



CODOXO

AI Solutions for Healthcare

WHITE PAPER

Generative AI for Payment Integrity: Harnessing AI Innovation to Future-Proof Healthcare Payments





Table of Contents

- 01** Overview
Challenges & Opportunities for Generative AI in Healthcare
- 04** Revolutionizing Payment Integrity with Generative AI
- 09** Best Practices for Getting Started
- 11** Harnessing the Power of AI
Summary

Overview

In late 2022, one of the biggest technological tsunamis in the modern era struck when OpenAI released its latest version of [ChatGPT](#). While the architecture was developed over a period of five years, the latest release went viral and generative AI officially entered the mainstream. Perceptions about AI are diverse and span a range of views, from pessimism to hopeful optimism as a force for good. By providing sophisticated large language models (LLM) and transformer models (neural networks that learn context) to data to generate content and predict patterns, generative AI has the potential to revolutionize a healthcare industry that has been hindered by slower than usual technology adoption, siloed data, operational inefficiencies, and widespread worker burnout.

This transformation will become especially important for healthcare payment integrity, redefining the future of healthcare cost containment, and changing the playing field for tackling waste, abuse, and fraud in ways never thought possible. Through sophisticated algorithms with self-learning and self-correcting capabilities, healthcare teams will now be freed from complex, manual, time-consuming tasks to focus on more value-added functions.

This whitepaper explores the dramatic new ways that generative AI is reshaping payment integrity through extreme automation, improved resource efficiencies, increased accuracy and lowered costs. Practical tips also are offered on how to get started using generative AI to boost your own payment strategy outcomes.

Challenges & Opportunities for Generative AI in Healthcare

Industry experts believe that generative AI holds tremendous potential to revitalize the American healthcare system, which is grappling with rising expenditures, aging technology, a slower-to-adopt culture, and worker shortages and burnout reaching unprecedented levels. [Up to 10% of total healthcare spend](#) in the United States each year is lost to fraud, waste, and abuse (FWA) and inaccurate claim payments. With an annual national healthcare expenditure of [\\$4.4 trillion in 2022](#), this puts current losses as high as an astounding \$430 billion – an alarming upward trajectory.

Also of note is [Gartner's May 2023 Healthcare Payer Research Panel Survey](#), which shows that 55% of healthcare payer CIOs and technology leaders think large language models that power generative AI tools will have a transformative or disruptive impact on the healthcare industry overall. [According to McKinsey](#), this technology has the potential to create over \$1T in value, and potentially up to \$1.5T by 2027, through new innovations in revamping healthcare delivery, streamlining administrative tasks, enhancing clinical efficiency, and new technology enablement.



Top-of-Mind Concerns

Generative AI, commonly referred to as “Gen AI”, goes beyond traditional AI by analyzing large data sets and creating content based on patterns identified from extensive training data. These models can quickly delve deep into tasks such as reviewing medical records, identifying fraudulent claims, detecting coding errors, and preventing duplicate payments, which would normally take healthcare clinicians hours of painstaking manual review. However, despite the immense opportunities that generative AI holds for healthcare, plenty of top-of-mind issues remain:

DATA BIAS

In order to create trust in the AI, users and decision makers must understand how these models make their decisions and generate outputs. One major concern about generative AI is that it could amplify existing healthcare disparities, especially for vulnerable and underrepresented areas. What if AI data models privilege a specific demographic (e.g., a particular race, age group, or socio-economic status)? Knowing how the AI works helps to create transparency and ensure the models are fair and unbiased.

DATA PRIVACY AND SECURITY

The immense amount of data required today to train generative AI algorithms gives rise to concerns about safeguarding this highly sensitive information. Healthcare leaders must prioritize the protection of this data from unauthorized access and ensure the privacy of their patients remains intact.

JOB REPLACEMENTS

Potential loss of healthcare jobs is a genuine concern raised by the adoption of generative AI. However, it is important to recognize that this technology has the power to empower existing teams, enabling them to shift their focus to more value-added tasks - not eliminating positions. Humans must be in the loop to ensure accuracy, validate outcomes and make informed decisions. By leveraging generative AI, performance can be enhanced and overall job satisfaction can be improved.

PAYER-PROVIDER PUSHBACK

Certain domains of the healthcare industry may hesitate to integrate with a generative AI system due to concerns about its perceived impact on their data and workflows. Everyone is at a different stage in their AI awareness and journey, so it's important to meet key players where they are.



Transformative Use Cases

Despite initial apprehensions and roadblocks, Gen AI is poised to fill many gaps in healthcare, and offers a wide range of use cases that can transform the industry. Here are just a few:

AUTOMATING ADMINISTRATIVE TASKS

Gen AI streamlines administrative tasks like document ingestion and review and patient scheduling, enhancing efficiency and freeing staff for more value-add activities.

