# The Data-Analytics Imperative

## Strategically Managing Program-Integrity Risks in Public Sector Enterprises

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Data Analytics Conference

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# Presentation Outline

- **The Imperative to Act**
- **FAIS Business Model**
- **Applied Experience**
- **Concluding Thoughts**
- **Audience Engagement**

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# Fiscal Implications
## *What's at Risk and Why*

### US federal spending
Fiscal-year 2021 budget: *$4.8 trillion* (total)

- Defense: *$753 billion* (of which acquisitions *~$360 billion*)
- Mandatory: *$3 trillion* (pensions, income-support, & health care)
- Discretionary: *$733* billion (*everything* else)

### US federal revenue, payment-integrity, and fraud risks

- 3-year estimated tax gap (gross loss of revenue): *$441 billion*
- Estimated improper payments: *$151 billion*
- Fraud: extent *unknown*

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# Fiscal Implications
# *What's at Risk and Why*

**Spending drivers:** long-term demographic shifts, evolving economic pressures, national security concerns

**Risk drivers:** tepid executive priority & action, restrictive/permissive program design/execution/oversight, gaps in internal/integrity controls

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# Policy and Strategic Choices

Why this is important to get right—safeguard substantial investments and public trust in major government programs from insidious risks, such as fraud

**Asking the right questions, sustaining the conversation, and crafting meaningful answers**

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# Policy and Strategic Choices

Using data analytics as a *strategic* tool to manage range of integrity risks and inform decision-making is one of the *principal* answers

**But, it's not an *isolated* answer—must be *integrated* with other approaches to maximize value & impact**

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# Policy and Strategic Choices

*Essential* that decision-makers *act* resolutely on the results of data analytics to maximize value—deferring/ignoring action *compounds* risk

- **Make safeguarding program integrity a policy *priority***

- **Instill an enabling *culture* and *structure* and demand accountability**

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# Auditing for Program and Integrity Risks

## Centered on *program integrity* as organizing principle

- Reasonable assurance that programs are structurally and organizationally sound with the capacity to achieve their missions without compromise

- Program-integrity risk a function of fraud, waste, abuse, & mismanagement (individually or collectively)

# Auditing for Program and Integrity Risks

## Structured as "Triangle"

Value-added, impactful configuration & deployment of *integrated* capabilities

- Performance audit & benchmarking
- Data analytics
- Investigative techniques

# Auditing for Program and Integrity Risks

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## Audit & Benchmarking

- Policies/processes/procedures/practices (P4)

- Fraud-risk management & internal-control leading practices + standards

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# Auditing for Program and Integrity Risks

## Data Analytics

- Quantitative matching/mining flag "indicators"—patterns, trends, outliers

- Qualitative case-study analysis & synthesis of adjudicated fraud schemes

- Visualization (GIS mapping) + onsite (physical) verification

- Government & proprietary data sets—income, address, licensure, identity

## The Imperative to Act

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# Auditing for Program and Integrity Risks

## Investigative Techniques

- Covert stress-testing/probing eligibility & other key program rules + controls (e.g., income & other qualifying thresholds)

- Corroborating/questioning what we find through P4 and data analyses; augmented with investigative research of material leads (*FraudNet*)

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## Data Analytics in Action

- Capacity Building & Collaboration

- Value-added Innovation

- Acquisition Fraud & Corporate Due Diligence

- Compromised & Synthetic Identities

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# Data Analytics in Action

## Capacity Building & Collaboration

**Analytical tools & techniques and data sources**

- SAS, "R," Python principal programming languages for matching, mining, and web scraping

- Extensive assessment of *data reliability* (unreliable data increasingly framed as audit finding)

- Evolving into surveying members of public, web scraping, email address verification

- Buildout of unconventional data sets, including lists of deceased individuals, professional licensure, commercial real-estate ownership, vendor billing invoices, corporate financial & other reporting

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# Data Analytics in Action

## Collaboration & Knowledge Sharing

- **Data-centric and bilateral & multilateral in scope**

  - Conferences & bespoke events
  - International Fellows Program
  - Center for Audit Excellence

- **Science, Technology, & Advanced Analytics team (new)**

  - Innovation Lab—exploring AI, distributed ledgers, predictive analytics

- **Applied Research & Methods team**

  - Large-scale analytics, complex methodologies, surveys

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# Data Analytics in Action

## Value-Added Innovation

Illustrations of applying FAIS "triangle" model to big-ticket program reviews, with real-time innovation

- **Medicare PECOS (healthcare provider registry)**
  - P4, data matching, GIS-type verification
- **USF/Lifeline (phone service for low-income/indigent)**
  - P4, data matching, dual covert testing
- **IDR (income-based student-loan repayment)**
  - P4, data matching & mining
- **Head Start (early-childhood education)**
  - P4, data analytics, case-file review, covert testing

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## Acquisition Fraud & Corporate Due Diligence

- *$600bn* annual total federal acquisition spending—*$360bn* for defense

- Fraud risk in federal acquisition fast-emerging issue

- Scarcity of available and reliable data for comprehensive analytics

- Piecemeal approach to solutions, including expanded corporate disclosure

- Reviews of DOD defense contractor-ownership transparency (complete) & DOD contracting-fraud risk management (ongoing)

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# Data Analytics in Action

## Compromised and Synthetic Identities

FAIS reviews illustrating impact of compromised or synthetic identities on program integrity

- **Public comments in regulatory rulemaking (ongoing)**
  - Unstructured text analytics used to isolate any available identity information submitted with public comments.
  - Wide-scale email survey of the public to verify the source of comments.

- **Affordable Care Act**
  - Covert stress tested eligibility & subsidy controls
  - Used system's own rules to defeat its controls

- **National Institute for Standards & Technology operational campuses**
  - False identities, covert testing/breach security

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# Three Principal Takeaways

**1** Multifaceted approach needed for program-integrity risk management, with data-analytics playing an anchoring role

**2** Decision-makers need to prioritize, enable, and institutionalize a risk-management culture and *act* decisively on results

**3** Without decisive action, even the most sophisticated approaches will have their value and impact diluted and program integrity will be further eroded

# Questions & Comments

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