HEALTH DECISIONS, INC.

Finding Provider Fraud

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Applying our innovative approach to Provider Fraud Detection.

Current Focus on Fraud of Little Use to Self-funded Plans:

- Clinical judgments about what care to give are too intrusive.
- Criminal investigations are not practical.

The Health Decisions approach to fraud is modeled on Accounts Payable Fraud techniques that are ideally suited for employer Plans.

- Data Analytics applied to payables (claims)
- To "flag" anomalies

  (Not all anomalies are fraud but all frauds are anomalies)
- That are then compared and summarized to pinpoint providers with behaviors warranting explanation.

Vendor Management System

Cost Recoveries

Process Improvements

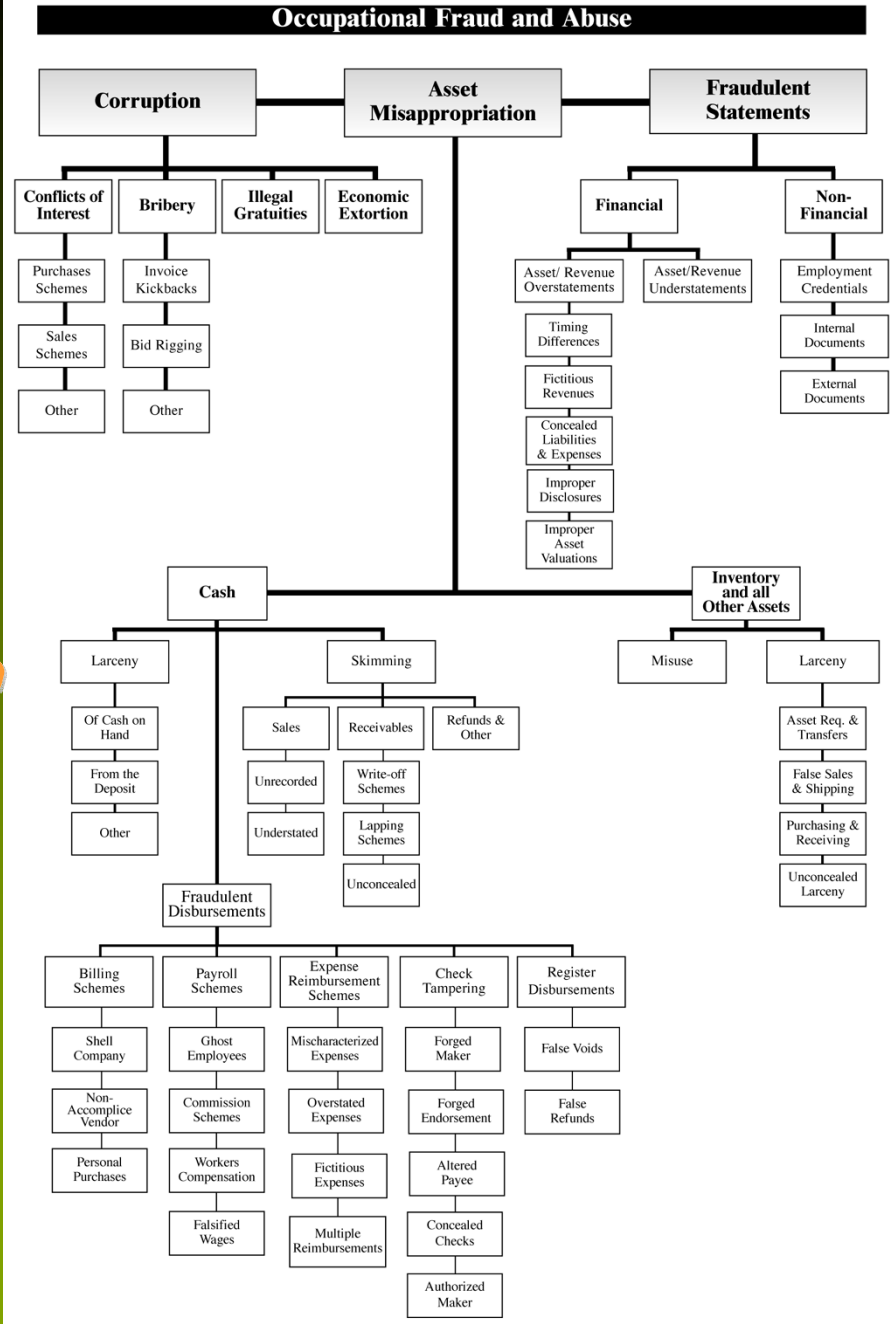
Prevent and Detect Fraud

cashrecovery partners LLC

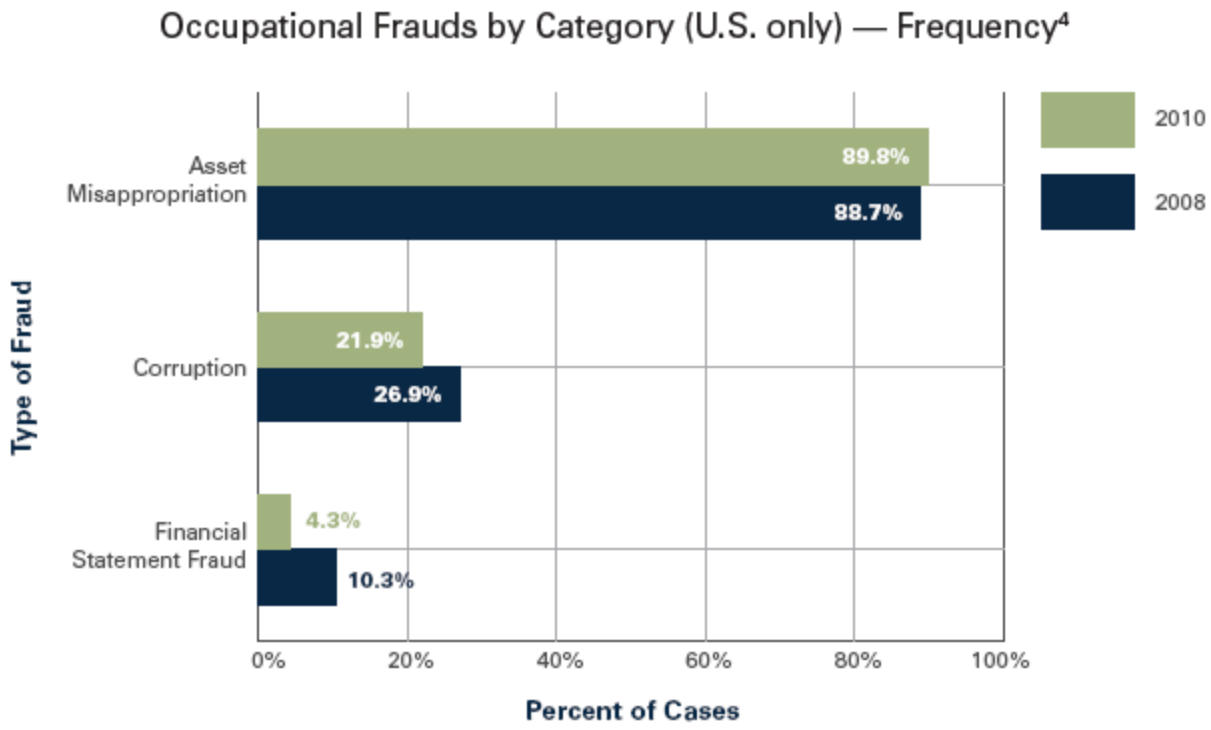
Cash Recovery Partners can provide a complete plan to implement an effective cost recovery program in your organization. The plan includes:

