Medical Record Review for Improper Payments

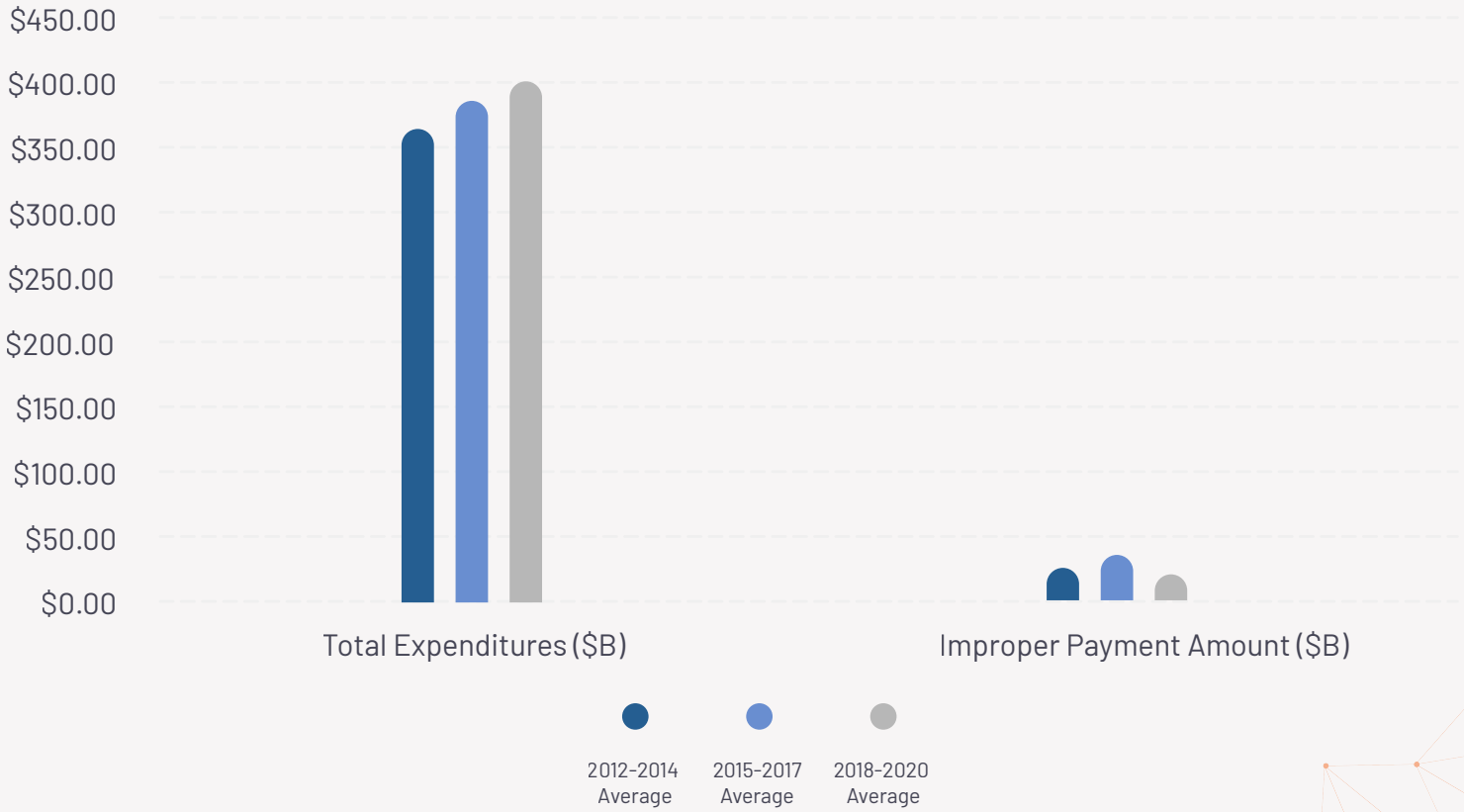
WHITEPAPER

INADEV

Problem Statement

The Improper Payments Elimination and Recovery Improvement Act of 2012 (IPERIA) intensifies efforts to identify, prevent, and recover payment error, waste, fraud and abuse within federal spending by requiring federal agencies to report annually to their Inspectors General on any high-dollar improper payments identified. The Centers for Medicare & Medicaid Services (CMS) measures Medicare Fee-for-Service (FFS) improper payments through the Comprehensive Error Rate Testing (CERT) program and reports such findings in the annual Department of Health and Human Services Agency Financial Report (HHS AFR). Between 2012 and 2020, CMS reported improper FFS payments totaling approximately $318 Billion, as per Figure 1. Further more, according to Sources Sought Notice SSN210993, "among the almost 1 billion claims processed and paid every year, fewer than 3 tenths of 1 percent receive any sort of medical record review. Put another way, 99.7 percent of all Medicare FFS claims are processed and paid within 17 days without any medical review." While more reviews by CMS could reduce improper payments, a human clinician checking patient medical records and the level of provider burden associated with such reviews is costly. New emerging technologies, such as Artificial Intelligence (AI) and Machine Learning (ML) have the potential to increase the number of Medicare FFS claims that receive medical record review by a factor of 20 (or more) and, in turn, substantially reduce the improper payment amounts accordingly.

Figure 1: National CERT Improper Payment Aggregate Data



INADEV's Solution

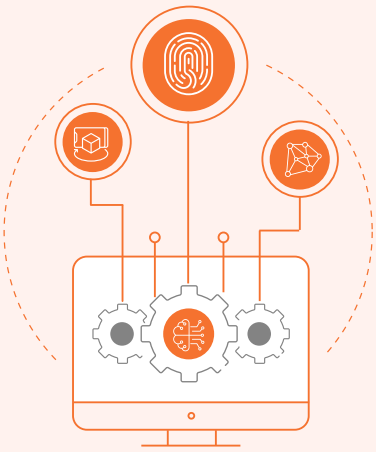
