



Smart decisions. Lasting value.™

Crowe Healthcare Webinar Series

Power of Data Analytics and Next Generation Internal Audit

Presented by: Terri Allen and Jerry Lear

Agenda

- Concepts of Next Generation Internal Audit Model
- Value of Data Analytics
 - Risk Assessment
 - Traditional Audit Areas
 - Continuous Auditing
 - Emerging Risk Areas

Next Generation of Healthcare Internal Audit

Approach

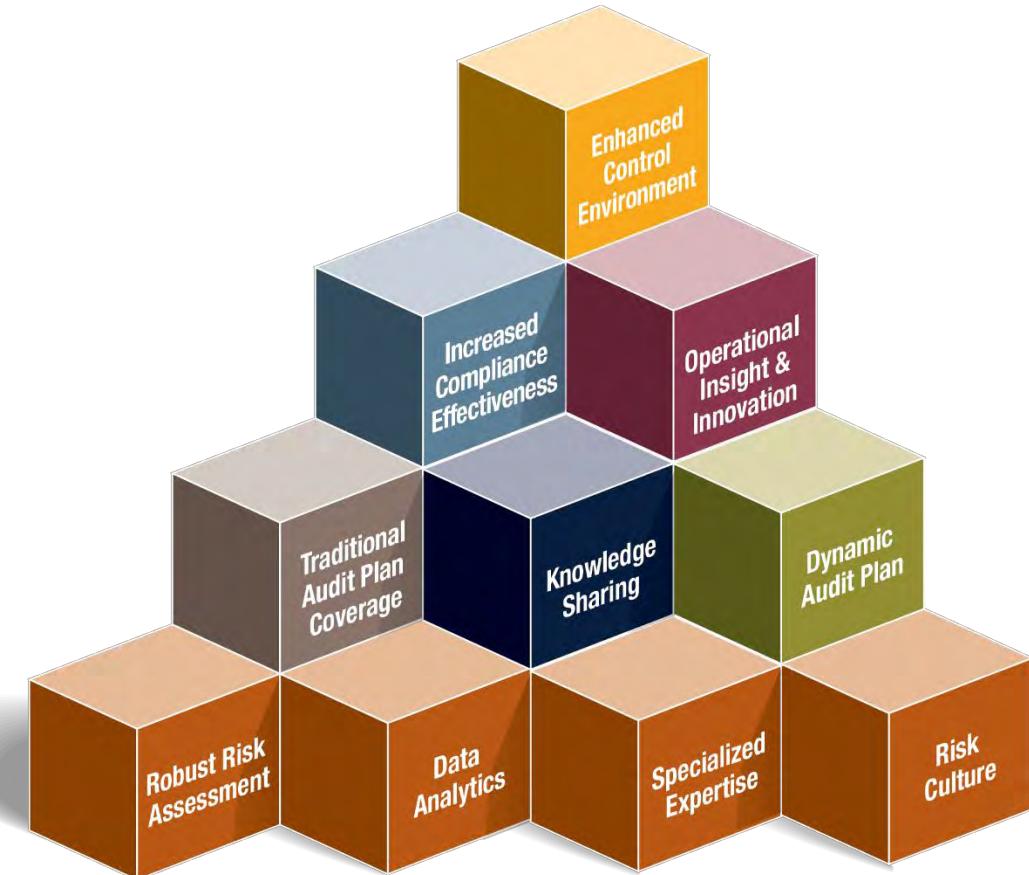
- Strategy driven
- Continuous connection to C-suite, leaders, managers, stakeholders
- Data driven
- Multidisciplinary and flexible team
- Deep specialization
- Responsive and real-time
- Collaborative approach
- Risks covered through continuous monitoring and data analytics

Audit Plan Areas

- Traditional plan coverage
- Clinical protocols
- Cybersecurity
- Process redesign
- Quality/performance measures
- Third-party risk
- Flexible care delivery models
- Regulatory compliance

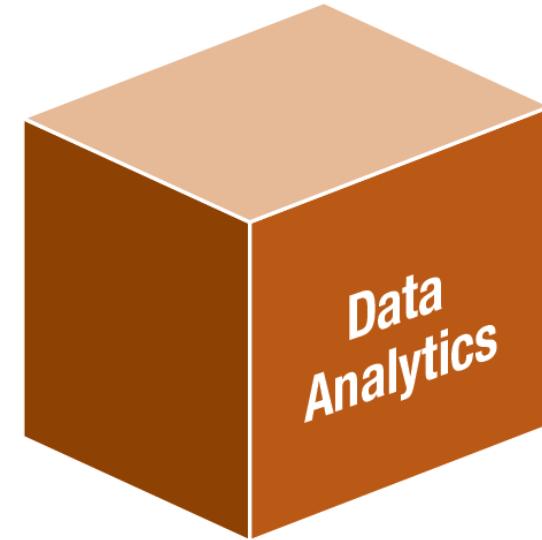
Results

- Continuous auditing dashboard
- Benchmarking against peers
- Multi-level deliverable
- Comprehensive risk analysis
- Robust governance and management education