Review Current Cost Recovery Processes
Identifying Additional Opportunities for Cost Recovery
Drafting a Cost Recovery Program Plan
Implementing Scoring For Error and Fraud Detection
Automating the System
Training and Maintenance

There are a Lot of Frauds



Asset Misappropriation Tops The Charts



[4]The sum of percentages in this chart exceeds 100% because several cases involved schemes from more than one category.

Billing Fraud Is #1 or #2 No Matter Where You Go

United States — 1,021 Cases		
Scheme	**Number of Cases**	**Percent of Cases**
Billing	282	27.6%
Corruption	224	21.9%
Check Tampering	173	16.9%
Skimming	165	16.2%
Non-Cash	160	15.7%
Expense Reimbursements	154	15.1%
Cash on Hand	117	11.5%
Payroll	108	10.6%
Cash Larceny	98	9.6%
Financial Statement Fraud	44	4.3%
Register Disbursements	25	2.4%

Asia — 298 Cases		
Scheme	**Number of Cases**	**Percent of Cases**
Corruption	152	51.0%
Billing	56	18.8%
Non-Cash	55	18.5%
Expense Reimbursements	43	14.4%
Skimming	38	12.8%
Cash on Hand	34	11.4%
Cash Larceny	26	8.7%
Financial Statement Fraud	21	7.0%
Check Tampering	21	7.0%
Payroll	12	4.0%
Register Disbursements	6	2.0%

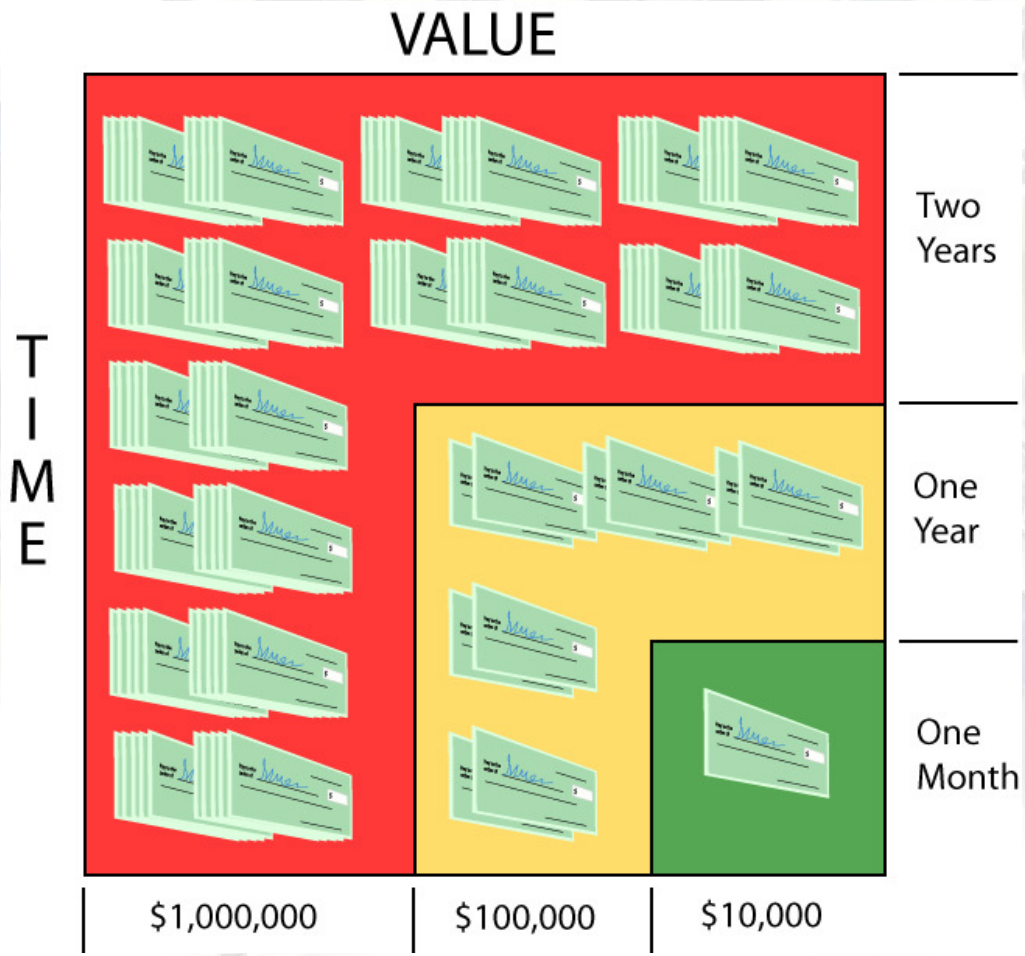
Europe — 157 Cases		
Scheme	**Number of Cases**	**Percent of Cases**
Corruption	79	50.3%
Billing	41	26.1%
Non-Cash	31	19.7%
Expense Reimbursements	24	15.3%
Cash on Hand	23	14.6%

