees with similar disease processes, and consequently similar healthcare expenditures, could be pooled into a larger data set in which an average expenditure rate could be determined. The medical conditions included in HCC categories are those that were determined to most predictably affect the health status and healthcare costs of any individual.

Section of 1343 of the Affordable Care Act (ACA) of 2010 provides for a risk-adjustment program for non-Medicare Advantage plans that are available in online insurance exchange marketplaces. Beginning in 2014, commercial insurances were able to potentially mitigate increased costs for the insurance plan and increased premiums for higher-risk populations, such as those with chronic illnesses, by using a risk-adjustment model. The risk-adjustment program developed for use by non-Medicare plans is maintained by the Department of Health and Human Services (HHS). This model also uses HCC diagnostic groupings; however, this set of HCCs differs from the CMS-HCCs to reflect the differences in the populations served by each healthcare plan type.

This publication will cover the following:

- History and purpose of risk-adjustment factor (RAF)
- Key terms definitions
- Acceptable provider types
- Payment methodology and timeline
- Coding and documentation
- Tools for risk adjustment
- Coding scenarios
- Guidance for developing internal risk adjustment coding polices
- Audits
- Healthcare Effectiveness Data and Information Set (HEDIS)
- Risk adjustment model tables

Coding is an increasingly complex business. The movement from the fee-for-service payment model to more qualitative models has increased rapidly since 2004. The demand for quality-focused payment models has gained more attention since the ACA introduced a risk-adjustment model to the online insurance exchange marketplace plans in 2017. Coding staff must have knowledge of risk- adjustment practices in this rapidly changing environment. This book provides conceptual and practical knowledge of risk adjustment to coders, coding managers, medical staff, clinical documentation improvement (CDI) professionals, payers, educators, and students. The goal is to develop and enrich the knowledge of the user's understanding of this payment methodology.

Chapter 1. Risk Adjustment Basics

The need to track and report disease and causes of death was recognized in the 18th century. The various popular methodologies were compiled over the course of the First through Fifth International Statistical Institute Conferences in the 20th century; during the Sixth International Conference, the World Health Organization (WHO) was tasked with revising and maintaining the classifications of disease and death. In the 1930s health insurance coverage gained popularity. Many labor groups and companies started offering this type of benefit to their employees. In 1966, the American Medical Association (AMA) published the first edition of the Current Procedural Terminology (CPT®) to standardize the reporting of surgical procedures. This framework created the fee-for-service payment model, which is currently used.

The fee-for-service model, however, does not account for acuity or morbidity of its patients. A medically complex, chronically ill patient's healthcare provider would receive the same reimbursement for the same procedure done on a healthy patient.

In 1997, the Balanced Budget Act mandated that Medicare begin allowing participants to choose between traditional Medicare and managed Medicare plans (now Medicare Advantage), which would incorporate the risk-adjustment payment methodology no later than January 2000. Initially, these managed Medicare plans were paid a fixed dollar amount to care for Medicare members. In 2007, these MA plans were based 100 percent on risk adjustment. This better allocates resources to populations of medically needy patients.

Key Terms

Hierarchical condition categories (HCC). Groupings of clinically similar diagnoses in each risk-adjustment model. Conditions are categorized hierarchically and the highest severity takes precedence over other conditions in a hierarchy. Each HCC is assigned a relative factor that is used to produce risk scores for Medicare beneficiaries, based on the data submitted in the data collection period.

Medicare Advantage (MA) plan. Sometimes called "Part C" or "MA plans," offered by private companies approved by Medicare. If a Medicare Advantage plan is selected by the enrollee, the plan will provide all of Part A (hospital insurance) and Part B (medical insurance) coverage. Medicare Advantage plans may offer extra coverage, such as vision, hearing, dental, and/or health and wellness programs. Most include Medicare prescription drug coverage (Part D).

Risk-adjustment factor (RAF). Risk score assigned to each beneficiary based on his or her disease burden, as well as demographic factors.