PREDICTING PATIENT RISK

By analyzing data, Gen AI can proactively identify patients at risk for certain health conditions or adverse events, enabling targeted preventive care and better outcomes.

PERSONALIZING TREATMENT PLANS

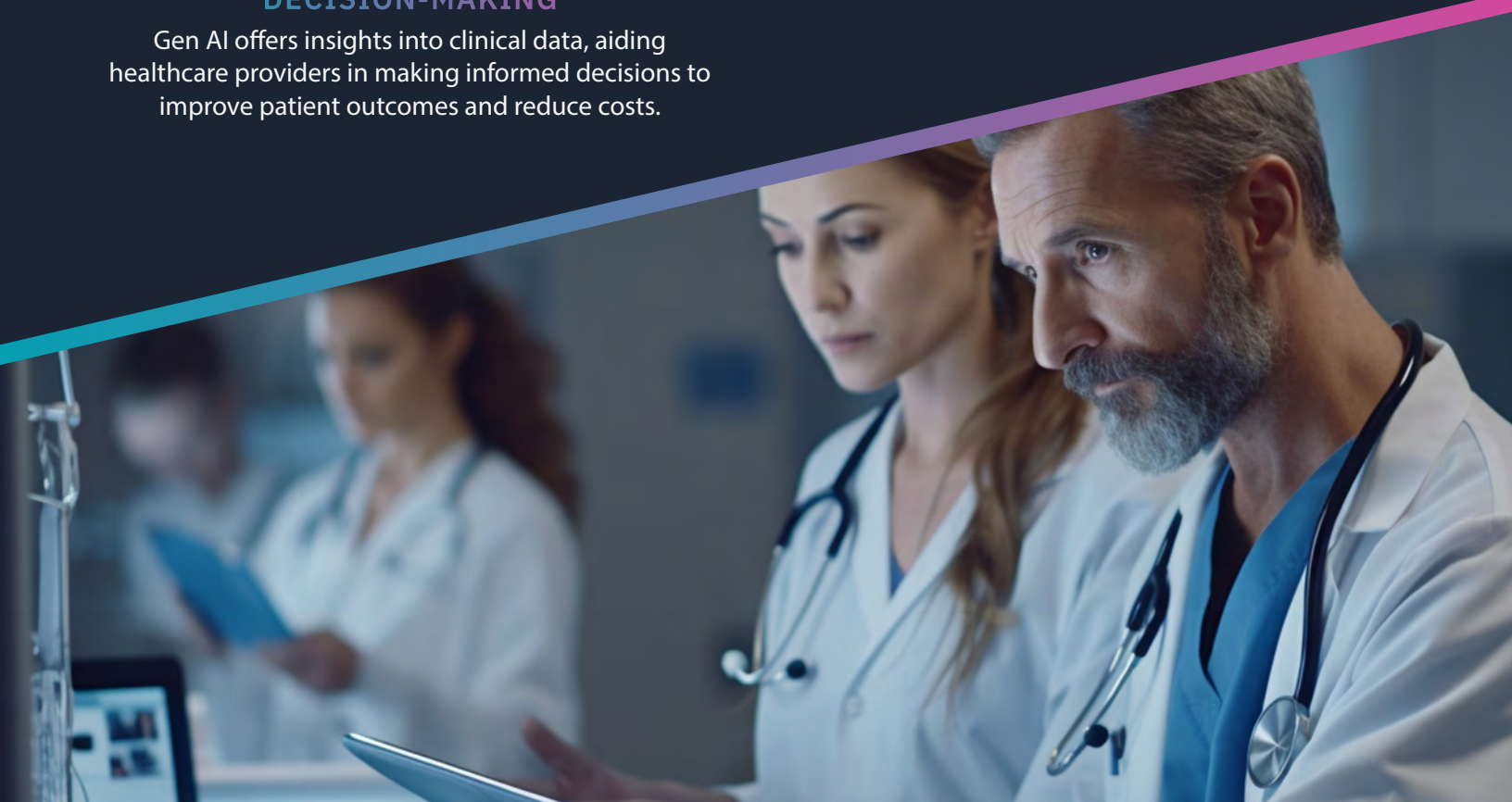
Gen AI crafts personalized treatment plans based on patients' medical history and preferences, optimizing effectiveness and minimizing complications.

IDENTIFYING FRAUD AND ABUSE

Gen AI detects patterns of fraud in healthcare claims, potentially preventing billions of dollars in losses each year.