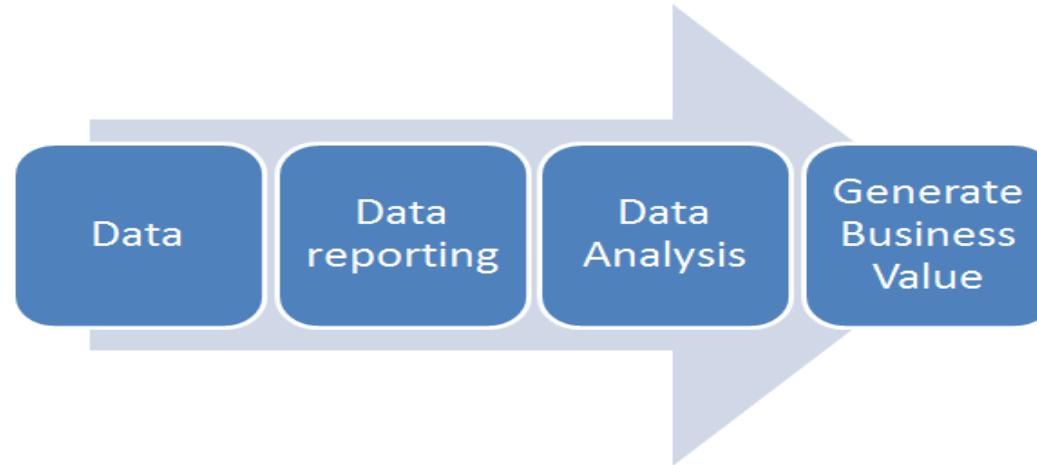
Second Pillar: Data Analytics

- Data Driven
- Ability to sift through the noise and information overload
- Risk Intelligence
- Better. Faster. Laser-Focused.

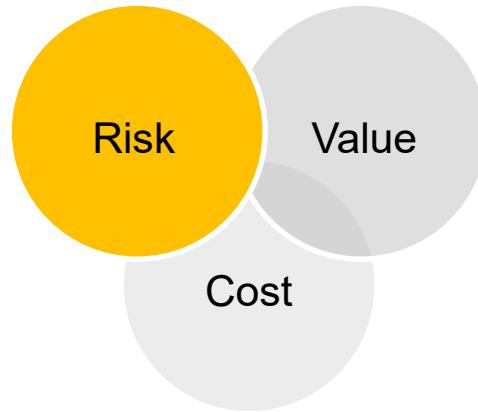


Data Analytics Definition

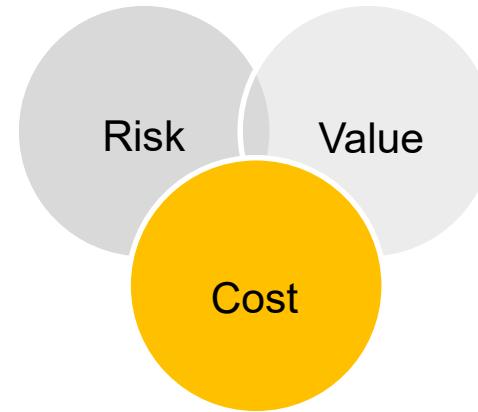
Process of identifying, gathering, validating, analyzing and interpreting various forms of data using computerized tools to provide meaningful intelligence.



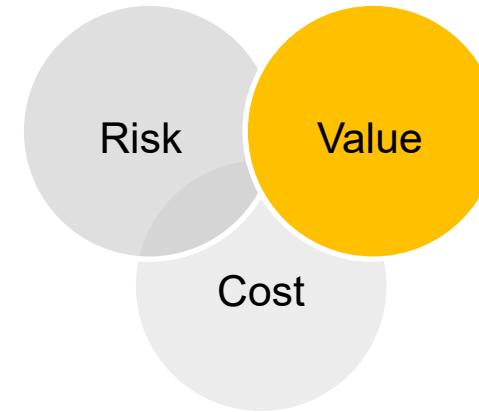
Value of Data Analytics



- Quantified Risk Assessment
- Deployment of resources to high-risk areas
- Testing 100% of population
- Expedite fraud detection



