



Combating Health Care Fraud, Waste, and Abuse

Efficient Data Capabilities ↔ Effective Mission Outcomes

Leveraging Data Strategically via Innovative Agreements



Innovation Partners At a Glance

Office of Inspector General (OIG),
U.S. Department of Health & Human Services (HHS)

OIG's mission is to protect the integrity of HHS programs as well as the health and welfare of the people they serve.

OIG provides independent and objective oversight of more than 300 HHS programs, which represent 24 cents of every Federal dollar spent. The Health Care Fraud and Abuse Control program, of which OIG is a key partner, returned more than \$5 for every \$1 invested.



The U.S. Commerce Department's National Technical Information Service (NTIS) delivers a Fed-to-Fed framework for data science innovation through precedent-setting partnerships with industry, universities and non-profits.

HHS has over a trillion-dollar portfolio. Within HHS OIG, we are the change agents focused on empowering staff to use data proactively. HHS OIG's multi-disciplinary, geographically dispersed team needs to have "data at their fingertips," meaning they need to easily and rapidly access and analyze data to identify and target potential fraud schemes and areas of program waste and abuse. How can we use data even more to accelerate that process?

We leveraged the NTIS data innovation framework and gained access to tremendous private-sector partnerships. We now have our first Agile-delivered application in a secure cloud-based platform – an enterprise dashboard. We also created a new OIG Analytics Hub to provide quick analytic results. These remarkable capabilities enable staff to identify emerging issues through data and automated risk assessments, and then effectively prioritize the activities of our OIG oversight and enforcement resources.

*Caryl Brzymialkiewicz, PhD
Chief Data Officer, HHS OIG*



Challenge

HHS touches the lives of all Americans through programs that provide health insurance, promote public health, protect the safety of food and drugs, and fund medical research, among other activities. About 1 in 3 Americans receive support from Medicare and Medicaid, which involved \$1.24 **trillion** in services for FY 2016.

As healthcare systems become more complex, fraud cases may become more sophisticated. These factors are driving the need for more integrated, efficient operations to tackle the challenges in this broad portfolio.

"How can we provide our 1600+ nationwide auditors, evaluators, investigators and attorneys with modern data and analytic capabilities to help target their work and execute their missions?" asked Dr. Caryl Brzymialkiewicz, HHS OIG's chief data officer. Dr. Brzymialkiewicz viewed the need for self-service team tools, but also for deeper predictive analytics. "Could we leverage our data to identify vulnerabilities or patterns to proactively address emerging hotspots – while facilitating a shared understanding among our dispersed teams?"



Screenshots of OIG's Enterprise Dashboard and Analytics Hub

We're using data science innovation to grow the OIG's mission capabilities using these new evidence-based tools.

We're focused on audits and evaluations, not just the law enforcement piece.

*We're really trying to **help OIG know, what OIG knows** to allocate resources more effectively.*

- Caryl Brzymialkiewicz, PhD
Chief Data Officer, HHS OIG

Solution

Incubating innovation: As a trusted Fed-to-Fed advisor, NTIS guided the HHS OIG team through its data science innovation process. OIG leveraged this model to discuss its data challenges, critical factors, and mission goals with NTIS – well before selecting a private-sector partner or specific technologies.

Based on this framework, OIG planned a multi-phase, iterative Agile development process. Following the NTIS whiteboarding session, a joint venture partner was competitively selected to:

- Modernize OIG's legacy platforms;
- Provide mobile and remote access for a

dispersed workforce across nine regions;

- Provide geospatial capabilities within applications to better analyze localized trends for improper payment recovery efforts;
- Create a flexible predictive and threat analytics platform that keeps pace with dynamic caseloads and supports OIG prevention or enforcement activities; and,
- Incorporate information security to protect restrictive and personal data; and to ensure compliance with the Health Insurance Portability and Accountability Act and Federal policies related to the protection of PII.

Results

OIG's culture of data innovation involves people, data and tools -- collectively yielding a greater mission impact.

Outlier Detection:

A podiatrist pled guilty to a \$1.5 million-dollar scheme. According to the data analysis, he was in the top one-percent of government billers nationwide for a procedure to remove "skin and muscle." However, what the podiatrist was really doing was toenail clipping and charging Medicare and TRICARE. An OIG analyst, who spent one month with agents in Florida as part of an Excellence in Government rotation, utilized data analytics to detect this billing fraud.

Predictive Models

Risk models can be a powerful investigative tool, especially when results are shared, understood, and evaluated by investigative teams. For example, after an OIG training session, special agents in Miami followed up

to learn more about the pharmacies with high risk scores in their local area. Their collaborative data analysis led to a new investigation of a \$35 million fraud scheme involving pharmacies, a home health agency, and a doctor.

Inter-Departmental Collaboration:

The OIG analytic team also supported DOJ and the Office of Investigations with extensive analysis to assist with a case that resulted in an indictment for more than \$1 billion in fraudulent billings to Medicare. The lead prosecuting attorney informed OIG that its analytic work helped the prosecutor understand the full scope and helped them indict six months sooner.

Data Driven Planning:

OIG's Enterprise Dashboard has successfully supported oversight work, integrating data from legacy systems to inform decisions about new work; and it has also enabled the beginning of a long-term cultural transformation.