ENHANCING CLINICAL DECISION-MAKING

Gen AI offers insights into clinical data, aiding healthcare providers in making informed decisions to improve patient outcomes and reduce costs.



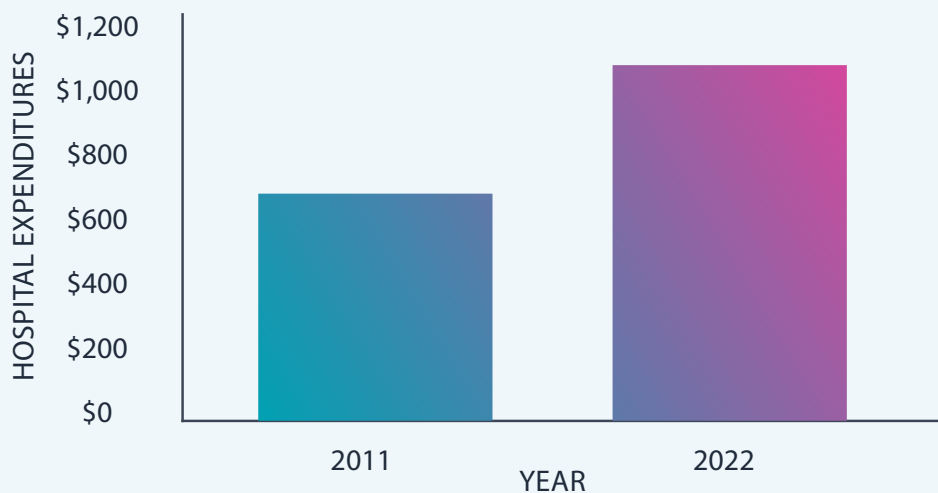
Revolutionizing Payment Integrity with Generative AI

Delving into the realm of Generative AI in healthcare reveals its potential to dramatically reshape payment processes. It holds tremendous promise for tackling the intricate and deep-rooted challenges associated with in-patient and facility claims processing due to the highly complex nature of the claims.

More than ever, the rising costs of hospital and inpatient care have underscored the urgent need for streamlined and more efficient payment processes. According to the Centers for Medicare & Medicaid Services (CMS), an estimated 589 million in-patient and facility claims were processed in the United States in 2020. Of these claims, 385 million were for in-patient hospital stays, and 204 million were for other facility stays, such as skilled nursing facilities, rehabilitation hospitals, and long-term acute care hospitals.

The number of in-patient and facility claims has been increasing steadily over the past decade and can be attributed to several factors. The aging population is a primary contributor, as older individuals typically require more medical care. The [Peterson-KFF Health System Tracker](#) shows a steady rise in US healthcare expenditures correlating with a rise in hospital stays, resulting in in-patient and facility claims. Researchers attribute these increased healthcare costs to several factors, including an aging population with long-term care needs and rising incidence of chronic diseases that necessitate prolonged and repeated hospitalizations and treatments.

HEALTH EXPENDITURES 2011 COMPARED WITH 2022



Year	Hospitals	Total National Health Expenditures
2011	\$720.92	\$2,676.54
2022	\$1,188.91	\$4,464.57

(Source: [Peterson-KFF Health System Tracker, Health Expenditures 2011 Compared with 2022](#)
[Peterson-KFF Health System Tracker, How health expenditures vary across populations](#))

The rise in claims is also fueled by the expanding use of advanced technology in medical care. These technologies enhance patient outcomes but come with higher costs, necessitating specialized facilities and equipment. This trend not only increases the volume of facility claims but also underscores the critical need for streamlined healthcare payment processing.

The Challenges of In-Patient and Facility Claims Processing

Complex and interrelated claims often involve multiple hospital stays across several care teams, along with numerous claims that relate to different tests, making reviews highly manual, complex and time-consuming. When conducting a claims audit, it takes a clinician 15 days on average to review a single in-patient or professional claim from the initial records intake until the process is complete.



Each step is intricate, contributing to a substantial administrative burden. This process involves multiple steps that may include:



Gathering and verifying patient information



Coding the medical services provided



Calculating the reimbursement amount



Submitting the claim to the insurance company



Processing the claim by the insurance company



Communicating with the patient about the claim

Moreover, the medical billing process, while essential for ensuring that patients receive the care they need and providers are reimbursed for their services, is a major source of inefficiency. The traditional methods of processing claims are also beset with potential for errors and delays, leading to increased costs and patient dissatisfaction.

Automating and Improving Payment Integrity with Generative AI

Gen AI transforms the tedious process of medical claims review by automating the tasks of gathering and analyzing large amounts of necessary documentation. This advanced technology not only streamlines workflows and reduces manual efforts, but also – when coupled with human oversight – can seamlessly integrate into existing clinical processes in order to provide faster and more accurate reviews.

