

AI-powered Risk Adjustment Optimization

Highly accurate real-time coding
and M.E.A.T. criteria



cybexys

Accurate risk adjustment calculation

Complete and accurate documentation and coding remain the greatest hurdles in accurate risk adjustment calculations. The Centers for Medicare & Medicaid Services (CMS) has been increasing the weight associated with encounter medical data in its Hierarchical Condition Category (HCC) Risk Adjustment Model. Starting at 10% in 2016 and now 50% in 2020, risk adjustment scores in 2021 will include 75% of the **encounter data-based risk score** and only 25% of the risk-adjustment processing system (RAPS-based risk score).¹



10-14%⁵
**GROSS REVENUE LOST
DUE TO INACCURATE
RISK FACTOR**

With the majority of data contained in unstructured clinical notes, the challenge is converting this text into ICD-10 and Hierarchical Condition Categories (HCCs) used to calculate risk profiles/scores for patients with chronic conditions. Incomplete documentation, cut and paste documentation by the provider, or inaccurate / nonspecific coding by the provider or coder could lead to an understated risk score, resulting in **decreased reimbursement** with a negative impact on quality scores.



**ONLY
60%**
**DIAGNOSES CONFIRMED
IN RADV AUDIT**

While coding should be accurate, complete, and consistent to the best knowledge of coders, inadequate documentation could expose healthcare organizations in a **Risk Adjustment Data Validation (RADV) audit**. The HHS Office of Inspector General (OIG) estimated that \$2.7 billion in risk-adjusted payments lacked adequate documentation or timely visits associated with the diagnoses.²



**PHYSICIAN
BURNOUT RATE
42%**

In a recent study, it was demonstrated that primary care clinicians spend 5.9 hours of an 11.4-hour workday in the EHR, with 44.2% of that time spent on administrative tasks such as documentation, order entry, and billing and coding.³ Another study noted that "documentation requirements for billing purposes is an EHR design characteristic associated with both stress and burnout." Overall, more time spent on EHR tasks leads to greater levels of **clinical burnout** - not improved documentation or coding.⁴

Artificial intelligence (AI) holds an important key to processing unstructured data to accurately code each encounter in real-time, revealing a better picture of patient health, reducing RADV audit risk, improving risk adjustment scores, and more accurately capturing revenue associated with that level of risk.



Cybexys has developed a cutting-edge AI automated risk adjustment solution, **CARAT™**, to more accurately capture unrealized value to risk-bearing organizations, including Medicare Advantage and ACA Marketplace plans, Managed Care Organizations (MCOs), and large healthcare / delivery networks.

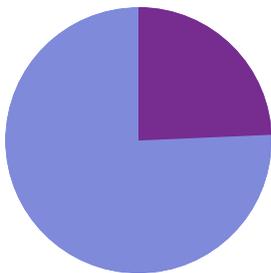
CARAT leverages natural language processing and machine learning (NLP/ML) to transform structured and unstructured text *including clinical information from diagnostic tests and pharmacy documentation* that the provider may not have acknowledged into valuable feedback to improve documentation accuracy and glean insight into patient's health.

The power of CARAT risk adjustment improvements

In four independent case studies involving five health plans, four MCOs, hundreds of providers, and thousands of encounters, Cybexys demonstrated the power of CARAT to resolve under-coding and to lower risk exposure to RADV audits.

