

# THE POWER OF END TO END DATA ANALYTICS: FROM CAREGIVER TO DECISION MAKER



# AGENDA

## WINDS OF CHANGE

## LEGISLATIVE ACTIVITIES IMPACTING PREDICTIVE ANALYTICS

### ● Health Care Reform

- Renewed Calls for Accountability
  - From Government
  - From Private Citizens
  - Private Industry
  - Think Tanks

### ● Social Security Obsolesces

### ● Economic Conditions – Predictive Analytics

- Fraud Prevention
- Profit Optimization
- Risk Mitigation

### ● A Case Study

# National Government Services



- More than 40 years federal health care contracting experience
- Over 2,000 employees
- **Our core business**
  - National Medicare claims administrator
    - Since inception of Medicare Program
    - Over 200 million claims processed annually (more than any other contractor)
    - Serve over 23.1 million beneficiaries in 20 states and five U.S. territories; 200,000 providers



# END TO END DATA ANALYTICS

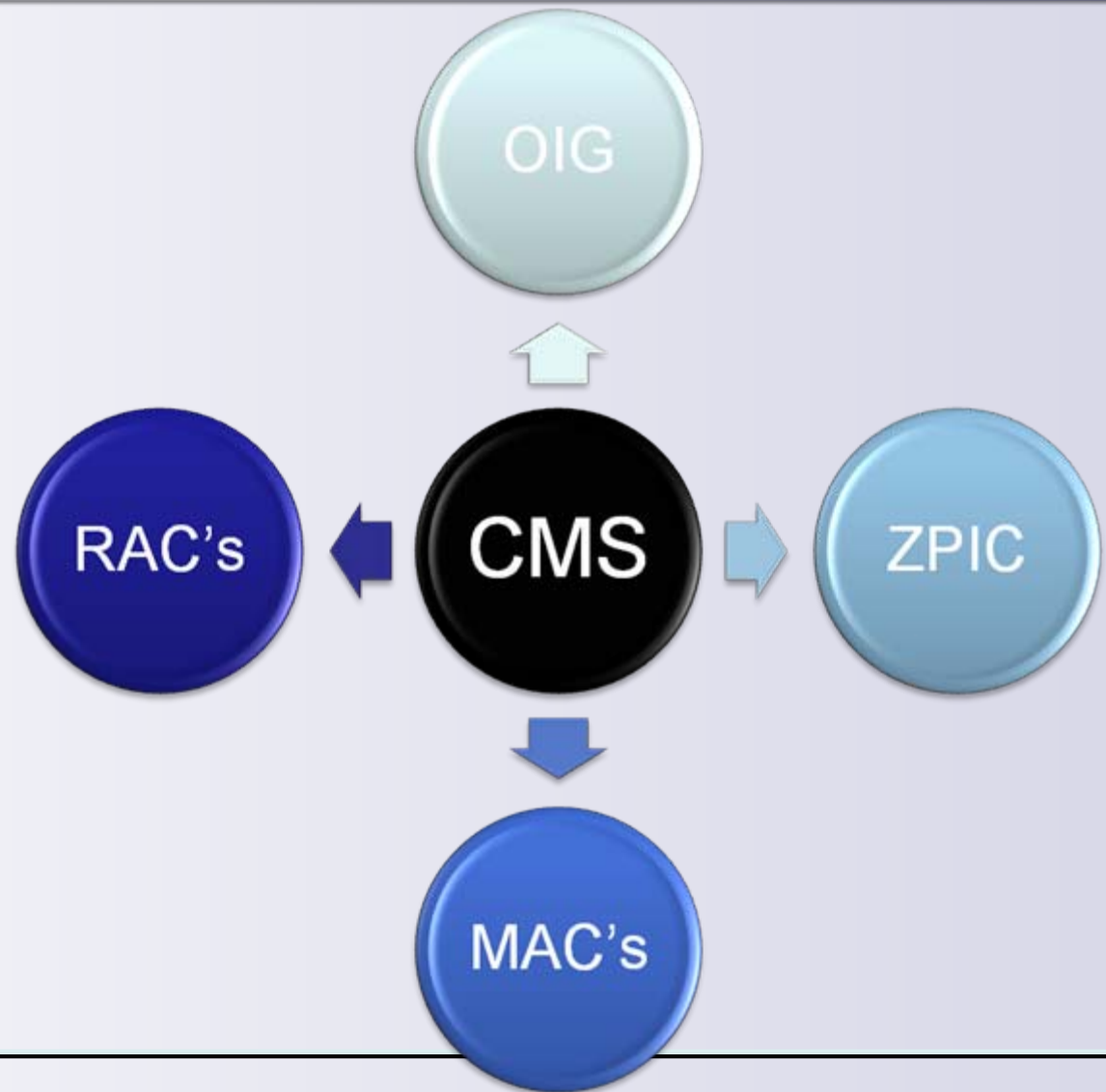
## LEGISLATIVE ACTIVITIES

### ● Provider Pressures

- Medicare Recovery Audit Contractor
- Zone Program Integrity Contractor
- Medicaid Recovery Audit Contractor
- Quality Improvement Organization
- Medicare Administrative Contractor
- Financial Auditors
- Medicaid Integrity Contractor
- and the list goes on.....

# Fraud and It's Impact on Healthcare

- ❑ Multiple Stakeholders Are Involved But Lack Of Information Sharing Allows Fraud to Expand
- ❑ A CERT strategy will not be the defining factor for a winning strategy
