

A Briefing
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Technology Tackles Waste, Fraud and Abuse

\$345 billion is the amount of owed taxes the Internal Revenue Service fails to collect each year, the agency disclosed in January. Meanwhile, the Medicare and Medicaid programs lose an estimated \$65 billion annually through “improper payments,” and fraud and waste in other government programs – from student loans to food stamps to unemployment insurance – push improper payments above \$125 billion, according to the Government Accountability Office (GAO). That means a full 5.5 percent of all government payments are improperly distributed. Add to that sum billions of dollars poured into weapons programs that fail, bridges to nowhere and duplication among federal agencies – 13 agencies fund 209 different science, technology, engineering and math education programs.

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Fraud has many faces: Workers continue to collect unemployment insurance despite finding jobs; scammers pose as students to collect grants and loans; contractors bill for fictitious employees and charge for work that wasn't done. Fraud is the intentional act of deception for inappropriate gain, according to the GAO. Waste includes unintentional overpayments and extravagant, careless, or needless expenditures. Then there's abuse – unacceptable business practices that perpetuate waste, the GAO says.

But many improper payments also result from wasteful mistakes. Agencies send money to the wrong recipient, or they send too much. Perhaps an agency approves payments that should have been denied, or in the IRS' case, an agency does not collect what is owed.

The White House and Congress have launched multiple attacks on waste, fraud and abuse. Recent efforts include the 2011 Campaign to Cut Waste, the Recovery Accountability and Transparency Board to curtail fraud in the \$787 billion Recovery Act, and multiple efforts aimed at curbing Medicare and Medicaid fraud.

But auditors and management experts say more must be done. The National Academy of Public Administration is urging federal agencies to employ the power of increasingly sophisticated information technology to attack waste and fraud – predictive analysis for detecting contract and grant fraud, textual analysis tools to mine unstructured data, and tapping into more state and local business data sources. Technology is helping agencies fight back.

Software for Medicare

Beset by enormous fraud problems in Medicare and Medicaid, the Department of Health and Human Services (HHS), the Department of Justice (DoJ) and the Federal Bureau of Investigation (FBI) created its Medicare Fraud Strike Force in 2007. Its investigators and prosecutors rely increasingly on information technology to battle fraud.

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By accessing multiple health care databases, for example, alerts can notify fraud investigators when a bill charges for multiple wheelchairs and a single patient. Geographic data makes it easier to spot doctors who seem suspiciously distant from their patients. In July 2011, Medicare managers began using predictive modeling software to spot fraud. It is the same technology credit card companies use to spot purchases that deviate from their card holders' usual buying patterns.

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HHS and the FBI credit “advanced data analysis techniques” with helping to recover an unprecedented \$4.1 billion that was “stolen or otherwise improperly obtained from federal health care programs” in 2011.

It's an impressive sum, but it barely puts a dent in the \$65 billion-a-year problem.

War on Waste

The Defense Department (DoD) struggles with fraud, but it confronts an equally egregious problem of waste.

An eight-member Commission on Wartime Contracting in Iraq and Afghanistan reported in August 2011 that the Pentagon has lost \$60 billion to contract waste and fraud in the wars in Iraq and Afghanistan. “The biggest challenge is waste,” the commission said.

DoD spent billions on non-competed contracts for food, water and supplies, and another \$82 million to build an Afghan Defense University that proved too expensive for Afghanistan to operate. Clinics built in Iraq are vacant because the Iraqis cannot man or maintain them. Road construction costs doubled, then continued to rise.

The commission blamed poor decision making, vague contract requirements, adequately trained project overseers, duplication, unsustainable projects, inadequate business processes and late audits.

The problems stretch beyond Iraq and Afghanistan. The military services have a long history of pouring money into research and development programs that can fail – from the \$5.2 billion Airborne Laser to the \$3.3 billion Transformational Satellite System. The Army alone spent \$32 billion over 15 years on 22 major weapons programs that, in the end, were abandoned, including the Crusader cannon, the Comanche helicopter and the Future Combat Systems modernization program. The Army, which commissioned the study that compiled this grim list, labeled its own performance “unacceptable.”