14-24%

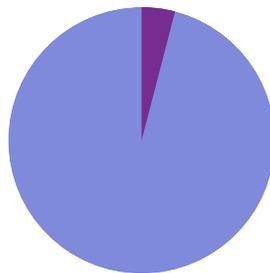
**Under-Coded
by Provider**



**Impact
\$47-76 pmpm**

5-7%

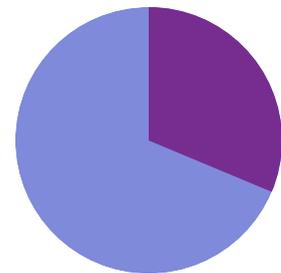
**Under-Coded
by RA Coders**



**Impact
\$4-23 pmpm**

22-34%

**CDI*
Opportunities**



**Impact
Minimizing RADV risk**

*CDI: Clinical Documentation Improvement

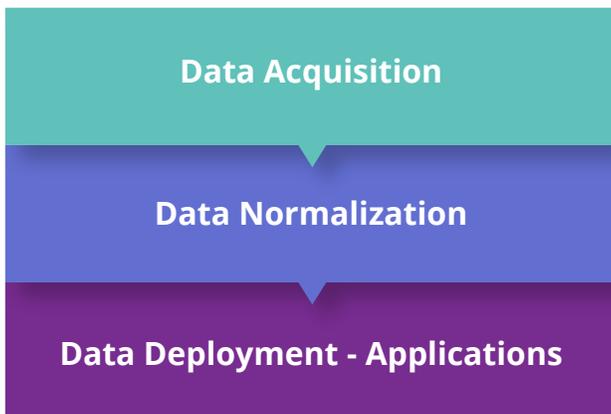
Healthcare risk adjustment automation

Real-time AI-powered coding

The **Hierarchical Condition Categories (HCC) risk adjustment model** used by CMS assigns a Risk Adjustment Factor (RAF) to each patient to adjust payments to Medicare Advantage beneficiaries. Only a small number of ICD-10 codes map to qualifying HCC codes, a process which is rarely intuitive, particularly to clinicians.

Recognizing that the manual assignment of codes introduces opportunity for human error or bias, artificial intelligence (AI) is particularly suited in meeting the challenges of accurate risk adjustment calculation.

