

Al and Revenue Cycle Management Ushering in a New Era

Replacing CAC and RPA with deep-learning algorithms will deliver greater accuracy, cut turnaround time, save significant dollars, and drastically improve operational efficiency.

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Introduction:

Revenue cycle management in healthcare faces a fundamental challenge: the inadequacy of manual, computer-assisted coding (CAC), and RPA leads practices, hospitals, and health systems to waste significant dollars annually on preventable medical claim denials.

Roughly 80% of inpatient and outpatient medical records are unstructured.¹ Without structured data, health providers are unable to extract clinical context and automate functions that can improve patient care, enhance clinical documentation, streamline medical coding accuracy, improve reimbursements, and ensure timely medical billing. All of which are crucial to a healthy revenue cycle.

Currently, providers employ in-house medical coders, outsource medical coding to third parties, leverage computer-assisted coding (CAC) /RPA, or a combination of the three. This is an expensive proposition, as this "status-quo" approach:

- is still relatively manual and prone to human error
- · often fails to effectively reduce denials
- \cdot $\,$ creates potential errors across the continuum of care
- hinders physician productivity and efficiency
- · leads to physician burnout
- · does not lower the end-to-end cost of processing a claim





Embracing medical coding automation will breathe life into your revenue cycle management process, ensure medical records are structured, and generate more accurate claims.

Healthcare providers <u>often lack the resources and the know-how</u> to keep up with ever-changing billing and coding compliance standards and practices. This eBook serves to bridge the educational gap in medical coding and billing, and to demonstrate to providers and RCM firms that implementing an AI-powered automation tool is a feasible and worthwhile investment. You will learn about:

- · The detrimental impact of manual and computer-assisted coding on productivity, economics, and patient health
- · The transformative solution that is coding automation
- How Coding.Ai represents a transformative shift in medical coding, why our platform is unparalleled in the industry, and the game-changing results we **contractually** guarantee
- · How to leverage AI-powered automation to lessen the financial fallout associated with COVID-19, and potential future crises.

Unfulfilled Prophecies: Computer-Assisted Coding and Robotic Process Automation

Computer-assisted coding has been (and largely still is) hailed as an important enabler of a healthy revenue cycle when, in reality, it has done little to curb systemic inefficiency and billions of dollars in administrative waste in healthcare.

CAC tools are pervasive across the healthcare revenue cycle. Initially, CAC was considered an improvement over the entirely manual coding process that preceded it. But it has not fulfilled its promise, as its accuracy is subjective. Once CAC software analyzes and processes data, final judgment of the code still remains in the hands of human subject matter experts, which results in errors and subjectivity. <u>Some studies</u> show that 40% of medical claim denials are due to erroneous medical codes. These mistakes are costly for all groups across the healthcare ecosystem and lead to denied reimbursements, fraud and, most severely, could pose a serious threat to patient treatment. Finally, CAC doesn't eliminate the provider nightmare of up-coding and down-coding - which also has serious patient safety and financial implications.

Robotic process automation (RPA) as a panacea for RCM is also a pipe-dream. It's often mentioned interchangeably with artificial intelligence (AI), but it's not "intelligent" at all.

RPA - a newcomer to the block - involves programming a bot to perform mundane, repeated tasks. There is a time and place for it in healthcare, as it handles tedious and "mindless" work that adds up, like scheduling appointments and sending reminders. But therein also lies the problem: it is indeed "mindless." RPA works fast, but it doesn't learn, think, or improve upon itself like a deep-learning algorithm does.



RPA IS UN-INTELLIGENT

RPA is best suited for UI/click-based tasks, as it can only read structured, surface-level data that it has been specifically "taught" to read. RPA can't

withstand the complexity of dynamic healthcare data sets (e.g. medical records, lab data sets, social determinants of health, journal articles), as it's unable to contextualize *unstructured*, dynamic data on the backend. For example, if a claim denial occurs due to lack of prior authorization identification, medical necessity, or incorrect demographics, RPA would not be able to catch and resolve these and many more such potential denials.