After more than a decade of cuts to the acquisition workforce, the Pentagon is gradually rebuilding its in-house contract oversight capability.

Tax Code Convolution

Growing complexity of the U.S. tax code and frequent changes in tax rules make it increasingly difficult for the Internal Revenue Service (IRS) to do its job, which is collecting taxes, says National Taxpayer Advocate Nina Olson.

There were 4,430 changes to the tax code from 2001 through 2010 and 579 changes in 2010 alone, Olson reported to Congress in January 2012. A growing number refundable credits have unleashed a flood of phony refund claims, many by swindlers who file bogus refund claims using identities stolen from other taxpayers.

Congress has cut funding for the never-popular tax agency, and that limits the IRS' ability to pursue unpaid taxes, Olson said. As a result an estimated \$385 billion now goes uncollected annually.

The IRS is turning to automated systems for help. Its Electronic Fraud Detection System identified more than 1 million possibly fraudulent returns last year – a 72 percent increase over 2010.

This year the IRS is increasing its use of anomaly detection, predictive modeling, data mining and social network analysis to detect fraud and catch mistakes.

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Technology as a Tool: SAP's Approach

Discovering fraud and waste is the key to reducing it, and the first step, say experts, is digging useful information out of multiple, scattered databases.

To tackle medical fraud, for example, it helps to know who is sending in the bills. Medical license numbers, office addresses, names of employees and practice owners all provide insight. Automated systems can combine fragmented data that's spread across an array of sources, enabling analysts to compile a telling picture.

A check of bills and medical license numbers by software vendor SAP in 2011, for instance, raised suspicion that a doctor in California might be using a stolen license number to submit medical claims. Confirming the suspicion were checks of the doctor's employees, the owner of his practice, his patients, his billing patterns, the types procedures he performed and complaints filed against him. Further investigation established ties between the doctor and a vast network of fraudsters. Arranged by software, it became a sprawling but comprehensible visible web on a computer screen.

“What might appear to be a valid doctor, patient or provider can easily be a fraudulent transaction covered by identify theft,” said Bruce Levick, national business development manager for SAP's public services division.

Once patterns of fraud have been analyzed, they can often be used to spot similar patterns also buried deep in data.

Identifying waste can point to needless expenditures, that then lead to optimizing business performance, process modernization and technology integration. SAP calculations show that reducing improper payments by a mere five percent at six federal agencies like HHS, the Department of Labor and the Social Security Administration could amount to more than \$5 billion in savings per year.

But it's not always simple. From the perspective of eliminating 'Waste', SAP 'Fraud, Waste and Abuse' practice share an example of billions of potential savings in maintaining underutilized federal office space. “In this case and others like it, while technology alone is not the answer, it can play a vital role to bringing comprehensive visibility. Technology can provide mapping of assets and resources against business functions and help with efficient scheduling of usage of facilities,” says Ramani Vaidyanathan, Program Director of SAP.

The “use of improved tools and techniques will greatly ease access and analysis of data, organizing the information and making discoveries out of them in real time,” according to Vaidyanathan.

About SAP

SAP sets a new standard for innovation and performance in the public sector with integrated solutions that apply database technology, business analytics, applications, cloud computing and mobility to solve their toughest challenges. Whether they are managing core government functions or delivering mission-critical operations, SAP brings intelligent ideas to the public sector with integrated solutions that deliver results.

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Policies may play a vital role to increase information sharing, and agency employees must be trained in techniques to detect fraud, reduce waste and recover improper payments. But automation technology can enable prompt detection and swift reaction. SAP supports, for example, efforts to establish a "Do Not Pay List" (DNPL) to provide a baseline for the payment process. Recognizing potential flaws in business process or systems due to poor data quality, agencies require robust implementation schemes for of DNPL solutions, according to SAP. With fast, in-memory computing based on SAP HANA and a standardized business intelligence framework--configured to render unified views on programs, services and beneficiaries--will help determine and validate eligibility, manage payment and delivery of funds proactively, before fraud, waste and abuse occurs.

—By William Matthews with Zoe Grotophorst (editor)

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