Leveraging natural language processing and machine learning, CARAT acquires, standardizes, and semantically normalizes data imported from the EHR, both structured and unstructured, including non-binary input such as PDF / JPEG / TIFF images of typed documents. CARAT can connect with 90%+ of acute care and 60%+ of ambulatory care EHRs via direct HL7 and FHIR interfacing and supports claims from EDI Clearinghouses, Payer Gateways and MSOs.



CARAT SUGGESTS ICD-10 AND HCC CODES WITH ACCURACY UP TO

95%

CONCURRENT WITH THE PATIENT ENCOUNTER

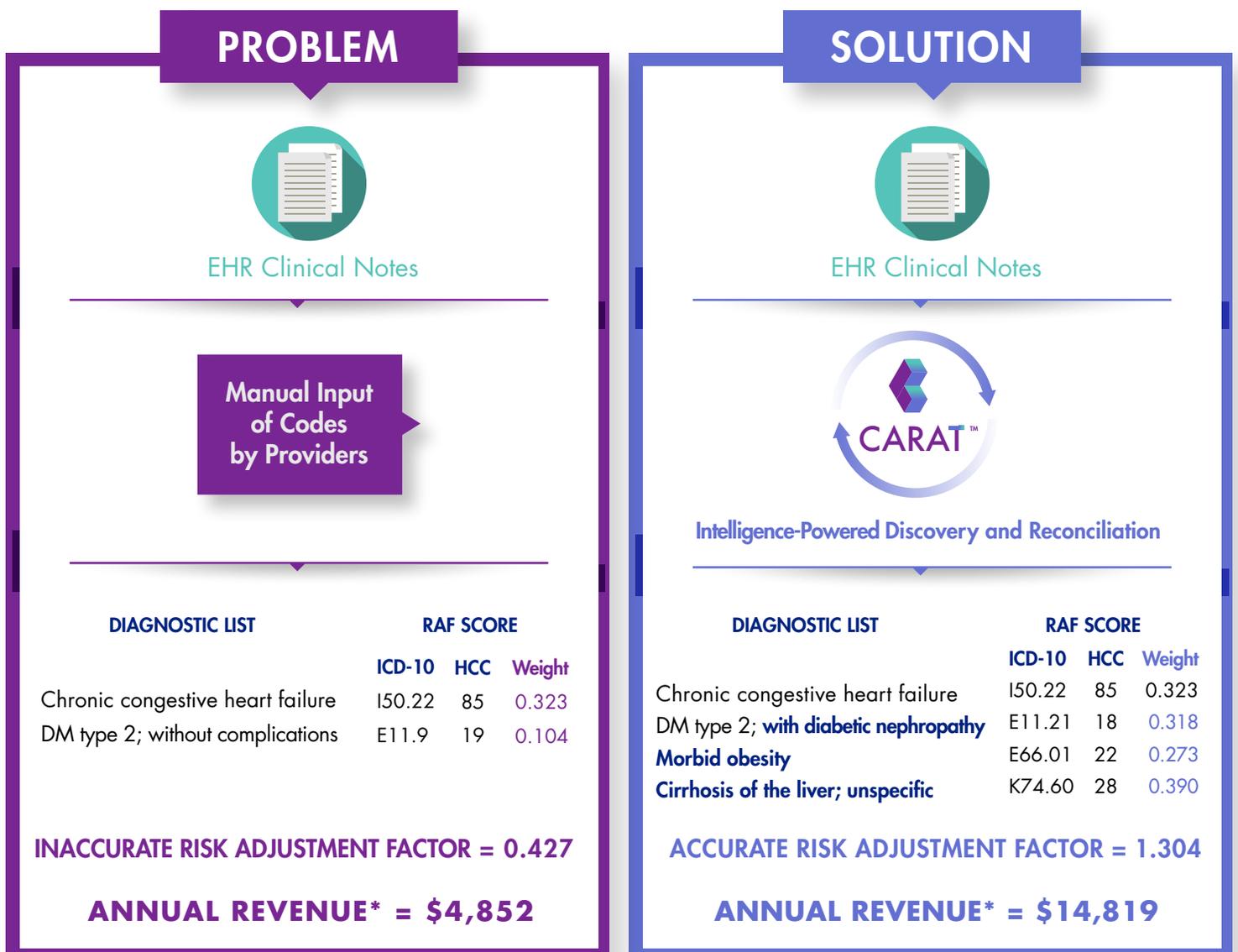
With continued input from users, on acronyms, phrasing, or misspellings, **CARAT becomes more precise, closing the gap on the last 5% accuracy to become a real-time automated coding system.** The intelligence derived from real-time coding holds the opportunity to improve the diagnostic process and automatically detect care continuity opportunities.