This requires subject matter expertise, which is exactly what BUDDI.AI delivers in the form of AI (more on that later!). Unstructured data and its untapped potential <u>pose a significant</u>. <u>challenge</u> to healthcare providers. RPA is click-based automation and is best utilized for simplistic, mundane healthcare tasks.







Most RPA solutions create foundational algorithms around UI automation, but they don't teach these algorithms how to "think" when changes occur or mine the clinical context from unstructured documents. This leaves room for error when RPA is applied to intensive tasks in dynamic environments such as medical coding, medical billing, clinical documentation improvement, prior authorization, and hierarchical conditional coding (HCC).

RPA IS UN-AFFORDABLE

For every \$1 spent on RPA software, \$3.41 are spent on services to make it work. (Forrester Research, July 2019).

RPA IS UN-INFORMED

Some are attempting to combine RPA with machine learning, NLP, and other Al tools, to make it "smarter." However, very few RPA solutions are trained to read medical data. Managing upstream and downstream healthcare functions and ensuring quality patient care require algorithms that are well-versed in the subject matter; not general algorithms repurposed to the healthcare setting.



CAC and RPA do little to substantively address the profound administrative burden, inefficiency, and rising tide of denials that plague the healthcare revenue cycle.

CLAIM DENIALS ARE EXPENSIVE.

Providers stand to lose ~<u>\$260 billion annually</u> to insurance denials, much of which can be traced back to inaccurate or incomplete medical coding. On average, reworking a single claim denial costs providers \$118, which means <u>a typical health system</u> stands to lose as much as 3.3% of net patient revenue due to denials (an average of \$4.9 million per hospital). Claim denials thus pose a significant threat to hospital revenue.

42% OF PHYSICIANS ARE BURNT OUT, WHICH COSTS \$4.6 BILLION ANNUALLY.

The data is compelling:

- Many studies suggest that organizational factors including compliance with new coding and documentation requirements, EMRs, and other administrative hurdles, contribute to 80% of physician dissatisfaction, anger, frustration, stress, burnout, depression, and disengagement.
- <u>Stanford Medicine</u> found that physicians with burnout had more than twice the odds of self-reported medical error.
- <u>AMA reported</u> that 86% of doctors in a study described the burden of prior authorizations as high or extremely high.
- <u>BMS Health Services Research</u> found that \$470 billion was spent on billing and insurance-related activities due to the "obscene amount of work that goes into getting a claim billed and then collecting on that claim."



The University of New Mexico also stated that electronic health records are at the root of physician burnout:

"We are losing the equivalent of seven graduating classes of physicians yearly to burnout and, as they leave the profession, they point their finger at the time now required for them to document their work and how it has led to the loss of quality time spent with patients and families,"

stated Philip Kroth, MD, director of Biomedical Informatics Research at UNM. There is also a growing concern that electronic systems and processes need to get smarter. <u>Kroth asserted</u>,

There is also a growing concern that electronic systems and processes need to get smarter. Kroth asserted, "If you thought all this data entry was meaningful and making some sort of positive patient impact then it would be a completely different story. But to date there has been no research showing an overall reduction in mortality, improvement in quality of life or reduced hospital admissions."



CODING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RPA)

COVID-19: The Pressure's On

When you factor in COVID-19, the data becomes even more pronounced.

According to the Medical Group Management Association (MGMA), in April of 2020, practices reported a 55% average decrease in revenue since the beginning of the pandemic. Additionally, data from the past several weeks shows that:

- 64% of healthcare professionals <u>are unemployed</u> as a result of the COVID-19 pandemic affecting their practice.
- 75% of CFOs <u>reported</u> that the impact of COVID-19 on operations and liquidity is the top concern for 2020.
- <u>47% of primary care clinicians</u> report they have laid off or furloughed staff, two-thirds report that less than half of what they do is reimbursable, and 45% are unsure if they have the funds to stay open.
- <u>42 hospitals</u> have closed and filed for bankruptcy in the U.S.
- The American Hospital Association (AHA) <u>predicted</u> that hospitals will lose \$20B a month for the rest of 2020 due to COVID-19.