Sweeps. Submission deadline for risk adjustment data that occurs three times annually: January, March, and September. Generally, claims continue to be accepted for two weeks after the deadline.

Payment Methodology

Purpose of Risk Adjustment

Risk adjustment allows CMS to pay plans for the risk of the beneficiaries they enroll, instead of an average amount for Medicare beneficiaries. By risk adjusting plan payments, CMS is able to make appropriate and accurate payments for enrollees with differences in expected costs. Risk adjustment is used to adjust bidding and payment based on the health status and demographic characteristics of an enrollee. Risk scores measure individual beneficiaries' relative risk and risk scores are used to adjust payments for each beneficiary's expected expenditures. By risk adjusting plan bids, CMS is able to use standardized bids as base payments to plans.

The primary purpose of a risk-adjustment model is to predict future healthcare costs for specific consortiums enrolled in MA health plans based on current risk factors associated with the covered patient population. CMS is then able to provide capitation payments to these private health plans. Capitation payments that are calculated based on an entire risk pool incentivize health plans to enroll not only healthier individuals but those with chronic conditions or who are more seriously ill by removing some of the financial burden.

The MA risk-adjustment model uses HCCs to assess the disease burden of its enrollees. The HCC diagnostic groupings were created after examining claims data so that enrollees with similar disease processes, and consequently similar healthcare expenditures, could be pooled into a larger data set in which an average expenditure rate could be determined. The medical conditions included in HCC categories are those that were determined to most predictably affect the health status and healthcare costs of any individual.

Hierarchical condition categories (HCC) were first used in 2004 to set capitated payments for private health plans caring for Medicare beneficiaries. The term "risk adjustment" is often used to describe what HCCs do. HCCs predict healthcare resource consumption of individuals. HCC scores are used to "risk adjust" payments to a health plan based on the level of

Chapter 2. Coding and Documentation

Medical record documentation is one of the cornerstones of the current healthcare system. Whether paper or electronic records are used, these records must be accurate, consistent, and complete to provide the information necessary to ensure clinical quality, substantiate medical necessity, and ensure the most appropriate reimbursement. Health records are the foundation for many decisions that are made, regardless of the setting. Therefore documentation improvement efforts have been on-going for many years and the shift in focus to quality of care further emphasizes the need for quality documentation.

It is not uncommon to find providers who practice medicine in their heads. The provider can review his or her notes for a patient and recall the plan of care he or she had in mind. This can cause issues when the patient needs to coordinate care or transfer care should his or her normal provider be unavailable. Nobody anticipates illness, injury, or even death taking them away from work suddenly, but those situations do happen. Best practice for a provider is to have complete documentation that outlines the status and plan of care for every condition affecting the patient documented at least once a year. The annual wellness visit is an ideal time to take inventory of the patient's overall health. Should any unforeseen event take a provider away from practice, that annual wellness note can serve as an excellent resource for any other providers caring for the patient. In addition to better continuity of care, better documentation can validate and better support insurance claims.

The medical record is an essential component of providing quality care to a patient. It serves as the record of what medical services were provided to a patient and why. The medical record also serves as a communication tool for the care team of a patient, which assists with ensuring continuity of care. It is crucial that medical records meet standards for current, complete, and accurate health information. Ensuring the medical record of the patient meets these standards will assist with ensuring that the patient receives quality and continuous care, precise coding and timely billing are performed, and appropriate reimbursement is made.

According to the 2008 RAPS Participant Guide, the Centers for Medicare and Medicaid Services (CMS) requires the following elements to be considered a valid and complete record:

- The date of service, complete with month, day, and year
- Evidence of a face-to-face encounter with an acceptable provider type and setting
- Acceptable provider signature or authentication
- The provider's credentials

While it is not explicitly required by CMS, it is a standard medical record best practice and either required or recommended by many regulatory agencies and payers that at least two patient identifiers should be used to validate that the medical record matches the patient. Additional identifiers may include the date of birth, Social Security number, or insurance subscriber ID.