CARAT can tackle large amounts of data concurrent to the encounter, helping to spot patterns, suggest codes with higher accuracy, and identify unsupported coding that could increase the risk of a RADV audit. In addition, CARAT will assist in the identification of provider documentation issues and challenges that may impact quality and reimbursement.

Healthcare risk adjustment automation

Real-time AI-powered coding

This CARAT example analysis of clinical notes reveals that the patient should have a higher severity code related to diabetes, due to documented complications. The analysis revealed additional ICD-10 and HCC codes for two missed conditions, increasing the **patient's risk adjustment factor from 0.427 to 1.304**. The baseline RAF score of 0.427, which translates to \$4,852*. The missed codes detected by CARAT more accurately reflect the patient's condition, which increases this patient's score to 1.304 resulting in an additional \$9,967 per year.



*Annual Revenue based 2019 MA health plan national average Per-Member-Per-Year (PMPY) of \$11,363.

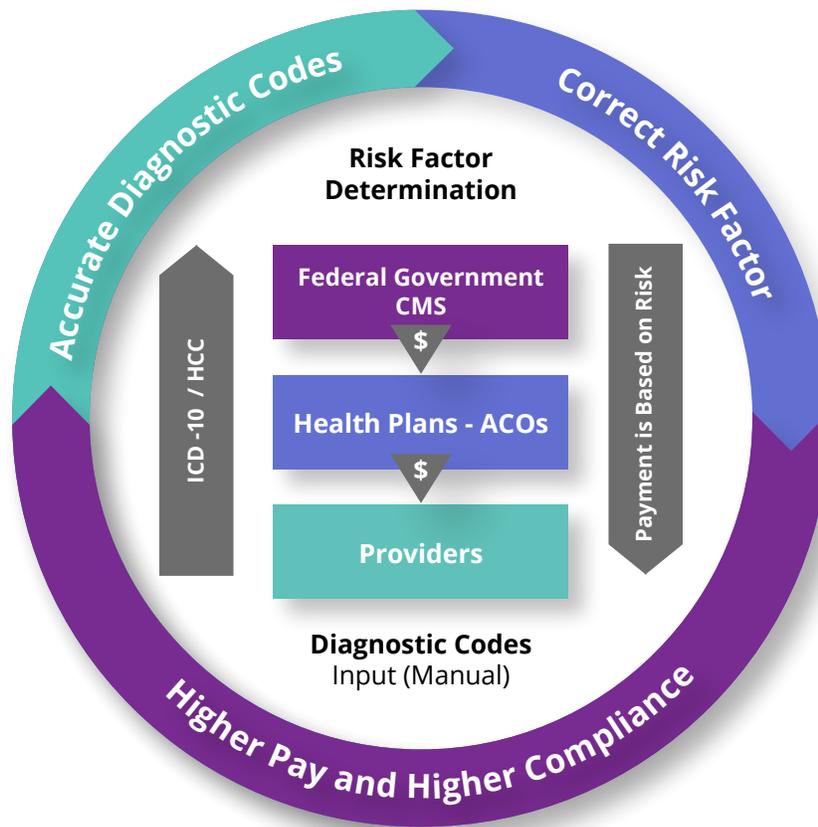
Transforming risk adjustment

The CMS risk adjustment model attempts to align reimbursement with current patient health status and demographic characteristics. Even a small change in risk scores can have a significant impact on reimbursement. Despite the CMS focus on current patient health, many healthcare organizations rely on retrospective risk adjustment analysis to calculate future risk adjustments.

If a retrospective analysis identifies that a risk score is underestimated, healthcare organizations have only one year to identify and request a recalculation of payment. Unfortunately, retrospective analysis does not resolve RADV audit risk, as the timeframe will have passed to recall patients to address CDI opportunities.

With the potential for patient health status to change rapidly, **prospective risk adjustment analysis** provides the greatest opportunity to accurately and completely code and document each encounter.

CARAT ensures that healthcare organizations are calculating risk adjustment factors that truly reflect the needs of higher acuity patients. Providing concurrent risk scoring, CARAT reconciles clinical documentation and coding in real-time, with simple validation of code suggestions and M.E.A.T. criteria so payments accurately reflect a patient's risk adjustment factor. In so doing, CARAT delivers unrealized value to all those stakeholders bearing risk.

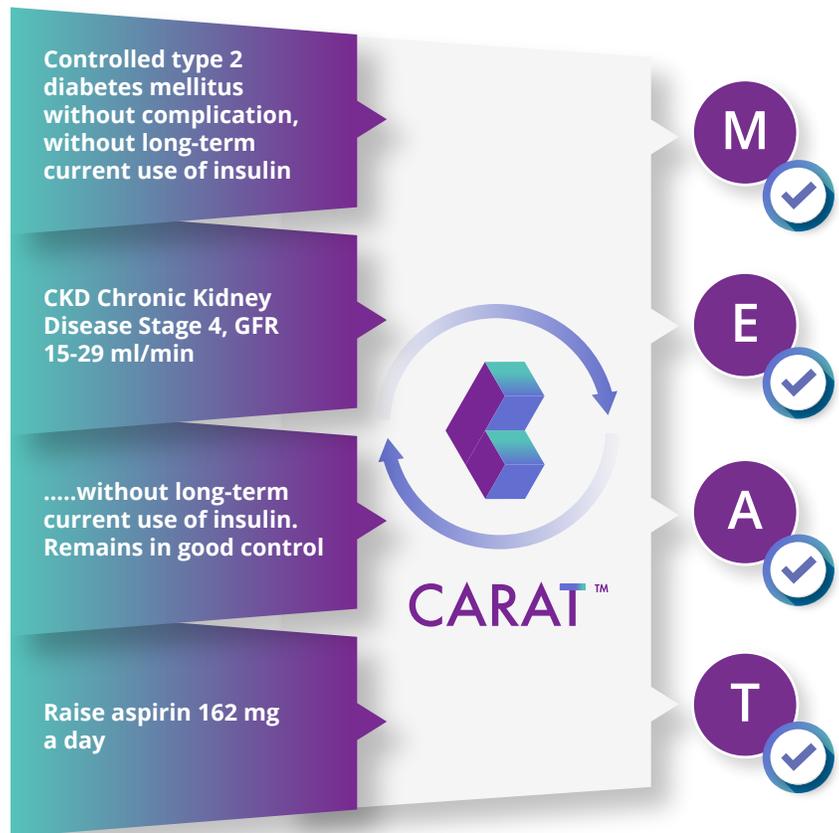


CMS requires yearly face-to-face visits and supporting clinical documentation consistent with M.E.A.T. criteria for each ICD-10 and corresponding HCC code. **M.E.A.T.** guidelines help establish the presence and ongoing treatment of each chronic condition being coded for each patient.