While many providers have seen a decrease in patient volume, others have been inundated by a new mix of emergency department volumes - which is a loss-leader. Given that elective procedures have stalled, providers need to find creative ways to cut costs, apart from staff furloughs and layoffs. When you combine this with the surge and relative infancy of telehealth, health systems are encountering significant new challenges related to billing and coding.

The good news? Healthcare leaders recognize the need for digital transformation.

Although COVID-19 is decreasing their revenues and margins, <u>81%</u> of CFOs and senior leaders believe there is "an absolute immediate need for digital transformation for the long-term survival of their organizations." There are myriad ways providers and RCM vendors can digitize their operations. Therefore the question becomes, where do I start? How do I prioritize? In a time of such economic instability, which digital tools will provide the best return on investment and better patient care?



The Solution? **Coding Automation**

We've taken AI to medical school.

Unlike CAC and RPA, our subject matter experts and millions upon millions of medical records have trained our algorithms to "think" and make decisions in a dynamic healthcare environment, just as a human would (and sometimes, even better). We ingest backend *clinical and financial data*, learn from it, understand it, acknowledge nuances or challenges, and then make a decision on how to categorize and code it - all with unbeatable speed and accuracy. Coding automation can process endless amounts of unstructured data and mimic human thinking to contextualize data across multiple sets, determine patterns, and derive actionable insights at scale in a way that would be impossible under the aforementioned manual, CAC, and RPAheavy approaches.



Coding Automation is disrupting healthcare RCM.

By embracing it, providers stand to drastically reduce claim denials, enable significant cost-savings, and improve patient outcomes - and we have the data to prove it.

"Equipping a health care workforce to accurately code medical procedures streamlines communication across the health system, reducing administrative and rework costs at a time when resources are stretched by the COVID-19 pandemic,"

<u>said</u> Patrice A. Harris, MD, MA, president of the AMA. Leveraging deeplearning based automation delivers more accurate codes, reduces claim denials, and improves reimbursements.

Coding automation drastically reduces human intervention, which therefore reduces subjectivity and errors. By leveraging a platform

rooted in the leading natural language processing and knowledge graph algorithms, providers and RCM firms will yield significant cost-savings and reduce physicians' administrative burden by:

- Automating a majority of medical coding volumes including CPT, ICD-10, Modifiers, G-Codes, HCC, and MIPS/QPP Measures
- Sequencing medical codes for the appropriate billing systems
- Increasing accuracy according to Medicare standards
- · Submitting claims to payers faster, reducing reimbursement delays
- Drastically reducing or completely eliminating claim denials, which improves reimbursements and reduces outstanding accounts receivable
- Making smarter and faster decisions by unlocking rich insights from clinical and financial data



ODING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RP.

Medical coding automation will improve value-based care.

It's simple. Improved coding accuracy enables doctors to:

- Accurately diagnose patients at a faster rate and reduce errors
- · Identify health complications that were previously missed
- Suggest the right treatments
- Predict patient outcomes

Ultimately, documentation and coding is the lifeblood of healthcare, from both the clinical and financial perspective. By having insight into these processes, providers are empowered with an enormous amount of intelligence to make better decisions, automate processes, increase efficiencies, decrease administrative burden, and lower operational spend associated with revenue cycle management.





ODING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RPA)

BUDDI.AI's Unparalleled Coding Automation Technology

BUDDI.AI's automation platform predicts and prevents coding-related claim denials, slashes your coding costs, and delivers unbeatable accuracy, guaranteed.

Powered by proprietary deep learning algorithms, Coding.Ai is leading the shift to medical coding automation.

HOW IT WORKS:





WE START WITH SEMI-STRUCTURED AND/OR UNSTRUCTURED CLINICAL DATA FROM AN EMR (E.G. PATIENT RECORD). THE PATIENT RECORD IS FED INTO BUDDI'S MLP-ENGINE TO AUTOMATICALLY TAG CLINICAL DATA AND INFORMATION.

CLINICAL DATA IS CONTEXTUALIZED INTO A CLINICAL CONTEXTUAL GRAPH, NO HUMAN INTERVENTION REQUIRED.