- ❑ Fraudster's are smart. They don't bill \$10 million at a time, they bill smaller amounts more frequently
- ❑ Understand that the most commonly fraudulent billed services are the ones that we have established editing.



# END TO END DATA ANALYTICS

## LEGISLATIVE ACTIVITIES

- Small Business Act
  - Predictive Modeling
  - Prescreening
  - Data Integration
- Social Security Obsolesces
- Congressional Oversight and Expectations

ALL REQUIRE IT AND OPERATIONAL COLLABORATION.

IS IT MAKING A DIFFERENCE?



# END TO END DATA ANALYTICS

## Compilation of the Social Security Laws

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### P.L. 111-240, Approved September 27, 2010 (124 Stat. 2504) Small Business Jobs Act of 2010

\* \* \* \* \*

#### **SECTION 1.** [42 U.S.C. 1305 note] **SHORT TITLE.**

(a) This Act may be cited as the "Small Business Jobs Act of 2010".

\* \* \* \* \*

#### **SEC. 4241** [42 U.S.C. 1320a—7m] **USE OF PREDICTIVE MODELING AND OTHER ANALYTICS TECHNOLOGIES TO IDENTIFY AND PREVENT WASTE, FRAUD, AND ABUSE IN THE MEDICARE FEE-FOR-SERVICE PROGRAM.**

(a) **USE IN THE MEDICARE FEE-FOR-SERVICE PROGRAM.**—The Secretary shall use predictive modeling and other analytics technologies (in this section referred to as "predictive analytics technologies") to identify improper claims for reimbursement and to prevent the payment of such claims under the Medicare fee-for-service program.