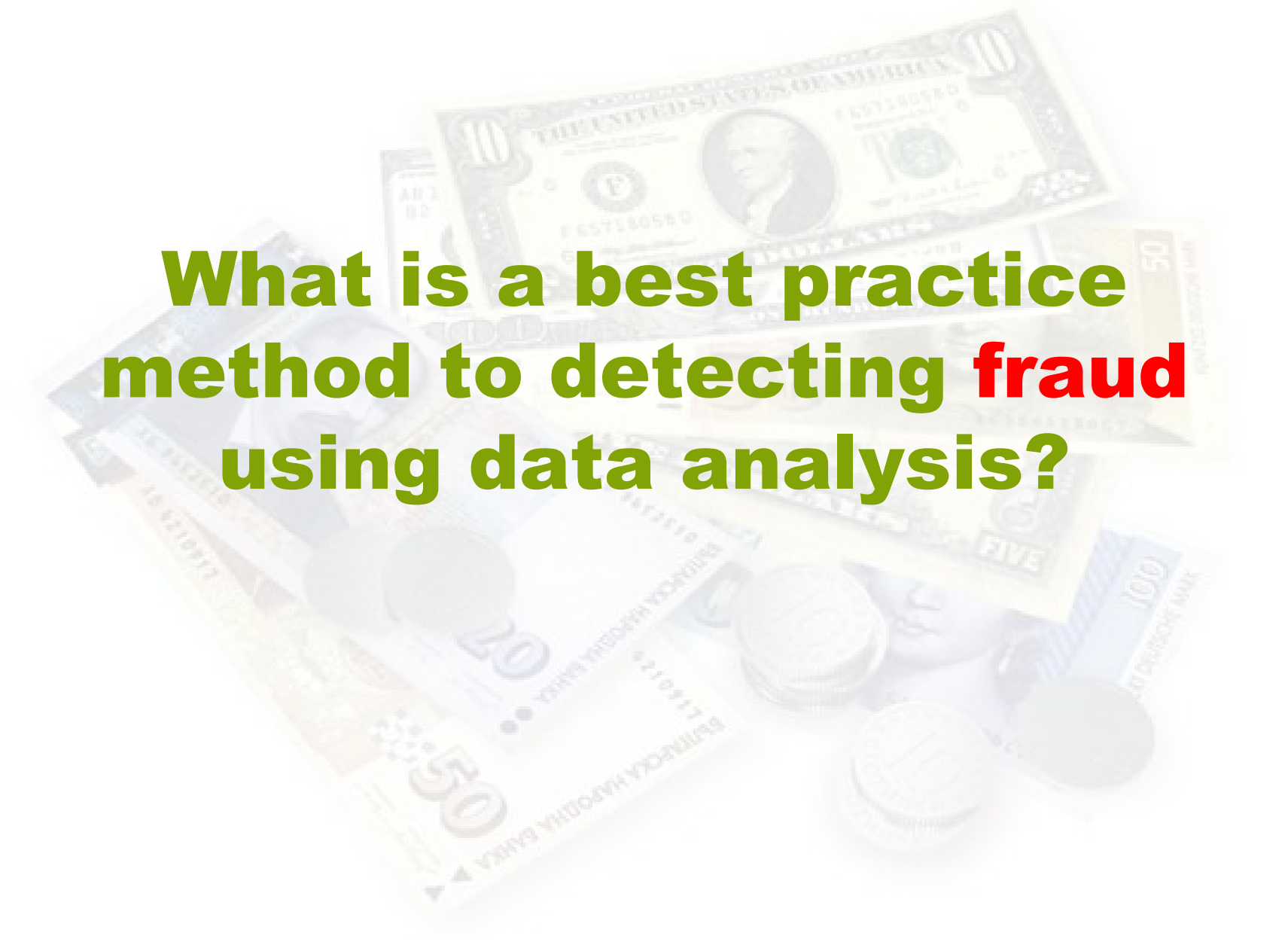
Africa — 112 Cases		
Scheme	**Number of Cases**	**Percent of Cases**
Corruption	55	49.1%
Billing	38	33.9%
Non-Cash	24	21.4%
Expense Reimbursements	19	17.0%
Cash on Hand	16	14.3%

If 89% of fraud is asset misappropriation and roughly 26% of the time it is a billing fraud, then 23% of ALL worldwide fraud is a vendor billing scheme

2010 **REPORT TO THE NATIONS** ON OCCUPATIONAL **FRAUD** AND ABUSE

How Fraud Grows Over Time





What is a best practice method to detecting fraud using data analysis?

Proactively Detecting Fraud Using Computer Audit Reports

Billing Schemes

Billing schemes occurs when a fraudster causes the victim organization to issue a payment by submitting invoices for fictitious goods or services, inflated invoices, or invoices for personal purchases[4]. There are three subcategories of billing schemes defined as follows:

- **Shell Company** – creates a phony organization on the company's books for use in paying fictitious invoices.
- **Non-Accomplice Vendor** – intentional mishandling of vendor payment in order to make fictitious payment to employee.
- **Personal Purchases** – purchases using company accounts such as a company procurement card.

Title	Sub-category	Type	Description	Data File(s)
Profitability Ratio Tests	All	A		N/A
Liquidity Ratio Tests	All	A		N/A
Income Statement/ Balance Sheet horizontal analysis and budget to actual analysis.	All	A		N/A
Benford's Law	All	A	Analysis of payments.	•Invoice Payment
Stratification and aging of vendor payments.	All	A		•Invoice Payment
Vendor payments trend analysis.	All	A	Special note should be given to vendors that had minimal purchases in prior periods yet having large payments in current periods.	•Invoice Payment
Identify duplicate payments based on various means.	All	E	Duplicate payment tests can be enacted on the vendor, invoice number, amount. More complicated tests can look where the same invoice and amount are paid yet the payment is made to two different vendors. Another advanced test would be to search for same vendor and invoice when a different amount is paid.	•Invoice Payment
Summarize debit memos by vendor, issuer, and type.	All	E	Debit memo trends that appear unusual should be investigated as attempts to cover unauthorized payments.	•Invoice Payment
Summarize accounts payable activity by general	All	E	Expense account trends that appear unusual should be investigated as attempts to cover	•Invoice Payment

Scored Sampling For the Remaining Items

- The best sample items (to meet your attributes) are selected based on the severity given to each attribute.