Gen AI offers a number of clear advantages over traditional forms of healthcare payment processing:

DETECTING CODING ERRORS

Gen AI plays a crucial role in identifying coding inaccuracies in claims, ensuring submissions are accurate and reducing the risk of underpayments or overpayments.

PREVENTING DUPLICATE PAYMENTS

Gen AI can be used to prevent duplicate payments. This can be done by identifying claims that have been submitted multiple times, or by identifying claims that have been submitted for services that have already been paid.

IDENTIFYING FRAUDULENT CLAIMS

Gen AI can be used to identify fraudulent claims by analyzing patterns and anomalies in data. Through its advanced analysis of data patterns and anomalies, the technology can be used to identify claims that are submitted for services that were not actually rendered, or claims that are submitted for services that are not covered by the payer's plan.

ENSURING COMPLIANCE WITH REGULATIONS

Gen AI also can help ensure that payers are complying with regulations. This can be done by analyzing claims data to identify potential violations of regulations, or by developing models that can predict the likelihood of a claim violating a regulation.

AUTOMATING CLAIM REVIEWS

One of the most noticeable impacts of Gen AI is its ability to streamline clinician's audit reviews by providing access to AI-surfaced insights and an AI-powered audit assistant, right within their existing workflows. AI-powered assistants can surface the right information needed to quickly retrieve the necessary information for making determinations on pending audits.

Healthcare payers struggle with numerous aspects of claims payment audits that could be automated by generative AI

Workflow Management	0%
Manual Review	25%
Managing Documentation Requests	0%
Managing Documentation	0%
Inventory Management	0%
Workforce Capacity	17%
All of the Above	58%

(Source: Codoxo Customer Conference Poll, October 2023)



Imagine Boosting Efficiency by 80-90% With Gen AI

Claims processing tasks that currently take days can be completed in just one hour. Weeks-long processes can be streamlined to a single day. The true power of generative AI lies in its ability to instantly access massive amounts of information and then effortlessly surface new insights from that data through natural language.

Additional benefits this turbocharged AI offers healthcare payment integrity teams:



EMPOWER CLINICIANS TO WORK AT THE TOP OF THEIR LICENSES

Clinicians can escape from reviewing lengthy and time-consuming documents – often hundreds up to thousands of pages long – and focus on more value-added and strategic work.



ELIMINATE CLAIM REVIEW DOLLAR THRESHOLDS

Limiting reviews to only high-dollar claims will become a thing of the past. Gen AI will help remove review thresholds, allowing payment integrity teams to audit or investigate any and all claims regardless of dollar value.



FASTER AUDIT TURNAROUND TIMES

Clinicians will now complete audits in less than 24 hours and the average volume will increase from 2-3 audits per day to upwards of twenty.



IMMEDIATE OUTCOMES

Gen AI can integrate seamlessly with the customer's preferred implementation model and without specialized IT, offering immediate impacts across the pre-pay and post-pay lifecycle.



SIMPLIFIED DATA ACQUISITION AND AGGREGATION

Simply upload the documentation you already use day-to-day, such as policies, contracts, fee schedules, invoices, medical records, and itemized bills. Once ingested, the AI can go to work on analyzing and aggregating the data to produce time-saving insights impossible to derive from traditional data models.



A BETTER, FASTER CLINICIAN EXPERIENCE

More than just a technological centerpiece, Gen AI is interactive and offers investigators and clinicians ongoing prompts for human decision-making, feedback, and validation. This continuous feedback loop trains and refines the data to deliver accurate claims and audit results in a fraction of the time taken by traditional AI.



Best Practices for Getting Started

Like never before, the healthcare industry has a unique opportunity to embrace a game-changing technology that has the promise to transform payment integrity and cost containment outcomes. Today's new AI offers the remarkable ability to break down silos, automate manual and time-consuming tasks, improve workflows, and change the culture of healthcare in ways that lead to better overall provider, employee, and patient experiences.

However, keeping up with this fast-moving field will require careful strategy, planning, and education. Here are some best practices to consider.



Embrace Continuous Learning

Prioritize investing in your team's education by cultivating subject matter experts (SMEs) across your organization. Numerous companies are now appointing executives dedicated to AI or recruiting specialists to strategize on best practices. Additionally, seek partnerships with industry leaders who understand your niche and AI, fostering collaborations that can drive mutual success.