INADEV has comprehensive experience using advanced technologies to provide unique digital solutions. These solutions include:

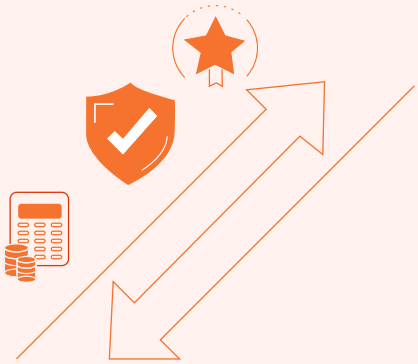
Biometrics

We provide innovative fingerprinting technologies such as mobile app self-service touchless fingerprinting to enable our federal and commercial clients to validate user identities using that person's iOS or Android device. This advanced capability reduces costs associated with adjudication and improves quality by eliminating human error.

AI & ML

We provide advanced technologies, such as AI, ML and Natural Language Processing (NLP) to enable our federal and commercial clients to distinguish legitimate and fraudulent behaviors and reveal previously unseen patterns and fraud tactics.





Rapid Application Development

We design, create, deliver and maintain software suited for the unique requirements of our federal and commercial clients that rapidly delivers their product to market. Low-code solutions maintain the flexibility of custom software development with the accelerated timelines of a configure-not-code solution.

Figure 2 illustrates our approach to deliver such advanced technologies for Medicare FFS claims review. This design approach combines existing technologies that have a proven track record in medical claims review with our best practices in human centered design and design thinking methodology. Using our rapid application development technologies, we can readily integrate two discrete Commercial-off-the-Shelf (COTS) products (Advance Track and CAVO®) into a homogeneous cutting-edge technology solution (the Medicare FFS Payment Review System) for use in identifying improper billings and payments of Medicare FFS health care claims.