The result is a sampling methodology that is now based on *Risk* as you define

- Instead of selecting samples from reports, transactions that meet multiple report attributes are selected. Therefore a 50 unit sample can efficiently audit, for example:
  - –38 duplicate payments
  - –22 round invoices
  - –18 invoices with amounts directly under an approval limit
  - – 15 invoices posted after hours or on weekends

Transactional Score

- A single score is given to each transaction based on its severity (number of attributes it meets)
- Scores are summarized by enterer, vendor, and department (buyer)
- Scattergraphs are completed of the results by:
  - Enterer
  - Vendor
  - Department (buyer)

…focusing on severity/volume and differences in these variables

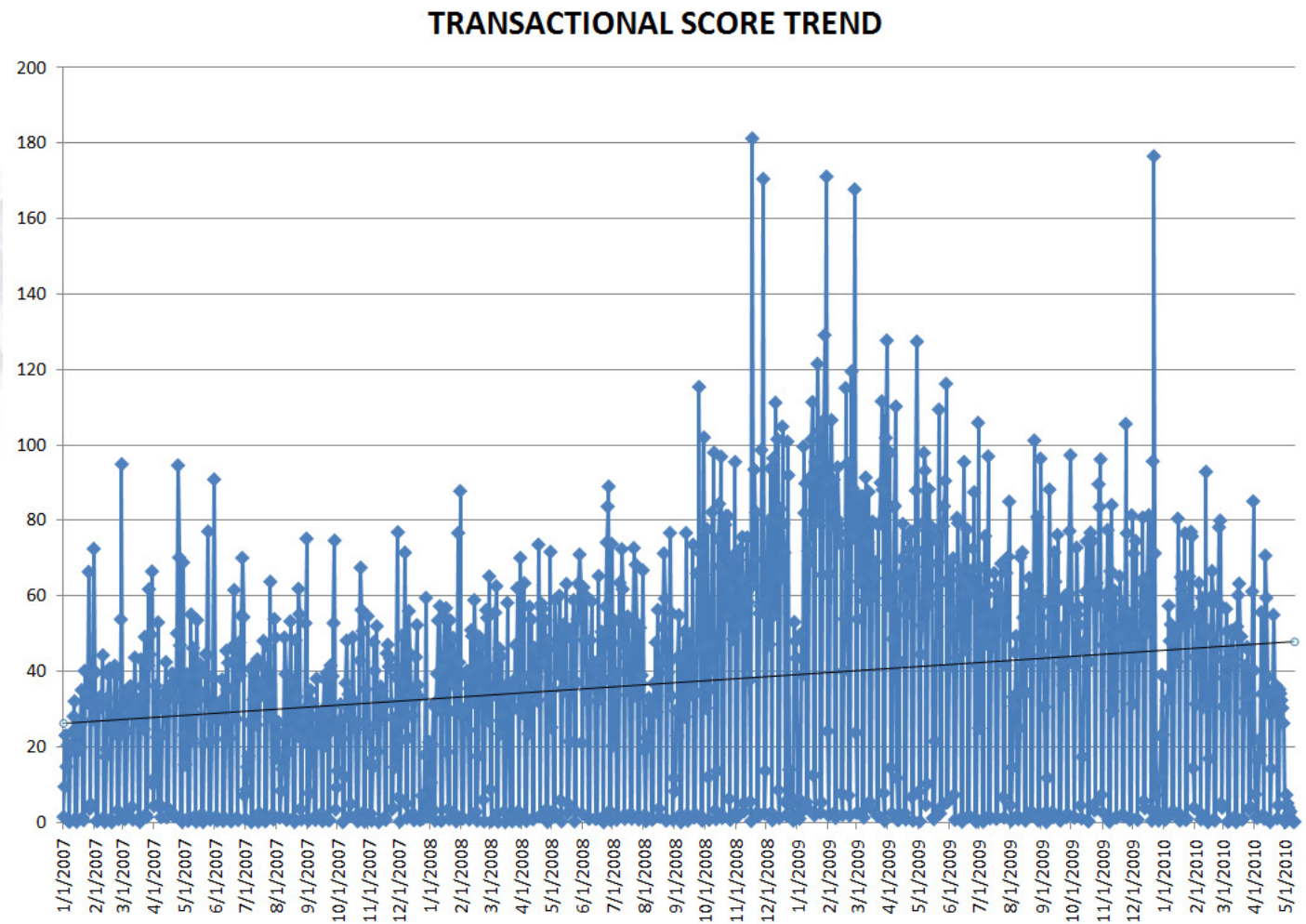
The Overall 100% Score Broken Down

- Judgmental – 70%
  - Depends whether the transaction is associated with a red flag that relates to a specific task to commit the fraud
- Statistical – 20%
  - Based on whether the transaction has traits that make it statistically unlikely (i.e., above average for the type of expense, high daily transaction value, etc.)
- Employee Traits – 10%
  - Identifies employee traits associated with fraud (based on previous studies) and aligns such scores to the employee's transactions

Judgmental Analysis of Indicators 60% of Score

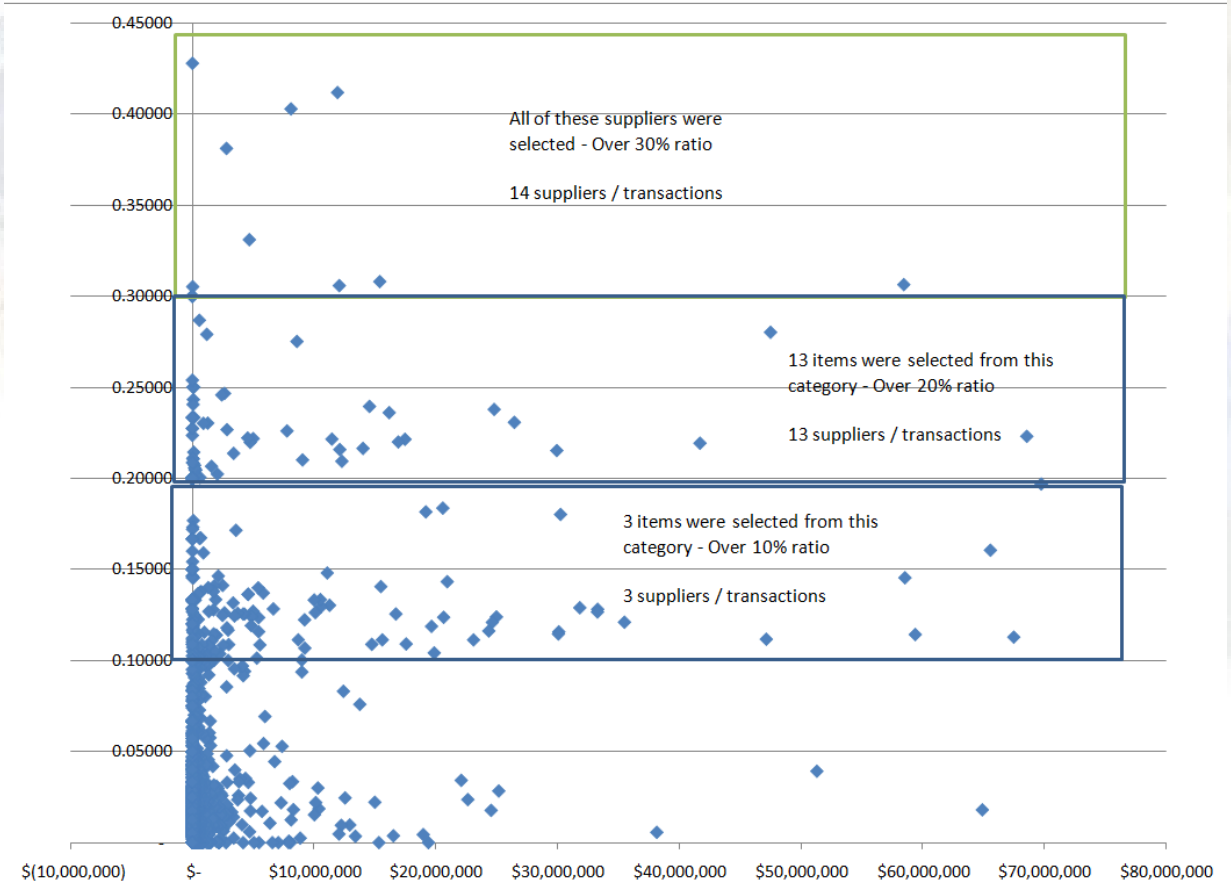
- Red flags are not created equal
- We want to represent the relative likelihood of a fraud being associated with the red flags
  - Judgmental process which can be pre-loaded based on a review by various fraud investigation professionals
  - Depending on the severity of the red flag
    - Invoice issued on a weekend = weight 1
    - New shipment to delinquent customer = weight 5
    - Issued/approved by same staffer = weight 10
  - Depending on the business process
    - Duplicate payment flag set for same invoice number, date, and amount – if this test fails, high rate is applied
- Add up judgmental red flag report selection and weights