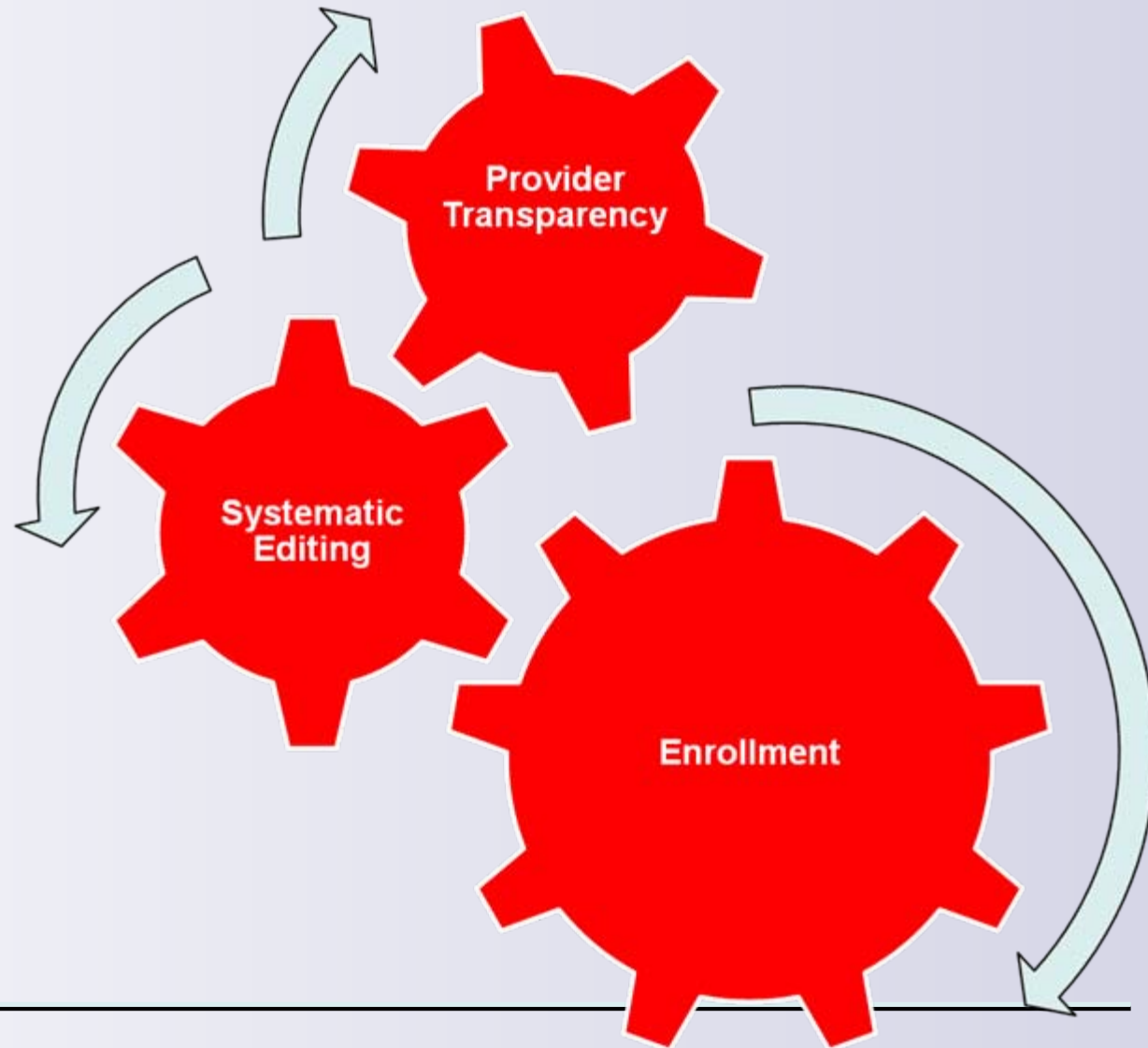
(b) **PREDICTIVE ANALYTICS TECHNOLOGIES REQUIREMENTS.**—The predictive analytics technologies used by the Secretary shall—

(1) capture Medicare provider and Medicare beneficiary activities across the Medicare fee-for-service program to provide a comprehensive

# Fraud and It's Impact on Healthcare

South Florida health care fraud arrests and pathological health care paradigm

Healthcare entities have thousands of edits. Where is the gap?





