




CASE STUDY

TRANSFORMING EMERGENCY DEPARTMENT MEDICAL CODING AT INOVA

Supporting Coders, Reducing Costs, and Improving Charge Capture with Nym's Autonomous Medical Coding Engine





Summary

The Situation: The persistent medical coder workforce shortage, in combination with the complex nature of emergency department (ED) coding workflows and high ED patient volumes, led to the following challenges for Inova:

-  Required overtime and limited PTO for in-house medical coders
-  Reliance on expensive contract medical coders
-  Delayed payment cycles and medical coding backlogs

The Solution: Inova partnered with Nym, leveraging the company's autonomous medical coding engine for ED facility coding across five hospital EDs and several outpatient emergency care centers. Following the success of the initial partnership, Inova expanded the project scope and deployed Nym's partial coding product across those same facilities.

Impact

-  Eliminated mandatory OT and limited PTO for medical coders
-  \$500K+ reduction in annual ED medical coding costs
-  50% decrease in weekly revenue sitting in ED DNFB
-  10% increase in average charges per ED encounter

"Initially a skeptic of autonomous medical coding, my experience with Nym has completely changed my perspective. One year post-implementation, Nym has far exceeded my expectations—not only maintaining Inova's ED coding accuracy while improving efficiency, but also creating opportunities for some of our coders to expand their skills and enhancing work-life balance for our entire ED team."

- Dr. Melissa Koehler
Director of Coding, Inova Health System



The Situation: Navigating the Pressures of High-Volume EDs and Workforce Shortages

Inova is the leading nonprofit healthcare provider in Northern Virginia. With over four million patient visits annually, Inova continuously invests in innovative technology to improve patient care and drive operational efficiency across its expansive network of hospitals, specialty practices, and outpatient facilities. Of the four million annual patient visits, over 500,000 come from Inova's emergency department (ED) facilities, which includes the top-ranked and third-busiest ED in the country at Inova Fairfax Hospital.

With such high ED visit volumes, it is no surprise that Inova felt the pressures of the industry-wide medical coder shortage. Difficulty hiring qualified medical coders, combined with the complex nature of coding workflows in the ED, forced Inova to rely on contract coders and overtime (OT) requirements from in-house coders to keep up with the increasing ED volume.

Even with the contract coders and OT requirements, Inova struggled to keep up with its ED patient volumes, leading to high Discharged Not Final Billed (DNFB) volumes and a coding backlog.

These challenges led Inova to search for a medical coding solution capable of alleviating administrative burdens for its in-house coding team, eliminating reliance on expensive coding practices, and accelerating payment cycles.

Additionally, Inova required an easily scalable solution capable of supporting its long-term growth and providing resilience in the face of increasing patient volumes.

The Challenges:

Administrative Burden

Overtime requirements for in-house coders and limited PTO led to a work-life imbalance.

Expensive Medical Coding Practices:

Reliance on expensive contract coders and overtime requirements for in-house coders drove up coding costs.

Delayed Payment Cycles: Unable to keep up with the high ED volumes, Inova experienced high DNFB volumes and coding backlogs that ultimately delayed cash flow.



Inova Health System
Falls Church, VA



#1 Ranked Hospital in the DC
Metro Area (Fairfax Hospital)



Over 4 million Annual
Patient Visits



Over 500,000
Annual ED visits

The Solution: Implementing Nym's Autonomous Medical Coding Engine for ED Facility Coding

After assessing several medical coding solutions, Inova selected Nym as its preferred partner and deployed Nym's autonomous medical coding engine for ED facility coding across five hospital EDs and several outpatient emergency care centers in early October 2023. In late February 2024, Inova expanded the scope of the partnership and went live with Nym's partial coding product to further optimize coding operations. Nym's engine currently automates facility coding for 60%+ of Inova's ED visits while maintaining accurate coding as defined by Inova's internal guidelines and external payer policies.

The Results: Delivering True Operational and Financial ROI

Since implementing Nym's autonomous medical coding engine, Inova has experienced significant improvements across multiple facets of its medical coding operations and revenue cycle performance. From better work-life balance for its in-house coding team to significant reductions in coding costs, Nym has delivered true operational and financial ROI and transformed medical coding for Inova moving forward.