In addition, CMS's Contract-Level Risk Adjustment Data Validation Medical Record Reviewer Guidance, In effect as of March 20, 2019, states: "All data fields in Section II contain enrollee data that matches the name on the medical record submitted. The birth date may be used as a secondary identifier for common shortened names if it is present on the medical record." A second identifier, such as a date of birth, is recommended to mitigate Risk Adjustment Data Validation (RAD-V) audit risk.

Medical Record Documentation

Each patient's medical records are the only source of written information about patient encounters and are necessary to assign and substantiate ICD-10-CM, CPT, and/or HCPCS Level II codes. The primary function of the medical record is to provide a record of patient care with emphasis placed on what services were provided to the patient and why. A complete and well-organized medical record will allow any member of the care team to quickly access vital information about the patient's health.

This completeness is even more essential in risk adjustment; provider documentation serves as the main source of risk-adjustment data. While the practice of risk adjustment has expanded to other models such as the Department of Health and Human Services (HHS) model, the original focus of risk adjustment was on Medicare-eligible patients. The Centers for Disease Control and Prevention (CDC) reports that in 2012, half of all adults, about 117 million people, had one or more chronic health conditions and one in four adults had two or more chronic health conditions. Three in four Americans aged 65 and older have at least two chronic conditions that require on-going medical attention and/or limit their activities of daily living.

The increased complexity in treating multiple chronic and comorbid conditions demands clear and complete medical records. It is likely that patients are seeing multiple providers for their care and this healthcare team needs to effectively coordinate care. The Medicare annual wellness visit (AWV) is the perfect opportunity to provide a complete and comprehensive overview of the patient's health. While the AWV is the ideal opportunity to complete the comprehensive

Code	Specialty	Code	Specialty	Code	Specialty
11	Internal Medicine	38	Geriatric Medicine	83	Hematology/Oncology
12	Osteopathic Manipulative Medicine	39	Nephrology	84	Preventive Medicine
13	Neurology	40	Hand Surgery	85	Maxillofacial Surgery
14	Neurosurgery	41	Optometry	86	Neuropsychiatry
15	Speech Language Pathologist	42	Certified Nurse Midwife	89*	Certified Clinical Nurse Specialist
16	Obstetrics/Gynecology	43	Certified Registered Nurse Anesthetist	90	Medical Oncology
17	Hospice And Palliative Care	44	Infectious Disease	91	Surgical Oncology
18	Ophthalmology	46*	Endocrinology	92	Radiation Oncology
19	Oral Surgery	48*	Podiatry	93	Emergency Medicine
20	Orthopedic Surgery	50*	Nurse Practitioner	94	Interventional Radiology
21	Cardiac Electrophysiology	62*	Psychologist	97*	Physician Assistant
22	Pathology	64*	Audiologist	98	Gynecologist/ Oncologist
23	Sports Medicine	65	Physical Therapist	99	Unknown Physician Specialty
24	Plastic And Reconstructive Surgery	66	Rheumatology	C0	Sleep Medicine

* Indicates that a number(s) has been skipped.

Signature Issues

CMS provides specific guidance on what is an acceptable and valid signature based on the type of chart being used or submitted—paper or electronic. It is imperative that signatures be compliant and completed within a timely manner.

When using paper charts a handwritten signature or initials is acceptable. If the signature is not legible, it is still acceptable as long as the provider's full name and credentials appear in the note. Signature logs may be used to validate signed paper charts. A signature log contains the provider's name, credentials, and a copy of his or her signed name and initials.

Valid electronic signatures may include:

- Electronically signed by
- Authenticated by
- Approved by
- Closed by
- Finalized by

The provider must include his or her last name, first name or initial. The provider's credential must be found within the note as well.