Identify Specific Use Cases

Keep an eye out for pain points within your organization that may be candidates for the benefits of generative AI. Engage your employees, customers, and other stakeholders in this process since their daily experiences may yield valuable insights for how to improve the environment and create more efficient workflows.

Assess Tools and Determine Strategy

Carefully review your data sources and decide if you're going to build out your own AI solution or use online capabilities. There are many services that supply algorithms, APIs, and development tools for deploying machine learning models, but it is important to ensure you select the right solution for your unique situation. When surveying your options, be sure to consider the following factors:

- Who are your target users or audience? Are there any special needs, inequities, or other factors that should be considered in reaching them?
- What user experience do you want to achieve?
- Where are your data sources?

Avoid “Shiny Objects” by Identifying the Right Partners/Skill Sets

Within the rapidly growing space of AI technologies, there are many new capabilities that are eagerly being pitched. However, as a healthcare organization for which data security is paramount, it’s crucial to ask yourself these key questions.

- What is my case?
- What data do I need to train it?
- How important is explainability?
- What business rules need to be applied?

Partnering with the right players with industry experience can be a game-changer and ensure your AI prototyping has positive outcomes.

Start Small and Scale Up

Begin your journey with generative AI by starting small. Assess your environment and then spin up an initial pilot to test hypotheses, find potential roadblocks, and optimize the model as needed. After completing the initial implementation, collect feedback and use this experience as an opportunity to share your insights with others in the organization. Also keep in mind that generative AI models require regular updates and enhancements to maximize the gains. The key is to get started and gather some initial wins!



Generative AI is often misunderstood, with its effectiveness heavily influenced by the quality of feedback and training it receives. Biases can be introduced early on based on the data selection, demographics of the sample, and even unconscious bias of the trainers. Recognizing the vast potential of AI also requires an understanding of its current limitations and potential pitfalls. What do you think?

Voice your thoughts in the industry’s first dedicated channel for artificial intelligence specifically for payment integrity professionals, [AI for PI Community](#).

Harnessing the Power of AI

Like any new technology, generative AI offers many challenges and opportunities. While each healthcare organization today is at a different level of AI maturity, there is no one-size-fits-all approach that works for everyone. Healthcare payers, agencies, and Pharmacy Benefit Managers (PBMs) all need to understand their specific goals and requirements.

Implementing generative AI strategically is not a once-and-done effort. It demands a phased approach, tailored to each organization's unique needs. No matter what pain points or challenges your organization may be experiencing, the key is to get started. The generative AI train will only continue to gain speed and momentum. By starting with a clear understanding of your business challenges and goals, you're taking the first steps towards achieving a seismic shift-left approach in your healthcare cost containment strategy.

The good news is that starting the generative AI journey is more accessible than ever, with a wide range of solutions and consultancies available to provide guidance and support. Joining with a reliable partner can put you on the path to holistically and measurably improving the full spectrum of your payment integrity and FWA, from pre-claim submission to audit and post-pay.

In Summary

The pace of AI in healthcare has gone supersonic, and creates nearly endless possibilities for revolutionizing payment integrity. At Codoxo, we believe it is our duty to lead the industry with responsible AI innovation to help shape a better future for America's healthcare system. To navigate this rapid evolution, consider Codoxo as a trusted partner to safely and powerfully accelerate your healthcare AI journey.

If you'd like to explore the potential of [Generative AI for Payment Integrity \(PI\)](#) and become part of this transformative movement, reach out today. Let's innovate, integrate, and make a lasting impact on the future of healthcare.



About Codoxo

With a mission to make healthcare more affordable and effective for everyone, Codoxo is the premier provider of artificial intelligence-driven solutions and services that help healthcare companies and agencies proactively detect and reduce risks from fraud, waste, and abuse and ensure payment integrity. The Codoxo Unified Cost Containment Platform helps clients manage costs across network management, clinical care, provider coding and billing, payment integrity, and special investigation units. Our software-as-a service applications are built on our proven Forensic AI Engine, which uses patented AI-based technology to identify problems and suspicious behavior far faster and earlier than traditional techniques. Codoxo is a Fierce Healthcare Innovation Award winner and has been recognized by the Inc. 5000 Regionals list for growth. Our solutions are HIPAA-compliant and operate in a HITRUST-certified environment.

To learn more about Codoxo and how our team is transforming healthcare, please visit <https://www.codoxo.com>. To speak to a Codoxo team member, please contact us at info@codoxo.com.

Join the AI for PI Community

Interested in becoming a member of a community that brings together professionals in the field of payment integrity? The AI for PI Community is dedicated to exploring and leveraging the power of artificial intelligence to optimize payment integrity.



Join the
[Slack Community](#)



Follow us on
[LinkedIn](#)