STRUCTURED AND CONTEXTUALIZED DATA IS FED INTO OUR CODING.AI ENGINE, CAPABLE OF AUTO-CODING UP TO 500,000 CHARTS PER DAY!



DDING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RPA)

A lot of companies talk the talk, but they don't walk the walk.

We do, and the data consistently proves it. That's why we're bold enough to contractually guarantee industry-leading results.



CODING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RPA)

CODING.AI - Coding Automation

AI Features:

- · Auto Code CPT, ICD-10, Modifiers, G-Code, HCC, MIPS
- · Eliminates coding denials
- · Auto code based on CMS CCI guidelines
- · Automates codes with client/facility guidelines
- · 70%+ of chart volumes auto coded with ZERO human intervention
- · Automate all out-patient specialties
- · Word, PDF-Image, PDF-Text, TXT, XML, HL7, JSON file formats accepted
- · Compliant codes automatically updated
- · Machine applies, OCR, NLP, Graph & Rule Engine to automate coding
- Military grade security 256-bit AES encryption
- · Supports both physician and facility coding
- · Built-in NCCI edits, MCE, OCE, MUE edits, LCD/NCD determinations
- · Integrates with all major EMRs
- · Comprehensive coding workflow software with roles
- · Executive coding analytics dashboard and custom reporting
- $\cdot~$ HIPAA and SOC2 certified cloud with custom hosting options

Complementary to this, our machine-assisted Clinical Documentation Improvement technology (CDI.Ai) gives real-time feedback to physicians while they are documenting or dictating information during a patient encounter.

Physician documentation remains the foundational requirement for accurate coding, billing, quality measures, and utilization management.8 CDI.Ai enables physicians to paint the most accurate clinical picture of the patient's severity of illness and their healthcare needs. This eliminates the constant back-and-forth between from CDI specialists, HIM teams, and coding teams and reduces claim denials by up to 30%. Combining Coding. Ai with CDI.Ai can further streamline your revenue cycle.



DDING AUTOMATION'S CLAIM AGAINST COMPUTER-ASSISTED CODING (CAC) & ROBOTIC PROCESS AUTOMATION (RPA

Conclusion:

The pandemic further exposed the already palpable complexity and inefficiency endemic to the US healthcare system. As the industry emerges from the pandemic, it is imperative that stakeholders embrace digitalization.

The pandemic has put a spotlight on the opportunity that transformative digital solutions present. Physicians are under heightened strain and scrutiny so, to set them up for success, you need to equip them with the right tools to ensure they can work smarter and faster. Manual approaches, CAC, and RPA alone won't solve physician burnout, claim denials, and escalated costs, as these approaches often fail to take into account the nuances of clinical documentation. By leveraging technologies that can extract clinical context from unstructured physician notes, automatically code each encounter (with guaranteed accuracy), and provide real-time feedback to physicians, organizations across the healthcare ecosystem can slash costs, ease administrative burden, and improve the quality of patient care.

Interested in a demo?

Contact us to request a demo and see our platform in action.

Request Demo



About BUDDI.AI

BUDDI.AI is a leading provider of clinical and healthcare revenue cycle management automation. Our revolutionary platform leverages healthcare artificial intelligence and machine learning to drive better clinical and financial outcomes for providers, payers, patients and everyone in-between.

Why choose BUDDI.AI?

WE REDUCE CODING COSTS

By automating 70% or more of coding and claim volumes, we save clients a minimum of 30% on coding spend, and we beat onshore and offshore turnaround time significantly.



WE OFFER FLEXIBLE HOSTING OPTIONS

BUDDI.AI leverages Microsoft Azure to deliver best in class performance, security, and scalability. CODING.Ai can be deployed in your cloud instance or ours.



WE SECURE PATIENT DATA

CODING.Ai is deployed within a fully HIPAA and SOC 2 compliant cloud. All PHI and ePHI is secured through AES 256-bit encryption.



WE ARE EXPERTS

We have decades of proven expertise in infrastructure, data science, and AI in healthcare.



WE HAVE SKIN IN THE GAME

We are the only company in the industry that contractually guarantees cost savings and coding accuracy.



Hello Automation, Goodbye Complexity



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