Coding Guidelines

When coding for risk adjustment, it is imperative that the coder pay attention to the entire note for conditions, which are validated by the note and, therefore, appropriate to capture. It is common to have various reasons, such as billing form limitations, clearinghouse limitations, and internal policies that instruct a coder to only code the reason for the encounter or to leave off validated conditions found within other portions of the note. This, however, is not correct based on the ICD-10-CM instructions. In addition, *AHA Coding Clinic*, Fourth Quarter 2017, page 110, indicates that it is not appropriate to develop internal policies to omit codes. Facilities should review documentation to clinically validate diagnoses and develop policies to query the provider to confirm diagnoses that may not meet clinical criteria.

It is also important for coders to have the most up-to-date coding references to assign codes accurately and to the highest level of detail, and to avoid assigning invalid or deleted codes. If diagnosis "cheat sheets" are used, these should be updated in conjunction with the appropriate code set updates.

There is an increasing need for hospital inpatient coders to learn the outpatient coding rules in order to properly capture and report HCC diagnoses, as hospitals frequently acquire physician practices and perform coding and billing functions for these practices.

Coding Scenarios with RAF Values

NOTE: RAF scores and calculations provided in this section are estimates using the 2020 Model Relative Factors only. They are provided for example only and are not intended to calculate actual reimbursement or recoupment values.

Coding Scenario 1—CMS-HCC Model

Electronically Signed: Dr. B. Johnson, D.O. **Chief Complaint:** Follow up hyperlipidemia, HTN, OA, MDD

Patient Name: Betty Smith **Appt. Date/Time:** 4/5/2021

Insurance: Medicare Advantage (HMO) **Appt. Type:** MCE

Vitals

BP: 134/71 sitting L arm	**BP Cuff Size:** adult	**Pulse:** 61 bpm regular	**T:** 97.8 F oral
O2Sat: 93% RA	**Ht:** 62 in	**W:** 200lbs	**BMI:** 36.6

ROS

Patient reports no frequent nosebleeds, no nose problems, and no sinus problems: congestion. She reports dry mouth but reports no sore throat, no bleeding gums, no snoring, no mouth ulcers, and no teeth problems. She reports arthralgia/joint pain (right knee) but reports no muscle aches, no muscle weakness, no back pain, and no swelling in the extremities. She reports frequent or severe headaches but reports no loss of consciousness, no weakness, no numbness, no seizures, no dizziness, and no tremor. She reports fatigue. She reports no fever, no night sweats, no significant weight gain, no significant weight loss, and no exercise intolerance. She reports no dry eyes, no vision change, and no irritation. She reports no difficulty hearing and no ear pain. She reports no chest pain, no arm pain on exertion, no shortness of breath when walking, no shortness of breath when lying down, no palpitations, and no known heart murmur. She reports no cough, no wheezing, no shortness of breath, no coughing up blood. She reports no abdominal pain, no nausea, no vomiting, no constipation, normal appetite, no diarrhea, not vomiting blood, no dyspepsia, and no GERD. She reports no Incontinence, no difficulty urinating, no hematuria, and no increased frequency. She reports no abnormal mole, no jaundice, no rashes, and no laceration. She reports no depression, no sleep disturbances, feeling safe in a relationship, no alcohol abuse, no anxiety, no hallucinations, and no suicidal thoughts. She reports no swollen glands, no bruising, and no excessive bleeding. She reports no runny nose, no sinus pressure, no itching, no hives, and no frequent sneezing.

History—updated 04/05/2021

Breast cancer— stable, sees oncology, on tamoxifen for 2 years

Depressive disorder— major, partially managed on SSRI

OSA— refuses CPAP

Physical Exam

Patient is a 54-year-old female.

Constitutional

General Appearance: well-developed, appears stated age, and obese.

Level of Distress: comfortable.

Psychiatric

Mental Status: alert and normal affect.

Orientation: oriented to time, place, and person. Insight: good judgment.

Cardiovascular

Precordial Exam: no heaves or precordial thrills and non-displaced focal PMI. Rate and rhythm: regular.