MONITORING	Signs, symptoms, disease progression, disease regression
EVALUATING	Test results, response to treatment or medication
ASSESSING	Ordering tests, discussion, reviewed records, counseling
TREATING	Medications, therapies, other modalities

In most healthcare organizations, coders are responsible for independently assessing if clinical documentation conforms to M.E.A.T. criteria, which is a costly and time-consuming process. As demonstrated above, claims that have been prepared by both providers and revenue cycle management (RCM) coding experts continue to have errors associated with under-coding or clinical documentation improvement (CDI) opportunities.

CARAT is the only risk adjustment solution that **validates M.E.A.T. criteria concurrent to the encounter.** Reflective of retrospective patient analysis and current documentation, CARAT analyzes clinical documentation to automatically detect care continuity and compliance. CARAT analyzes each encounter with M.E.A.T. validation criteria and identifies CDI opportunities with minimal impact to provider productivity and workflow.



Optimize Provider & Coder Workflow



CARAT “remembers” patient history, approaching every encounter with retrospective analysis of clinical notes, diagnostic imaging and specialist reports. Concurrent to the encounter, physicians are alerted if there are any outstanding documentation requirements to meet CMS guidelines.

Either immediately after the encounter, or as a final check by a coder, CARAT validates and identifies any additional ICD-10 / HCC codes already documented in the encounter, validates M.E.A.T. criteria, and highlights any gaps in documentation. CARAT validation by providers takes approximately **five minutes each day**, simplifying time-consuming processes typically outsourced to coders.

PHYSICIAN WORKFLOW BENEFITS

Simple interface to validate CARAT findings against corresponding documentation. Only cases that require further action require validation.

Real-time workflow supports prospective correction and reduces administrative burden associated with coding.

Push notification for alerts or documentation requests by text, email, browser extension, or within the EHR.

CODER WORKFLOW BENEFITS

Multi-client first-in-first-out work-view speeds up review process for validating only those CARAT findings that require further validation.

In-system communication makes it easy to collaborate on or reassign complex cases for additional validation.

With high ICD-10 coding accuracy and real-time M.E.A.T. validation, CARAT can significantly increase coder productivity.

CARAT helps shorten the medical billing and coding cycle and increases top-line revenue without costly rework.

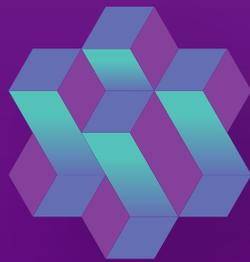
About CYBEXYS

Cybexys is the key to unlocking insights from your healthcare data. Leveraging natural language processing and machine learning, its AI engine, **CARAT™**, processes the structured and unstructured information from clinical notes to assign an improved set of severity codes with a higher level of precision. CARAT provides a real-time review of clinical documentation to optimize risk adjustment, improve revenue, reduce costs, minimize the risk of audits, and improve the clinical workflow.

CARAT is an essential component for all risk-bearing providers and organizations to succeed under value-based care. With the rise of big data in healthcare, organizations leveraging Cybexys's risk adjustment solution are poised to improve documentation of quality measures, utilization management, care coordination, as well as increasing top-line revenue and reducing exposure to Government and payor audits.

References

1. "CMS releases 2021 Medicare Advantage risk adjustment payment changes," Healthcare Finance News, January 2020, [Source](#).
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3. "Tethered to the EHR: Primary Care Physician Workload Assessment Using EHR Event Log Data and Time-Motion Observations," Annals of Family Medicine, September/October 2017, [Source](#).
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