Transactional Score Benefit Patterns Example



Key Control Reports & Scoring

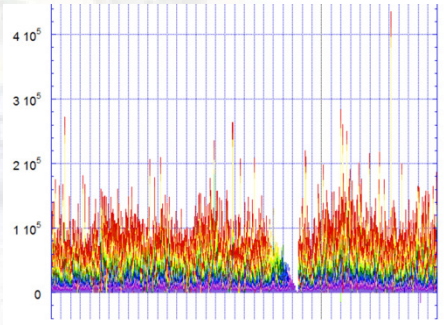
Graphing illustrates how to get the most from scoring



Statistical Analysis of Indicators 30% of Score

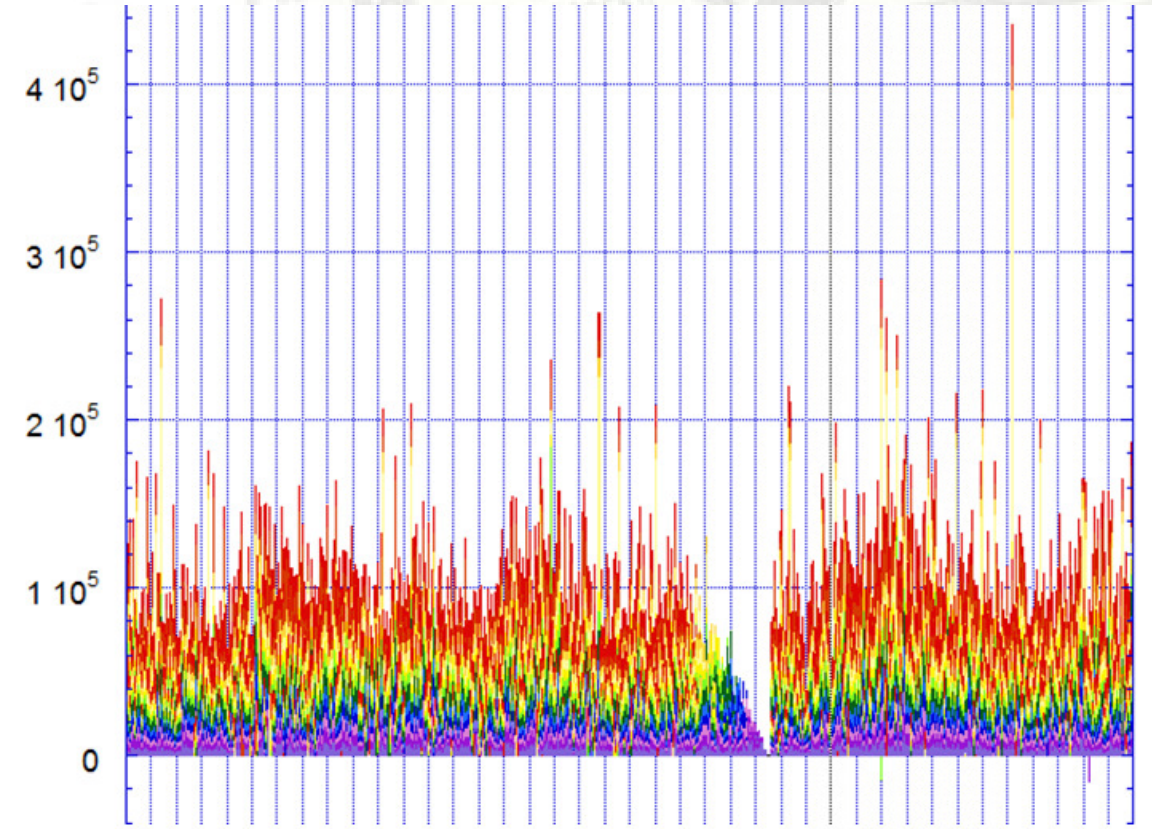
- The Population is The Peer Group
  - Statistics are run across the data
  - Least to most likely averages are formed

- Relate the transactions to the expected average (least to most likely) from various perspectives for relative difference:
  - Digit patterns (first three digits)
  - Amounts (rank amounts based on their occurrence in the population)
  - Value stratification
  - Days of week for processing
  - Time of day
  - Time in month
  - Type - GL Account, Part Number,
  - Business Partner (Vendor, Customer, etc.)
  - Employee



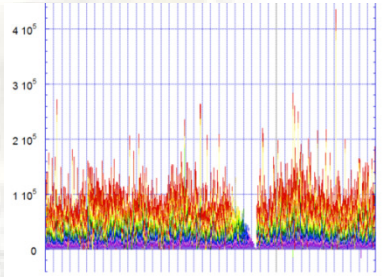
- Score transactions based on their relationship to the average (using a score for each range of occurrence such as .1% to 1% likelihood of occurrence = 10 points), 1% to 5% = 8 points, 5% to 10% =7 points, etc.)