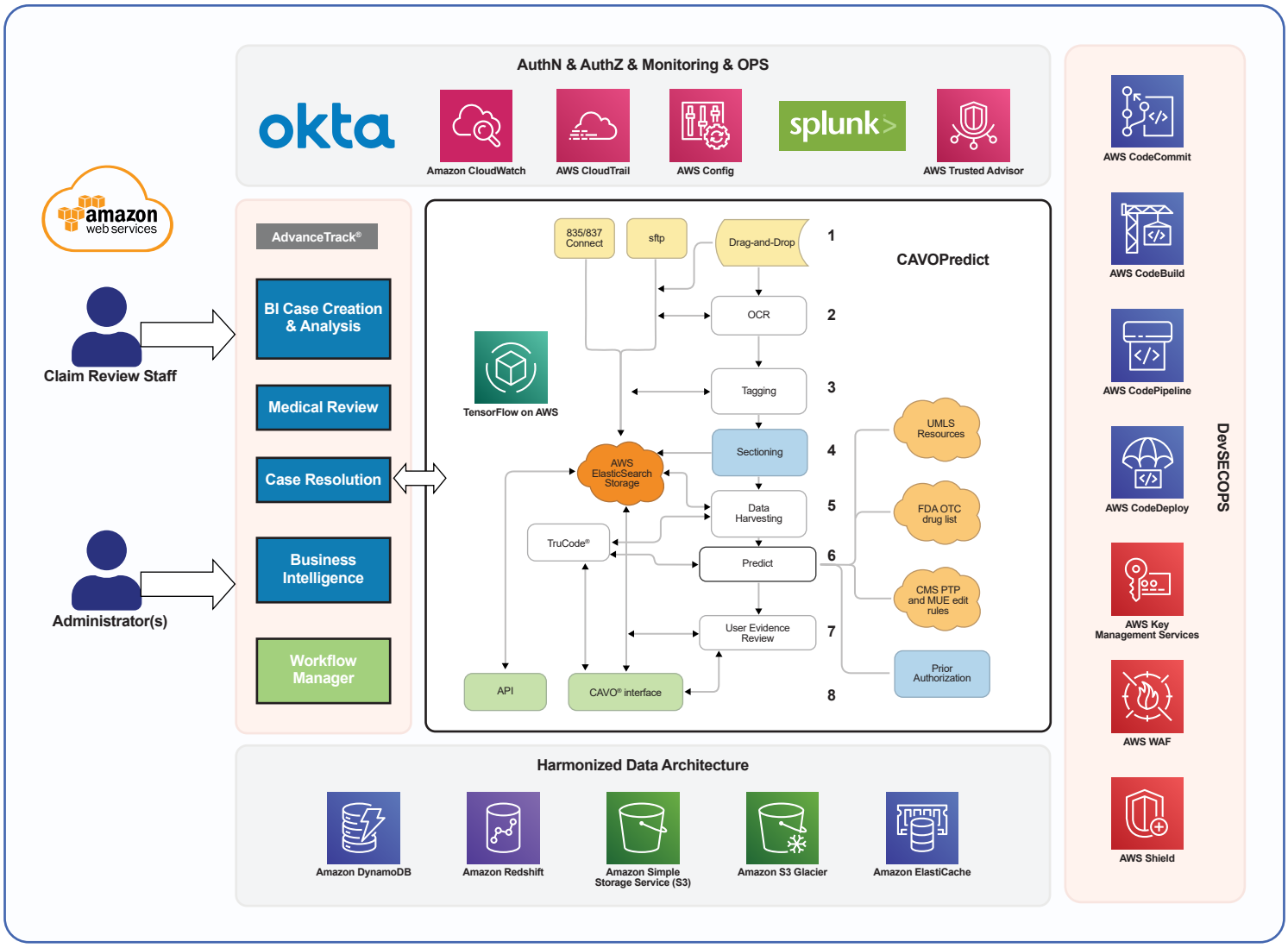


Figure 2 - INADEV Medicare FFS Payment Review System Architecture

The AdvanceTrack® COTS system[ii] is a comprehensive case management and tracking application designed for medical review and Program Integrity (PI) operations. The AdvanceTrack® application is a single, integrated case management solution for case creation and analysis, medical review, and business intelligence. AdvanceTrack® is one of the most advanced PI case tracking systems currently available.