Heart Sounds: no rub, gallop, or click and normal S1 and physiologically split S2.

- Systolic Murmur: not heard.
- Diastolic Murmur: not heard

Extremities

No cyanosis, edema, or peripheral signs of emboli

Neurologic

Motor: tremor of neck and face and arms

A/P

1. Mixed hyperlipidemia—continue meds
2. Benign essential hypertension—continue meds
3. Insomnia—discussed sleep hygiene/caffeine curfew
4. Anxiety/depression—continue meds/consider seeing psych
5. Obesity—discussed increasing activity and decreasing caloric intake

Chapter 3. Audits and Quality Improvement

A chart audit is a detailed review of the medical record to determine if the services rendered match the services reported. In risk adjustment, this is ensuring that conditions reported are supported by valid medical records. Most often, audits are performed to ensure accuracy and compliance; however, quality improvement measure audits are increasingly popular.

It is advisable to regularly audit the documentation being used as well as the coding for risk adjustment to ensure compliance.

Step 1

Determine who will perform the audit. An internal audit is typically performed by coding staff within the practice that are proficient in coding and interpreting payer guidelines. Depending upon the size of the practice and the number of services provided annually, a compliance department with full-time auditors may be established. If not, the person performing the audit should not audit claims that he or she coded.

Step 2

Define the scope of the audit. Determine what types of services to include in the review. Use the most recent Office of Inspector General (OIG) Work Plan, recovery audit contractor (RAC) issues, and third-party payer provider bulletins, which will help identify areas that can be targeted for upcoming audits. Review the OIG Work Plan, which is now a web-based work plan updated monthly rather than yearly, to determine if there are issues of concern that apply to the practice. Determine specific coding issues or claim denials that are experienced by the practice. The frequency of coding or claims issues and potential effect on reimbursement or potential risk can help prioritize which areas should be reviewed. Services that are frequently performed or have complex coding and billing issues should also be reviewed, as the potential for mistakes or impact to revenue could be substantial.

Step 3

Determine the type of audit to be performed and the areas to be reviewed. Once the area of review is identified, careful consideration should be given to the type of audit performed. Reviews can be prospective or retrospective. If a service is new to the practice, or if coding and billing guidelines have recently been revised, it may be advisable to create a policy stating that a prospective review is performed on a specified number of claims as part of a compliance plan. The audit should include ensuring the medical record coded meets administrative requirements, such as patient name and date of service are on the record, accuracy of diagnosis codes, compliance of any queries generated, and whether the source document supports code assignment.

Step 4

Assemble reference materials. Reference materials, such as current editions of coding manuals and Centers for Medicare and Medicaid Services (CMS) or other third-party policies pertinent to the services being reviewed, should be collected.

Step 5

Develop customized data capture tools. Use an audit worksheet, see example on page 83. Audit worksheets can aid in the audit process. They help verify that signatures were obtained and that patient identifying information (e.g., complete name, date of birth) is correct.

Step 6

Develop a reporting mechanism for findings. Once the audit is complete, written recommendations should be made. The recommendations can include conducting a more frequent focused audit, implementing improved documentation templates, or conducting targeted education on ICD-10-CM coding. Each practice should have benchmarks set up that all providers must meet. For example, if 10 charts are reviewed, 90 percent must be correct. It is also important to identify claims that may need to be corrected or payments that need to be refunded to the payer.

Step 7

Determine recommendations and corrective actions. The next step is to schedule meetings with the providers to provide feedback, recommendations, and education. Typically it works best to meet with a provider on an individual basis and have his or her audit results and charts available as examples so that they can be reviewed and discussed. The provider should be given the opportunity to explain the rationale behind his or her coding, and perhaps even provide additional information to help the coder further understand a particular clinical term. Allowing the provider to give feedback also helps build a better auditor-provider relationship. This relationship may make the provider feel comfortable enough with the auditor to ask questions about future coding issues, instead of reporting incorrect codes to payers. A word to the wise, when discussing a coding error with a provider, it is a good idea to have a copy of the official source document supporting discussion of the error.