# Fraud and It's Impact on Healthcare

## Why a Standard 'Business As Usual' Approach Won't Work...

### ❖ Predictive Analytic Opportunities

- ❖ From 2000 to 2007, between \$60 million to \$92 million was paid for medical services or equipment that had been ordered or prescribed by dead doctors.
- ❖ Physician NPI's and PTAN's are stolen at such an alarming rate, the physicians do not know their numbers have been breached as many have billing agencies performing this function.
- ❖ No single agency is responsible for fraud, the multi layer functional entities allow Fraud to thrive. We must refine a solution that involves bridging the healthcare agencies gaps
- ❖ There's a healthcare fraud industry where people do nothing but recruit patients, get patient lists, find doctors, look on the Internet, find different scams. There are entire groups and entire organizations of people that are dedicated to nothing but committing fraud, finding a better way to steal from Medicare.

# FRAUD AND IT'S IMPACT ON HEALTHCARE

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Details for: **MEDICARE FRAUD STRIKE FORCE CHARGES 91 INDIVIDUALS FOR APPROXIMATELY \$430 MILLION IN FALSE BILLING**

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For Immediate Release: Thursday, October 04, 2012

Contact: CMS Media Relations  
202-690-6145

MEDICARE FRAUD STRIKE FORCE CHARGES 91 INDIVIDUALS FOR APPROXIMATELY \$430 MILLION IN FALSE BILLING

# Fraud and It's Impact on Healthcare

## Physician, MD – Case History:

10/28/2008 - MR reviewed provider for E&M 99214 services based upon data analysis aberrancy:

A review of a sample of 40 claims for E&M coding issues identified additional concerns for Hemorrhoidectomy (46221), Destruction of Hemorrhoids (46934) services and Anoscopy (46614) that were included on the claims. Reviewer consulted with the NGS CMD who concurred that provider should be referred to PSC for investigation

10/29/2008 = Referred the case history and documentation for Physician investigation

12/04/2008 = Referral Accepted

09/22/2010 = Provider was arrested.