Powered by innovative clinical language understanding (CLU) technology and rules-based medical coding ontologies, Nym's engine translates provider notes within patient charts into medical codes in seconds with over 95% accuracy and absolutely zero human intervention.



Eliminated mandatory OT and limited PTO for medical coders

- Inova has removed all OT requirements and no longer has to limit PTO for its in-house coders, significantly improving work-life balance.
- Inova no longer relies on any contract coders and has not re-engaged with contract coders since implementing Nym's engine.
- Inova promoted four ED coders to higher complexity areas shortly after going live with Nym.



\$500K+ reduction in annual ED medical coding costs

- Inova has saved over \$400K in annual ED coding costs by removing OT requirements for in-house coders and eliminating the need for expensive contract coders.
- Inova is saving approximately 3,000 full-time employee hours annually by implementing Nym's partial coding product, translating into over \$100K in additional ED cost savings.



50% decrease in weekly revenue sitting in ED DNFB

- Inova reduced its ED coding backlog by 48% almost immediately after implementing Nym's engine, enabling its coders and Nym's engine to focus on current encounters.
- Inova decreased the weekly delayed revenue associated with ED DNFB volumes by an average of 50%, thereby accelerating payment cycles.



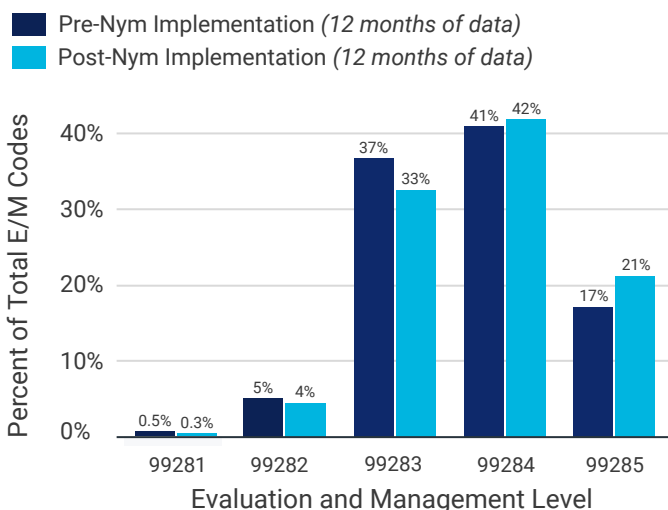
10% increase in average charges per ED encounter

- While not a primary goal of implementing autonomous coding, Inova's average charges per ED encounter has increased by over 10% since going live with Nym. This increase is attributed to Nym's engine capturing more bedside procedures, capturing more Evaluation and Management (E/M) level 4's and 5's (see *Figure 1*), and being more consistent with injections and infusions coding and charge capture.

Looking Forward

The success of Inova's partnership with Nym for ED facility coding has exceeded expectations and opened an avenue for expansion into additional specialty areas such as outpatient visits and outpatient surgery. By continuing to leverage Nym's leading autonomous medical coding solution, Inova is well-positioned to remain a leader in healthcare innovation, ensuring sustainable growth and operational excellence for years to come.

Figure 1: Inova's ED E/M Level Distribution Pre-Nym Implementation vs Post-Nym Implementation



About Nym

Nym is the leader in transforming clinical language into actionable information, which can remove inefficiencies that add billions to the cost of care. By combining industry-leading technology with clinical expertise and a deep understanding of medical language, Nym is able to accurately decode medical charts in a way that is fast, explainable, and compliant. The Company's innovative solution for revenue cycle management (RCM) takes provider notes within patient charts and translates them into accurate diagnostic and billing charge codes, all within a matter of seconds and with zero human intervention. Along with over 95% accuracy, Nym's RCM solution delivers audit-ready, traceable documentation for every code it generates, ensuring total visibility into why each code was assigned. The Nym solution can be quickly deployed and scaled based on volume and workflow needs, easing administrative burdens and allowing clinical teams to spend more time focused on patient care.

Interested in learning more about how Nym's autonomous medical coding engine can drive value for your organization? Get in touch with a member of our team!

[SCHEDULE A DEMO](#)