Chapter 4. CMS-HCC Model Category V24

2020/2021/2022 CMS-HCC V24 Model Disease Coefficient Relative Factors and Hierarchies for Continuing Enrollees Community and Institutional Beneficiaries with 2022 Midyear Final ICD-10-CM Mappings

According to the Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies, published on January 15, 2021, as noted in Part I of the CY 2022 Advance Notice, published on September 14, 2020, and Part II of the CY 2022 Advance Notice, published on October 30, 2020, CMS will continue to use the 2020 risk adjustment model for 2022, completely phasing in the 2020 CMS-HCC model (previously known as the alternative payment condition count [APCC] model) with no blending for the risk score calculation.

ICD-10-CM Code	ICD-10-CM Code Description	V24 CMS-HCC	V24 CMS-HCC Disease Group	V24 CMS-HCC Hierarchies	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
A01.03	Typhoid pneumonia	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A01.04	Typhoid arthritis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401
A01.05	Typhoid osteomyelitis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401
A02.1	Salmonella sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A02.22	Salmonella pneumonia	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A02.23	Salmonella arthritis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401
A02.24	Salmonella osteomyelitis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401
A06.5	Amebic lung abscess	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A07.2	Cryptosporidiosis	6	Opportunistic Infections		0.424	0.740	0.572	0.803	0.318	0.658	0.534
A20.2	Pneumonic plague	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A20.7	Septicemic plague	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A21.2	Pulmonary tularemia	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A22.1	Pulmonary anthrax	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156
A22.7	Anthrax sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A26.7	Erysipelothrix sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A31.0	Pulmonary mycobacterial infection	6	Opportunistic Infections		0.424	0.740	0.572	0.803	0.318	0.658	0.534
A31.2	Disseminated mycobacterium avium-intracellulare complex (DMAC)	6	Opportunistic Infections		0.424	0.740	0.572	0.803	0.318	0.658	0.534
A32.7	Listerial sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A36.81	Diphtheritic cardiomyopathy	85	Congestive Heart Failure		0.331	0.447	0.371	0.486	0.336	0.422	0.203
A39.1	Waterhouse-Friderichsen syndrome	23	Other Significant Endocrine and Metabolic Disorders		0.194	0.378	0.211	0.299	0.174	0.319	0.379
A39.2	Acute meningococcemia	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A39.3	Chronic meningococcemia	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A39.4	Meningococcemia, unspecified	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A39.83	Meningococcal arthritis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401
A39.84	Postmeningococcal arthritis	39	Bone/Joint/Muscle Infections/Necrosis		0.401	0.378	0.558	0.682	0.443	0.435	0.401

ICD-10-CM Code	ICD-10-CM Code Description	V24 CMS-HCC	V24 CMS-HCC Disease Group	V24 CMS-HCC Hierarchies	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
A40.0	Sepsis due to streptococcus, group A	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A40.1	Sepsis due to streptococcus, group B	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A40.3	Sepsis due to Streptococcus pneumoniae	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A40.8	Other streptococcal sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A40.9	Streptococcal sepsis, unspecified	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.01	Sepsis due to Methicillin susceptible Staphylococcus aureus	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.02	Sepsis due to Methicillin resistant Staphylococcus aureus	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.1	Sepsis due to other specified staphylococcus	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.2	Sepsis due to unspecified staphylococcus	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.3	Sepsis due to Hemophilus influenzae	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.4	Sepsis due to anaerobes	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.50	Gram-negative sepsis, unspecified	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.51	Sepsis due to Escherichia coli [E. coli]	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.52	Sepsis due to Pseudomonas	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.53	Sepsis due to Serratia	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.59	Other Gram-negative sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.81	Sepsis due to Enterococcus	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.89	Other specified sepsis	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A41.9	Sepsis, unspecified organism	2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/ Shock		0.352	0.414	0.453	0.530	0.316	0.297	0.324
A42.0	Pulmonary actinomycosis	115	Pneumococcal Pneumonia, Empyema, Lung Abscess		0.130	—	0.258	—	0.093	0.082	0.156