The CAVO® (Latin for dig) COTS system[iii] is a highly scalable enterprise platform for medical claims review that is designed to streamline the medical claims review process. With CAVO®, users can digitally search thousands of medical claim documents while comparing billing information through the embedded coder, Trucode®, to efficiently make decisions for a wide variety of medical reviews, such as medical necessity audits, diagnosis-related group (DRG) validations, coding audits, provider bill audits, provider correspondence and document requests. CAVO® Predict (the ML and NLP component) flags suspect charges using algorithms customized to a client's review processes and guidelines. Rather than exhaustively reviewing documentation, suspect charges are highlighted for human review and decision determination. CAVO® Connect, the EMR component, enables a client to directly access clinical information (medical records, itemized bills, and additional clinical data) through FHIR messages needed to perform claims reviews. This technology minimizes the burden to providers and streamlines the timeline for receipt of all needed clinical review data. CAVO® Connect is available through the largest EMRs including Cerner and Epic.

CAVO® brings images, claims data, and EMR data into a single data repository, and identifies medical claim information based upon pre-defined rules and analytics to produce review/findings packets containing the decision-relevant elements of the claim. CAVO® indexes structured and unstructured data into a highly scalable solution allowing for enhanced analytics within a case (e.g., claim) or across multiple cases. For example, CAVO® will identify groupings, sequencing, and common billing errors including NCD/LCD, MUE, OCE, and PTP edits. Additionally, NLP and ML models are available to further streamline the workflow process by prioritizing claims and flagging suspect line items based on the type of claim.

INADEV provides the system integration services, API Development services, subcontractor governance services, system delivery services, helpdesk support services and operations and maintenance services for this fully integrated Medicare FFS Payment Review System. We maintain the system security,

operations and DevSecOps with ATO readiness. The integrated system avoids duplicative administration by integrating the two COTS platforms seamlessly with APIs, makes use of modern development practices and leverages the shared services available in the CMS AWS Cloud (e.g., Lambda, Dynamo NoSQL database, API Gateway, DevOps, etc.). This includes services for data management, data security and data harmonization across a variety of data types – from files, databases, annotations, and metadata – by performing a common data source aggregation for proper analysis, reporting and consistency.

Furthermore, INADEV has hands-on experience implementing the various controls and security guidelines in the NIST 800-53 rev. 4 risk management framework (RMF). INADEV has used this framework and undergone the ATO process with the United States Census Bureau, Department of Homeland Security, and other federal agencies.

Conclusion

Currently, approximately 12,000 of the 4 million claims processed each day are subject to the Medicare FFS claims review process. Furthermore, approximately 876 (7.3%) of all reviewed claims daily are found to have improper payments. Given that average value of each claim is approximately $399, the value of all claims processed each day is approximately $4.7M. With the INADEV Medicare FFS Payment Review System (the INADEV Solution), CMS could potentially realize a 20-fold productivity increase when compared to their current claims review process, as per the table below.

Projected Gains for Medicare FFS Claims Review		
Category	Current State	With the INADEV Solution
Claims review/day (count)	11.9K	238K
Claims review/day (value)	$4.7M	$94.9M
Claims review/year (count)	3M	60M
Claims review/year (value)	$1.2B	$23.9B

Projected Gains for Improper Payments (IPs) Found		
Category	Current State	With the INADEV Solution
IPs found/day (count)	876	17.4K
IPs found /day (value)	$349.2K	$6.9M
IPs found /year (count)	220.8K	4.4M
IPs found /year (value)	$88M	$1.7B

i. See 2020 Medicare Fee-For-Service Supplemental Improper Payment Data, U.S. Department of Health & Human Services
ii. AdvanceTrack® is a product offering of CoventBridge (USA) Inc., a leader in providing technology solutions and investigative services to government, insurance, and commercial business sectors across the United States.
iii. CAVO® is a product offering of Advent Health Partners, Inc., a healthcare technology company focused on efficiently driving appropriate reimbursement through the claims review process.