Heat Map of the Vendor Spend or Their Scores By Month



Employee Factors
10% of Score

- Identify traits of employees that are more likely to commit fraud based on:
  - Key words used more by that employee that others in transactions, Emails, and other digital communication
  - Job title (CEO, CFO, director, manager, clerk)
  - Department
  - Bonus % to regular salary
  - Overtime % to regular salary
  - TIN match of the employee to IRS records

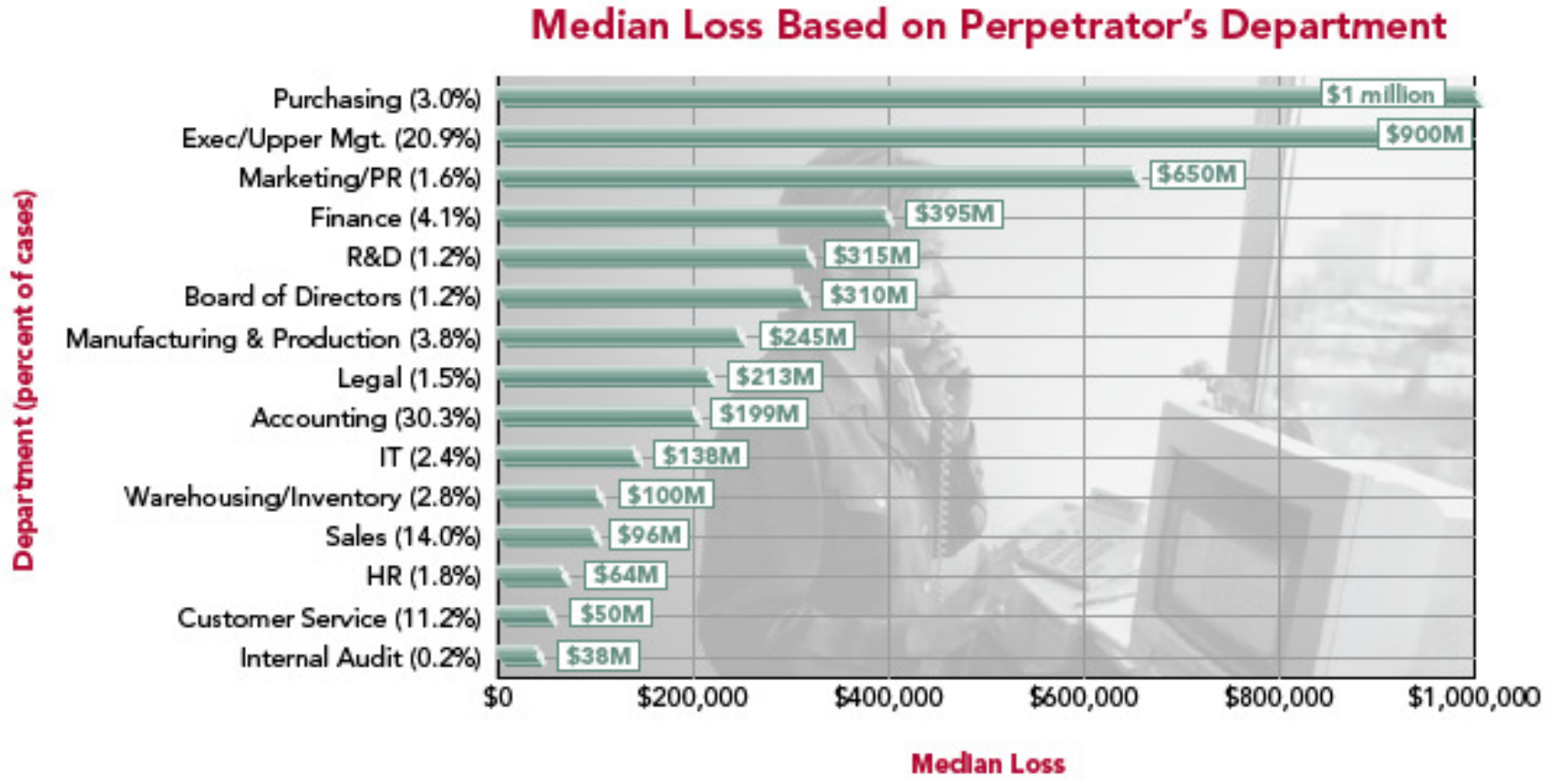


(Studies often find correlation of criminal behavior with age or gender: However, testing an employee's work based on age or gender may violate human rights laws. Suitable proxies like time in position may provide some of the same information in a more safe manner from a legal perspective. For now, we have only used the title in the proposed methodology)

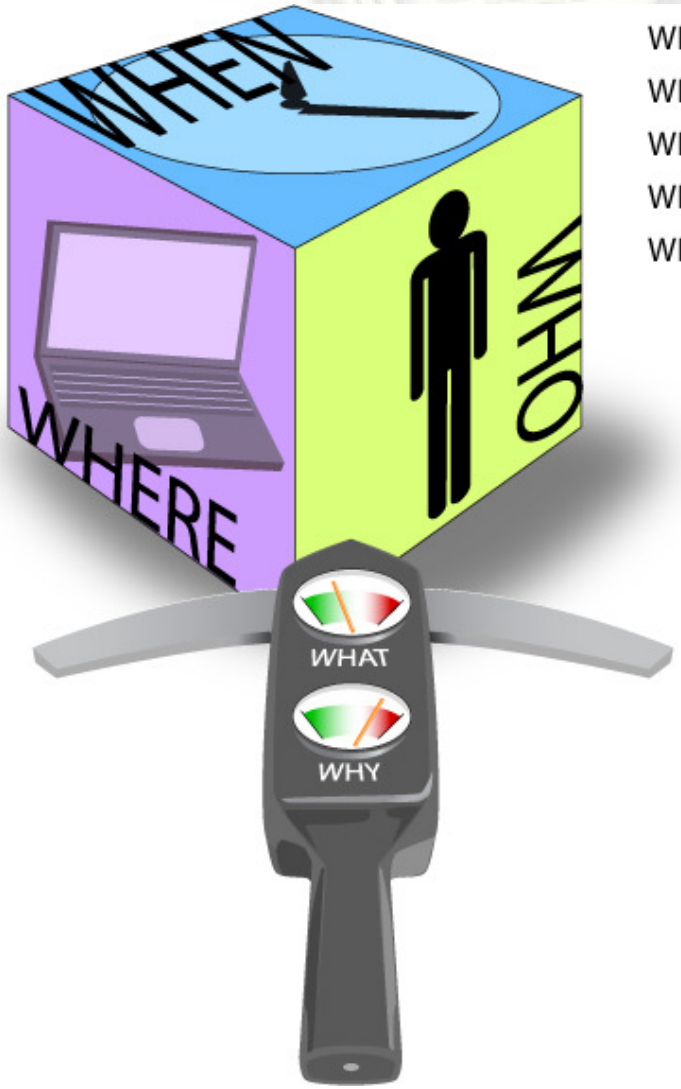
- Create a score (combined maximum of 10%) to serve as an employee factor based on the traits

- Apply the score to the transactions "touched" by the employee

Familiar Faces of Fraud



Summaries on Various Perspectives



WHO: Vendors, Employees, Customers

WHERE: The Accounting Records

WHEN: Time

WHAT: Dollar Magnitude / Size / Growth Rate

WHY: The Likelihood Of Occurence Based On The Red Flags.