Chapter 5. CMS RxHCC Model Category V05

CY 2020/2021/2022 RxHCC Model Category V05 with 2022 Midyear Final ICD-10-CM Mapping, Hierarchies, and 2022 Disease Coefficients

ICD-10-CM Code	ICD-10-CM Code Description	V05 RxHCC	V05 RxHCC Disease Group	V05 RxHCC Hierarchy	Community, Non-Low Income, Age≥65	Community, Non-Low Income, Age<65	Community, Low Income, Age≥65	Community, Low Income, Age<65	Institutional
A07.2	Cryptosporidiosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
A31.0	Pulmonary mycobacterial infection	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
A31.2	Disseminated mycobacterium avium-intracellulare complex (DMAC)	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
A36.81	Diphtheritic cardiomyopathy	186	Congestive Heart Failure	187	0.167	0.148	0.227	0.145	0.140
A39.1	Waterhouse-Friderichsen syndrome	41	Pituitary, Adrenal Gland, and Other Endocrine and Metabolic Disorders		0.099	0.205	0.061	0.231	0.087
A52.04	Syphilitic cerebral arteritis	206	Cerebrovascular Disease, Except Hemorrhage or Aneurysm		0.043	—	0.040	—	—
A81.00	Creutzfeldt-Jakob disease, unspecified	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.01	Variant Creutzfeldt-Jakob disease	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.09	Other Creutzfeldt-Jakob disease	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.1	Subacute sclerosing panencephalitis	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.2	Progressive multifocal leukoencephalopathy	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.81	Kuru	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.82	Gerstmann-Straussler-Scheinker syndrome	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.83	Fatal familial insomnia	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.89	Other atypical virus infections of central nervous system	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
A81.9	Atypical virus infection of central nervous system, unspecified	112	Dementia, Except Alzheimer's Disease		0.195	0.107	0.041	—	—
B00.82	Herpes simplex myelitis	157	Spinal Cord Disorders		0.117	0.099	0.095	0.057	0.056
B01.12	Varicella myelitis	157	Spinal Cord Disorders		0.117	0.099	0.095	0.057	0.056
B02.21	Postherpetic geniculate ganglionitis	168	Trigeminal and Postherpetic Neuralgia		0.136	0.304	0.159	0.214	0.198
B02.22	Postherpetic trigeminal neuralgia	168	Trigeminal and Postherpetic Neuralgia		0.136	0.304	0.159	0.214	0.198
B02.23	Postherpetic polyneuropathy	168	Trigeminal and Postherpetic Neuralgia		0.136	0.304	0.159	0.214	0.198
B02.24	Postherpetic myelitis	157	Spinal Cord Disorders		0.117	0.099	0.095	0.057	0.056
B02.29	Other postherpetic nervous system involvement	168	Trigeminal and Postherpetic Neuralgia		0.136	0.304	0.159	0.214	0.198
B18.0	Chronic viral hepatitis B with delta-agent	55	Chronic Viral Hepatitis, Except Hepatitis C		0.534	0.329	0.868	0.539	0.373
B18.1	Chronic viral hepatitis B without delta-agent	55	Chronic Viral Hepatitis, Except Hepatitis C		0.534	0.329	0.868	0.539	0.373
B18.2	Chronic viral hepatitis C	54	Chronic Viral Hepatitis C	55	3.165	3.642	2.954	2.979	0.955
B18.8	Other chronic viral hepatitis	55	Chronic Viral Hepatitis, Except Hepatitis C		0.534	0.329	0.868	0.539	0.373
B18.9	Chronic viral hepatitis, unspecified	55	Chronic Viral Hepatitis, Except Hepatitis C		0.534	0.329	0.868	0.539	0.373
B20	Human immunodeficiency virus [HIV] disease	1	HIV/AIDS		3.067	3.700	3.825	4.172	2.604
B25.0	Cytomegaloviral pneumonitis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B25.1	Cytomegaloviral hepatitis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B25.2	Cytomegaloviral pancreatitis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B25.8	Other cytomegaloviral diseases	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B25.9	Cytomegaloviral disease, unspecified	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B33.24	Viral cardiomyopathy	186	Congestive Heart Failure	187	0.167	0.148	0.227	0.145	0.140
B37.1	Pulmonary candidiasis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B37.7	Candidal sepsis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B37.81	Candidal esophagitis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B44.0	Invasive pulmonary aspergillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B44.1	Other pulmonary aspergillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182

