Developing an End-to-End Fraud Solution for Government Agencies
Developing an End-to-End Fraud Solution for Government Agencies

1. Program Integrity Imperatives
2. Smarter Analytics Anti-fraud Solution
3. Success Stories
Fraud schemes are becoming more complex and difficult to identify. Losses cost enterprises billions of dollars annually.

- Estimated loss due to healthcare fraud: $226B
- Workers compensation claims which are fraudulent: 25%
- Estimated loss in US due to insurance claims fraud: $79B

Sources:
- Healthcare – National Health Care Anti-fraud Association
- Worker’s Compensation – US Chamber of Commerce
- Revenue Loss - Association of Certified Fraud Examiners
- Insurance – Coalition against fraud
Organizations that measure fraud scientifically identify and pursue fraud cases faster and more cost-effectively

- Which entities are behaving differently than others?
- How “good” or “bad” is an entity behaving, relative to other entities?
- What is “normal” behavior?

Outlier Detection

- What are patterns of non-compliant (and criminal) behavior that I don’t know about?
- If I find suspicious behavior, how can I find out who else is behaving like that?
- Are there groups of entities behaving the same way?

Data Mining & Clustering

- Which entities are likely to behave “badly” in the future?
- What are the indicators that an entity’s behavior is getting “better” over time? “Worse” over time?
- What is the probability that this transaction will prove to be fraudulent?

Predictive Models
A comprehensive approach helps organizations **find suspicious behaviors** that are buried within massive volumes of data.

**IBM Fraud Business Architecture**

- **Identify Vulnerabilities**
  - Identify Schemes
  - Estimate Exposure
  - Probe Weakness
- **Detect Transactions**
  - Identify Leads
  - Process Referrals
  - Create Models
  - Execute Models
- **Evaluate Workload**
  - Screen Leads
  - Select Leads
  - Prioritize Cases
- **Conduct Remediation**
  - Assign Cases
  - Work Cases
  - Enforce Compliance Plan
- **Process Appeals**
  - Receive Appeal
  - Adjudicate Appeal

**Manage Workload**

**Manage Enterprise Business Processes**

**Manage Domain Data**
Governments **need new ways** to detect suspicious behavior and adapt to emerging schemes

**Program Integrity Imperatives**

- Identify potential fraud before payment, reducing expensive recovery actions
- Detect multiple behaviors and schemes simultaneously
- Analyze claim and entity level information to detect suspicious patterns
- Provide evidence-based identification of target cases for investigation
Developing an End-to-End Fraud Solution for Government Agencies

1. Program Integrity Imperatives
2. Smarter Analytics Anti-fraud Solution
3. Success Stories
IBM Smarter Analytics Signature Solution
Anti-fraud, Waste and Abuse

Detect suspicious transactions prior to payment, minimize loss from overpayments, and recommend method of intervention

Solution overview
Provide prepayment fraud detection with adaptive system that learns from the latest data
• Detect suspicious transactions using predictive models and smarter business rules
• Harness analytics to recommend best method of interaction for each transaction

Solution benefits
• Dramatically reduce costs from fraud and abuse
• Pay valid transactions faster and with greater certainty
• More efficient use of investigative resources reduces costs and increases rate of return

Business outcomes
• State government stopped fraud prior to payment and saved on average $220 million annually
• Healthcare provider significantly reduced false positive rate from 79 percent to 29 percent
IBM Smarter Analytics Signature Solution
Anti-fraud, Waste and Abuse

How it works

Assess Vulnerability
- Identify significant schemes and vulnerabilities
- Build and test predictive models
- Measure financial and reputational risk

Detect and Stop Fraud
- Generate smart business rules based on statistical scoring and outlier detection
- Generate highly-sophisticated predictive models
- Real-time scoring
- Integrate rules and models with claims processing systems
- Take direct and pre-emptive action
- Identify and intercept suspicious cases, pre-payment

Manage case load, investigate suspects
- Assign, manage cases
- Monitor case load
- Analyze case intelligence
- Conduct link analysis
- Document & share case intelligence
- Enforce compliance plan
- Measure results
- Feedback results for closed loop learning

Information Management Foundation
- Trusted Data Integration & Delivery
- Business Intelligence Workload Management
- Enterprise Data Security & Compliance

Advanced analytics used to detect fraud, manage case volume, investigate fraud schemes and support prosecution
IBM Smarter Analytics Signature Solution

Anti-fraud, Waste and Abuse

What’s unique?