Summarize by dimensions (and sub dimension) to pinpoint within the cube the crossover between the top scored location, time, and place of fraud based on the combined judgmental and statistical score

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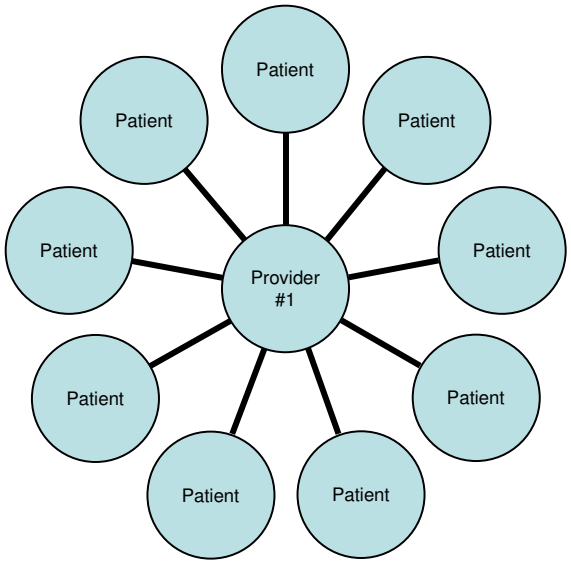
Introduction

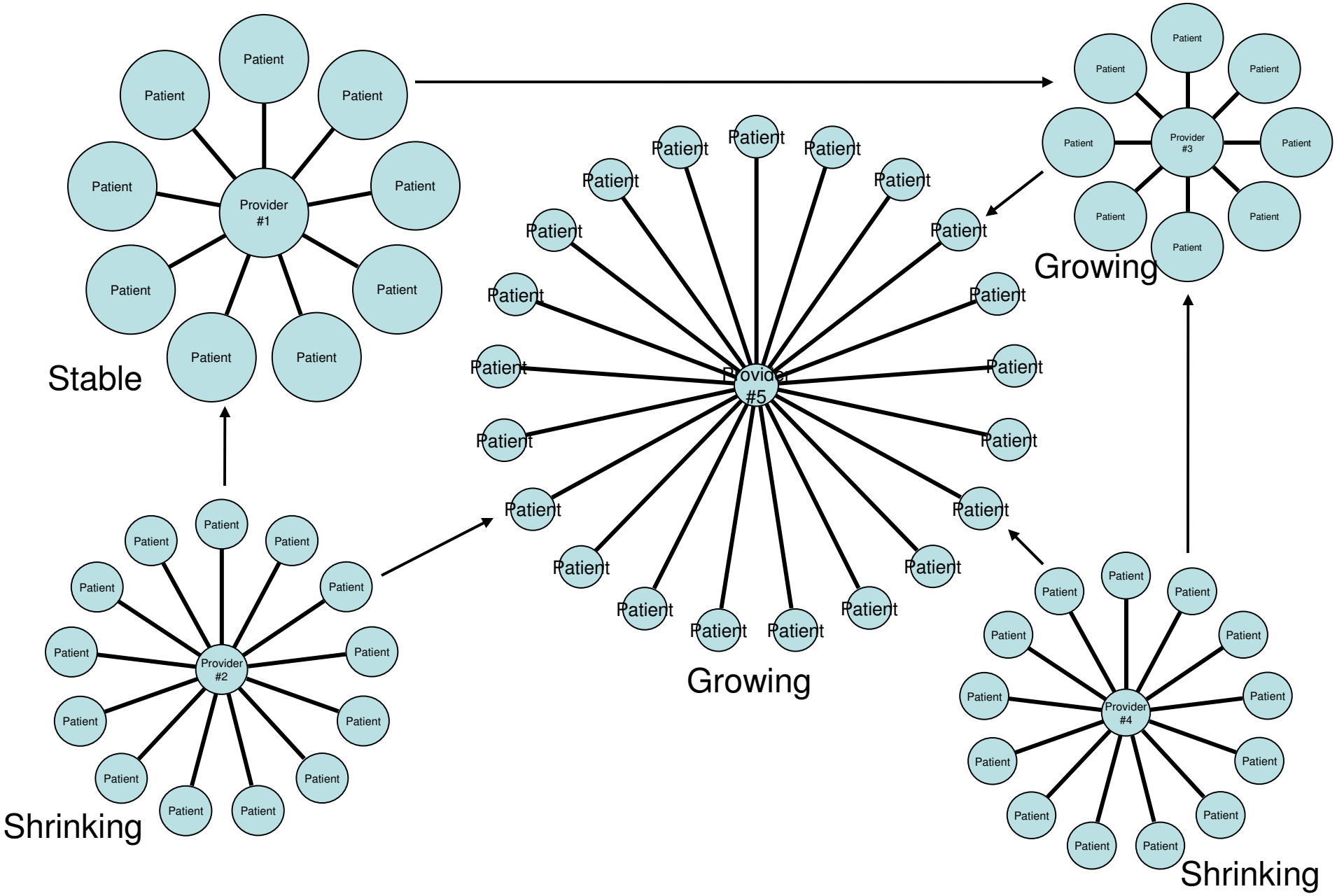
- One way we can think of the healthcare system is as a dynamic series of interconnected networks between patients and providers. We document these connections and analyze the networks based on billing and payment transactions rather then clinical judgments.