ICD-10-CM Code	ICD-10-CM Code Description	V05 RxHCC	V05 RxHCC Disease Group	V05 RxHCC Hierarchy	Community, Non-Low Income, Age≥65	Community, Non-Low Income, Age<65	Community, Low Income, Age≥65	Community, Low Income, Age<65	Institutional
B44.2	Tonsillar aspergillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B44.7	Disseminated aspergillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B44.81	Allergic bronchopulmonary aspergillosis	227	Pulmonary Fibrosis and Other Chronic Lung Disorders		0.325	0.140	0.176	0.260	0.041
B44.89	Other forms of aspergillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B44.9	Aspergillosis, unspecified	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.Ø	Pulmonary cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.1	Cerebral cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.2	Cutaneous cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.3	Osseous cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.7	Disseminated cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.8	Other forms of cryptococcosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B45.9	Cryptococcosis, unspecified	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.Ø	Pulmonary mucormycosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.1	Rhinocerebral mucormycosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.2	Gastrointestinal mucormycosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.3	Cutaneous mucormycosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.4	Disseminated mucormycosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.5	Mucormycosis, unspecified	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.8	Other zygomycoses	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B46.9	Zygomycosis, unspecified	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B48.4	Penicillosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B48.8	Other specified mycoses	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B58.2	Toxoplasma meningoencephalitis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B58.3	Pulmonary toxoplasmosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B59	Pneumocystosis	5	Opportunistic Infections		0.268	0.122	0.177	0.164	0.182
B97.35	Human immunodeficiency virus, type 2 [HIV 2] as the cause of diseases classified elsewhere	1	HIV/AIDS		3.067	3.700	3.825	4.172	2.604
C16.Ø	Malignant neoplasm of cardia	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.1	Malignant neoplasm of fundus of stomach	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.2	Malignant neoplasm of body of stomach	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.3	Malignant neoplasm of pyloric antrum	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.4	Malignant neoplasm of pylorus	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.5	Malignant neoplasm of lesser curvature of stomach, unspecified	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.6	Malignant neoplasm of greater curvature of stomach, unspecified	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.8	Malignant neoplasm of overlapping sites of stomach	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C16.9	Malignant neoplasm of stomach, unspecified	18	Lung, Kidney, and Other Cancers	19	0.287	0.255	0.328	0.319	0.070
C17.Ø	Malignant neoplasm of duodenum	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C17.1	Malignant neoplasm of jejunum	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C17.2	Malignant neoplasm of ileum	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C17.3	Meckel's diverticulum, malignant	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C17.8	Malignant neoplasm of overlapping sites of small intestine	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C17.9	Malignant neoplasm of small intestine, unspecified	19	Breast and Other Cancers and Tumors		0.096	0.085	0.079	0.116	0.070
C22.Ø	Liver cell carcinoma	17	Secondary Cancers of Bone, Lung, Brain, and Other Specified Sites; Liver Cancer	18,19	1.727	1.677	1.618	1.605	0.584
C22.1	Intrahepatic bile duct carcinoma	17	Secondary Cancers of Bone, Lung, Brain, and Other Specified Sites; Liver Cancer	18,19	1.727	1.677	1.618	1.605	0.584