# Fraud and It's Impact on Healthcare

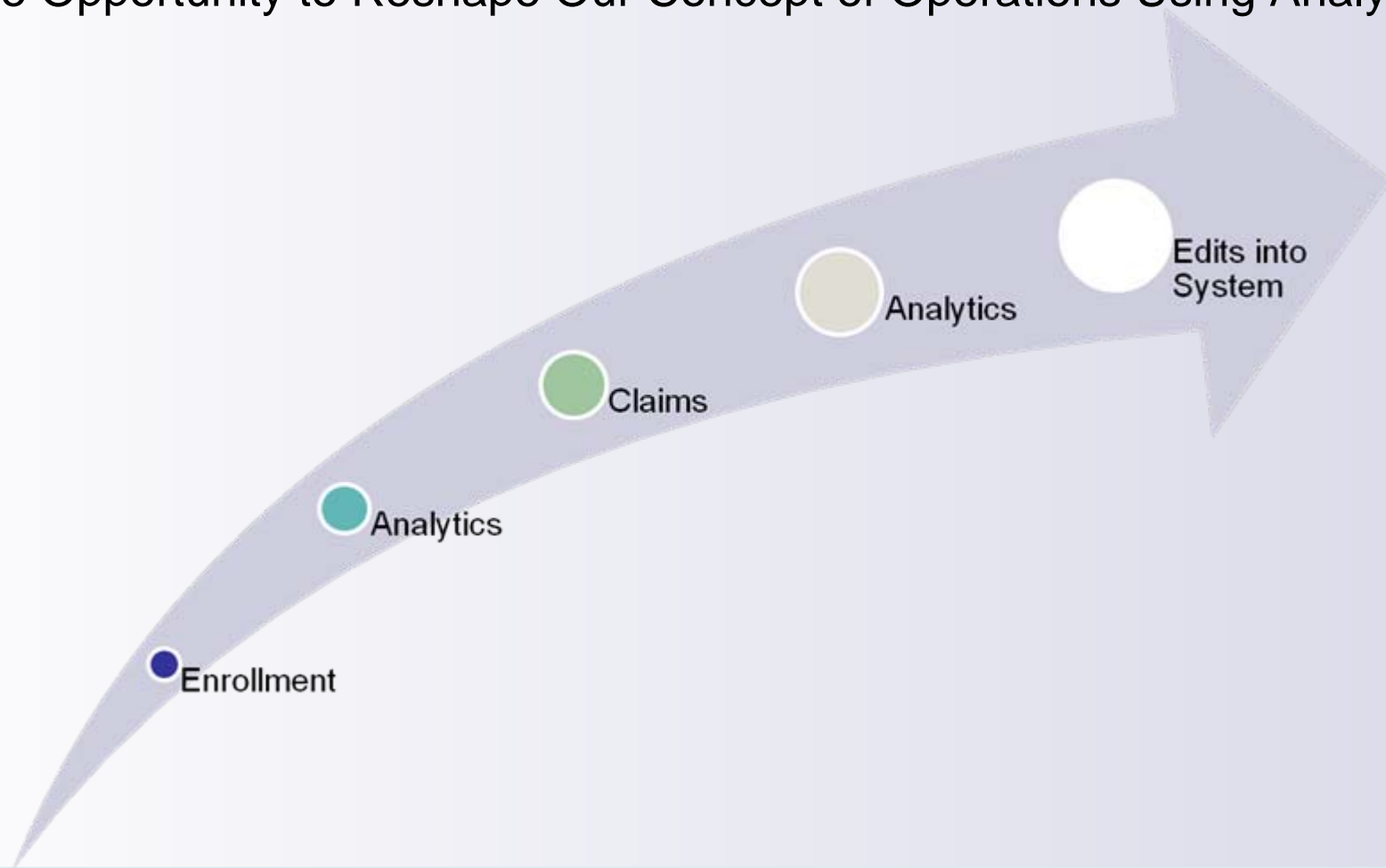
De Los Rios worked at multiple fraudulent medical clinics and signed medical documents authorizing tests and treatments that were medically unnecessary or never provided. The court found De Los Rios responsible for a total of \$46 million in fraudulent billings to Medicare.

According to evidence presented at trial, De Los Rios was hired by the owner of Metro Med of Hialeah Corporation, an HIV infusion clinic that purportedly provided injection and infusion therapies to HIV-positive Medicare beneficiaries. Evidence presented at trial established that De Los Rios ordered unnecessary tests, signed medical analysis and diagnosis forms, and authorized treatments to make it appear that legitimate medical services, including injection and infusion therapies, were being provided to Medicare beneficiaries at Metro Med. However, the injection and infusion therapies were medically unnecessary and never provided. De Los Rios also signed medical charts, often without seeing the patient, indicating that certain treatments were medically necessary, when, in fact, he knew they were not.

Evidence at trial established that De Los Rios diagnosed almost all of the patients at Metro Med with the same rare blood disorders, which the patients did not have, in order to ensure maximum reimbursement from Medicare.

# Fraud and It's Impact on Healthcare

❖ The Opportunity to Reshape Our Concept of Operations Using Analytics



# END TO END DATA ANALYTICS

## BUILDING A PREDICTIVE MODEL – HOW DO WE IMPACT FRAUD?

- MODEL PROCESS:
- IDENTIFY VULNERABILITY
- QUANTIFY VULNERABILITY
- DEVELOP VULNERABILITY INTO MODEL
  - Define attributes/factors that contribute to the vulnerability
  - Calculate attributes/factors based on historical data
  - Determine which attributes/factors are the best fit for the model
  - Test model and analyze model outcomes



# End to End Data Analytics

## Medical Review Savings (FFY 2010)

Part A	\$670,397,503
Part B	\$104,680,203
DMAC	\$58,795,238
<b>National</b>	<b>\$833,872,944</b>
<b>Government</b>	
<b>Services Total</b>	