**Advanced Analytics**
- Market-leading tools for predictive and advanced analytics
- Access latest from IBM Research Labs

**Existing Fraud Models**
- Proven in other governments, both large and small
- Shared knowledge of schemes
- Find fraud faster

**Massive Data ‘Crunching’**
- Analyze large data volumes with speed & accuracy
- Ability for real-time detection

**Integrated into Transactional Systems**
- Detect/intercept suspicious transactions prior to payment

**Fraud Experts**
- Deep knowledge of fraud schemes
- Cross-industry fraud expertise
IBM Smarter Analytics Signature Solution
Anti-fraud, Waste and Abuse

IBM services
- Fraud & Abuse Diagnostic
- Fraud & Abuse Management System Asset
- Anti-fraud, waste, and abuse solution design & implementation

IBM software
- IBM SPSS Decision Management
- IBM Cognos BI
- IBM Case Manager
- IBM InfoSphere Information Server

IBM research
- Predictive analytics algorithms and techniques
- First of a Kind combined client/Research projects
- Advanced industry-specific optimization enhancements

Value to You
- Accelerate time-to-value through repeatable solutions
- Cost reduction by preventing payment on suspicious claims
- Adaptive system that “learns” from the latest data, protecting against emergent fraud approaches
- Outcome-based approach that drives business value at each step in the journey

IBM Systems and Technology
# Developing an End-to-End Fraud Solution for Government Agencies

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Integrity Imperatives</strong></td>
<td><strong>Smarter Analytics Anti-fraud Solution</strong></td>
<td><strong>Success Stories</strong></td>
</tr>
</tbody>
</table>
Government Innovation
North Carolina Department of Health and Human Services

- Oversees the Division of Medical Assistance (DMA) which is responsible for overseeing the Medicaid budget

- NC Medicaid budget is the second-largest budget for North Carolina - second only to the education budget

- The DMA handles approximately $12 billion in annual paid claims (2009)
Program Integrity Challenge
Outpatient Behavioral Health

From 2009 to 2011, Outpatient Behavioral Health has seen a significant increase in number of providers paid high dollars for assessment and therapy

- Total Behavioral Health Expenditures are $2.4 billion
- Outpatient Behavioral Health is $640 million (27%) of that total

Suspected schemes are:

- Billing for services not rendered
- Billing for excessive recipients per workday
- Excessive billing beyond a 24 hour period
- Billing for care and services that are provided by an unauthorized, unqualified, or unlicensed person
- Failure to provide supervision of staff when required
FINDINGS

• Providers are soliciting recipients for the purpose of using recipient Medicaid Numbers without providing needed service(s)
• Providers are offering non-covered Medicaid services such as child care and sports coaching

PROVIDER RESPONSE

• Providers are shifting recipients to other providers once an investigation has been initiated
• Providers are shifting to a new provider specialty, Critical Access Behavioral Health Agencies
  • Benefits of operating under these agencies is that a therapist can remain anonymous on claims, can bill for services with higher reimbursement, and refer recipients for services
• Providers are shifting to Multispecialty Physicians Groups
  • Physicians are able to bill services “incident-to” while therapists cannot, therapists can remain anonymous on claims, and individuals can retain ownership role in company

Program Integrity Results
$190 million in suspicious claims
Government Innovation
New Jersey Department of the Treasury

• Collects all major taxes levied by the state, including gross income tax

• Income tax collections are $10.3 billion (2010), or about 40% of state revenues

• Process around 4 million gross income tax returns each year (2010)
New Jersey offers a state Earned Income Tax Credit in addition to the federal EITC

- Refundable
- 20% of federal credit

Suspected schemes are:

- Large refund “guarantees”
- Underreporting income
- Overreporting income
- Identify theft
- Fake returns
Program Integrity Results
Denied more than $50 million in fraudulent refunds in 3 months

FINDINGS

• Preparers submit multiple returns with same financial information
• Underreporting and overreporting income to maximize the credit
• Use of dependent SSN’s from other states

TAXPAYER RESPONSE

• Lots of phone calls; few appeals (to date)
• Fewer returns with EITC claims in March (compared to previous year)
• Analyzing data to see if preparers are shifting to abuse other credits
Innovation Take-Aways
What government leaders can learn from success stories

✓ Real-time analytics are complex but provide great benefit
✓ Benefits can be gained without increase in staff
✓ Don’t believe the “we’re already doing that” argument
✓ Having an aggressive Business Champion is essential
✓ Start with a known pain point and build success in stages
A smarter planet is built on Smarter Analytics