- Patients
  - Connected to one or more providers by encounters (services performed)
  - Connected to each other through providers
  - Dynamically move through the network
  - Can be associated with multiple providers at the same time

- Providers
  - Connected to one or more patients
  - Connected to each other by referrals
  - Fixed. They don't move through the network.
  - Change over time: growing, shrinking or constant



Patient Flow Between 5 Provider Networks



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Provider Peer Analysis

- **GOAL: Utilize paid claim data to analyze the provider / patient network for unusual patterns of activity by applying:**
  - Quantitative Measures
  - Comparative Measures
  - Grouping / Ranking
  - Test Design
  - Test Organization
  - Reporting
    - Detail
    - Summary
    - Graphing
    - Scorecard

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Quantitative Measures

- Measure some aspect of provider performance.
  - Payment Examples:
    - Total Charges
    - Total Payments
    - Payments Per Encounter
    - Payments Per Patient
  - Coding Examples:
    - Distinct Codes Used
    - Unique Codes (not used by other providers)
  - Encounter Examples:
    - Total Patient Encounters
    - One-time Patient Encounters
    - Repeat Encounters
    - Encounters With Other Providers For Same Procedures

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Comparative Measures

- Describe how one provider relates to others by using grouping and ranking to make comparisons.
  - Examples:
    - What percentage of providers scored lower then this one?
    - What percentage of providers in the same specialty scored lower then this one?
    - What percentage of providers in the same specialty and peer group scored lower then this one?

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Grouping / Ranking

- Provider grouping is the systematic organization of providers into 4 distinct sub-populations:
  - Global: All providers in the database.
  - Local: All providers with the same specialty.
  - Peer: Exists inside of local groups and are custom-defined for each individual provider measure.
  - XPeer: Identifies peers across multiple measures.
- Ranking is the process of assigning sequential values to an ordered list.

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Test Design

- Test design is the process of identifying quantitative measures that are useful in discovering the specific types of provider anomalies that are of interest. Not all anomalies are fraudulent.

- Tests to Identify Payment Anomalies
  - Payments per patient
  - Payments per procedure

- Tests to Identify Encounter Anomalies
  - Count of one time encounters
  - Count of repeat encounters
  - Count of encounters with other providers for the same procedure

- Tests to Identify Patient Anomalies
  - Count of male patients
  - Count of female patients
  - Average patient age

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Test Organization

Clients get 120 result sets like this one for provider coding

- Test organization is the process of identifying key categories of testing in successively increasing levels of detail from general to specific.

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Reporting - Detail

- Final detail reporting looks like this. Flagging occurs by setting an indicator (flag) whenever a comparative measure is too close to either the 0 percentile or the 100 percentile. These percentiles are important because they show that a provider is performing very differently from their peers.

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Reporting - Summary

PrvGrp	Included Providers	Flagged Providers (50 or more flags)
Hospital, Acute Care Hospital	57	8
Physician (MD or DO), OB – Gynecology	15	3
Physician (MD or DO), Pediatrics	14	4
Physician (MD or DO), Unknown Specialty	21	6
	107	21

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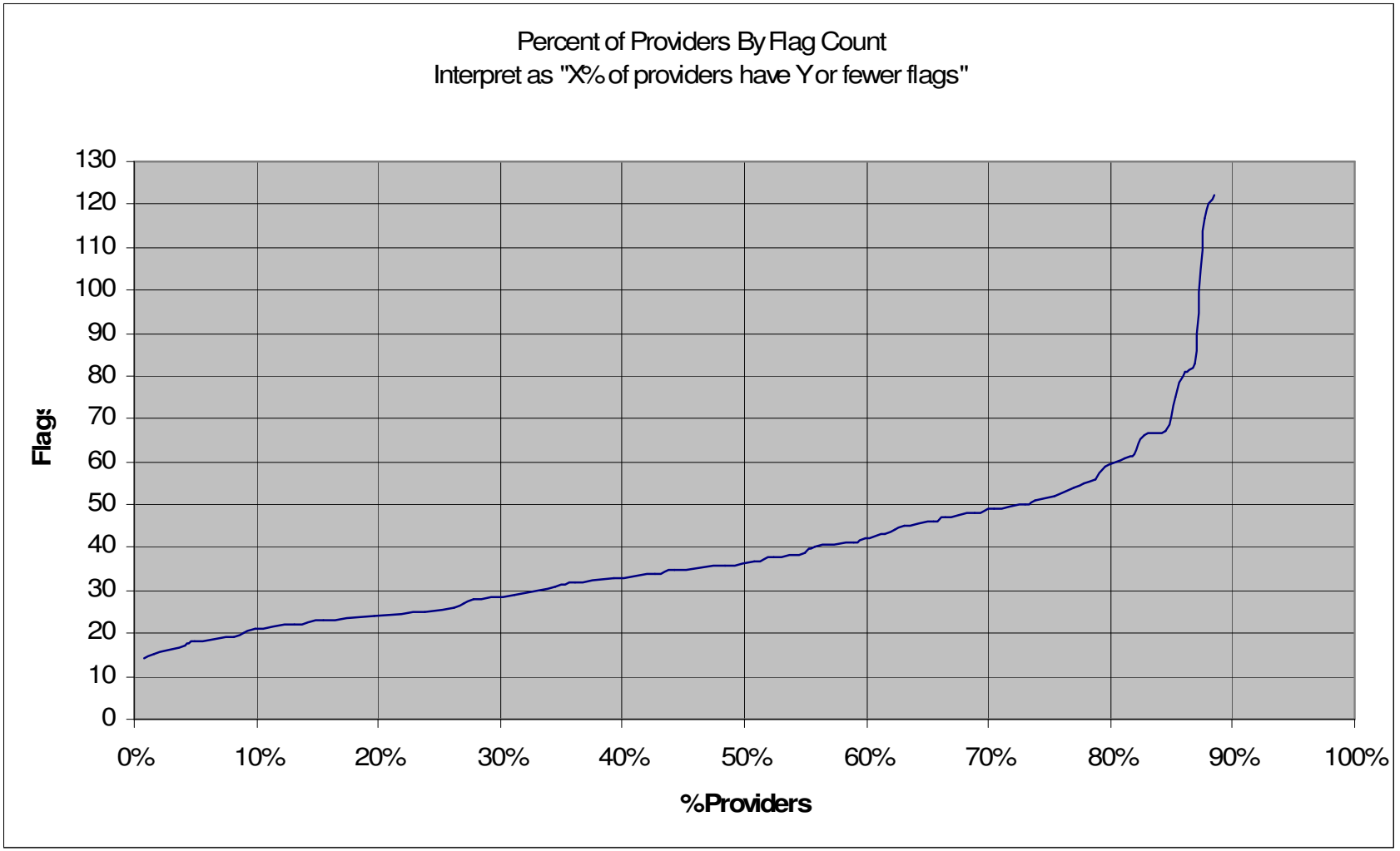
Reporting - Graphing



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Reporting - Score Card

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