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# END TO END DATA ANALYTICS

## DATA COMPLEXITIES

### DOES YOUR BUSINESS MODEL SUPPORT YOUR STAKEHOLDERS?

- Predictive Analytics Are Complex. How does the end user leverage?
- Stale analytics not only do not benefit stakeholders, they insert risk.
- How are the teams intersection points connected?
- Data is a story. What language are you using to write your story?
- Operational Models versus Risk Models
- Is your infrastructure capable of handling the data volumes or do you need supplemental support?
- How do you ensure your data has integrity prior to leveraging the attributes in predictive modeling?

# END TO END DATA ANALYTICS

## A CASE STUDY

- HOW DOES REAL TIME PREDICTIVE MODELING BECOME A DIFFERENTIATOR FOR A PUBLIC OR PRIVATE ORGANIZATION?
- THE END USERS NEED REAL TIME ANALYTICS TO MAKE BUSINESS DECISIONS TO MANAGE RISK.
- Note: The data in this case study has been de-identified.

# END TO END DATA ANALYTICS

## DATA COMPLEXITIES

## DATA QUALITY – DILBERT STYLE



# END TO END DATA ANALYTICS

## NGS BIG DATA BIG ANALYTICS SOLUTION

### ● NGS STRATEGY

- Deploy CMS data to a Hadoop Cluster
- Provide enterprise access to data via the App Home tool
- Provide predictive analytics as needed
- Data is accessible to any CMS agency or office
- Multiple App options for users based on access rights

# DATA CENTER

## 28,000 SQUARE FOOT GOVERNMENT APPROVED, AUDITED, AND CERTIFIED FACILITY

### HOSTING SERVICES AND SUPPORT

- **System software support:** Installation, maintenance, monitoring of mainframe, mid-range, micro computer systems and software
- **Hardware support:** Mainframe/mid/micro hardware administration and capacity planning
- **Computer operations & production control:** Day-to-day operations of all systems and data center environment
- **Disaster Recovery Services:** Including remote data redundancy capabilities
- **Hosted Data:** For CMS, Blue Cross Blue Shield Association (BCBSA)
- **Supports:** Over 4,000 CSR who server over 44 million Medicare Beneficiaries

### GOVERNMENT SECURITY COMPLIANT

- National Security Agency (NSA)
- National Institute of Standards and Technology (NIST)
- MITRE Corporation
- Center for Internet Security (CIS)
- Capability Maturity Model Integration (CMMI) Level III
- Certified at ISO 9001:2008

### FEATURES

- Voice and data networks built with redundancy and failover
- Best-in-class industry leading manufacturers equipment



# END TO END DATA ANALYTICS

## ACO ANALYTIC VIEWS

- Comparative analysis depicts pre ACO and post ACO activity for trending analysis.
- Multiple enterprise-wide views updated frequently to monitor positive and aberrant behavior.
- Functionality includes permission rights along with multiple view layers allowing for varying levels of role's to access selected views as defined by the customer.
- Supports key internal and external stakeholder reporting needs.

# ANALYZING ACO DATA

## ANALYSIS PERIODS

- Prior to ACO Start Date: DOS 7/1/11-12/31/11
- Post ACO Implementation: DOS 1/1/12-6/30/12

## EXAMPLE ACO METRICS

- Admission Rate
- COPD/Asthma Admission Rate
- CHF Admission Rate
- Same Day Discharge Rate
- 30 Day Re-Admission Rate
- Payment per Patient



# LOOKING AHEAD...

## PREDICTIVE ANALYTICS

### WHERE DO WE GO FROM HERE?

- The need has never been greater. Are you able to deliver your story or that of your clients in real time?
- Revisit your operating model. Verticals based upon functionality may no longer make sense.
- Data integrity is the life blood of a successful organization. How do you ensure your data is accurate?
- Future Analytic Opportunities: Meaningful Use? Enrollment?