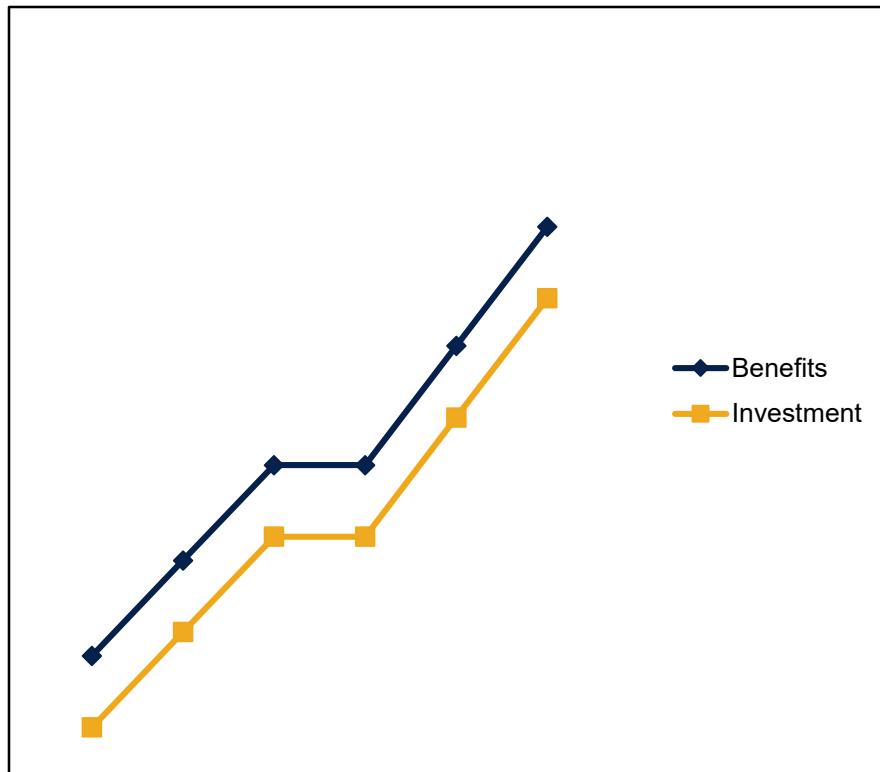
- Reduced time spent on lower-risk areas
- Repeatable audit testing
- Audit efficiency



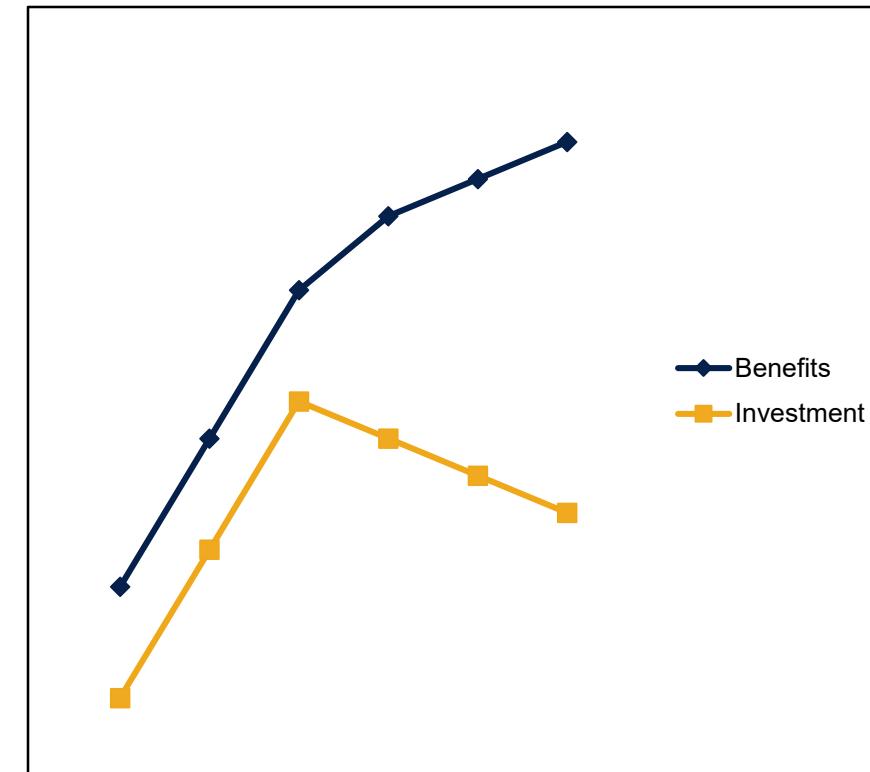
- More time spent on high-risk/complex areas
- Quantified results
- Insight into client operations
- Identification of patterns, outliers, trends

Value of Next Generation Data Analytics

Traditional Method – No Data Analytics



Next Generation – With Data Analytics

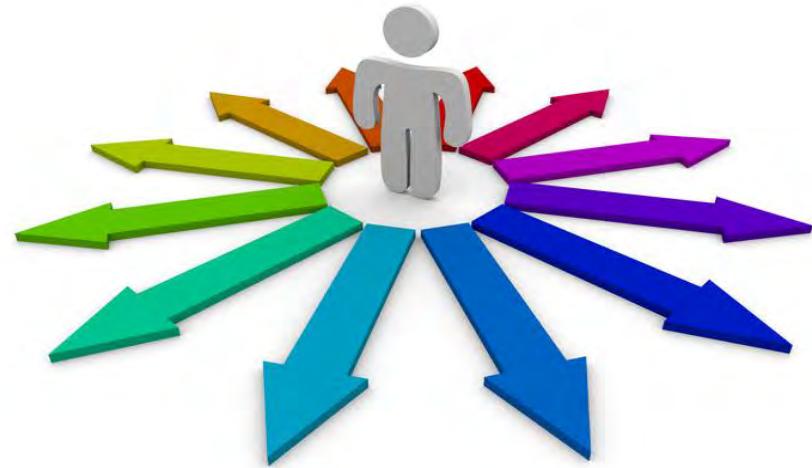




Data Analytics in Risk Assessment

Data Analytics in Risk Assessment

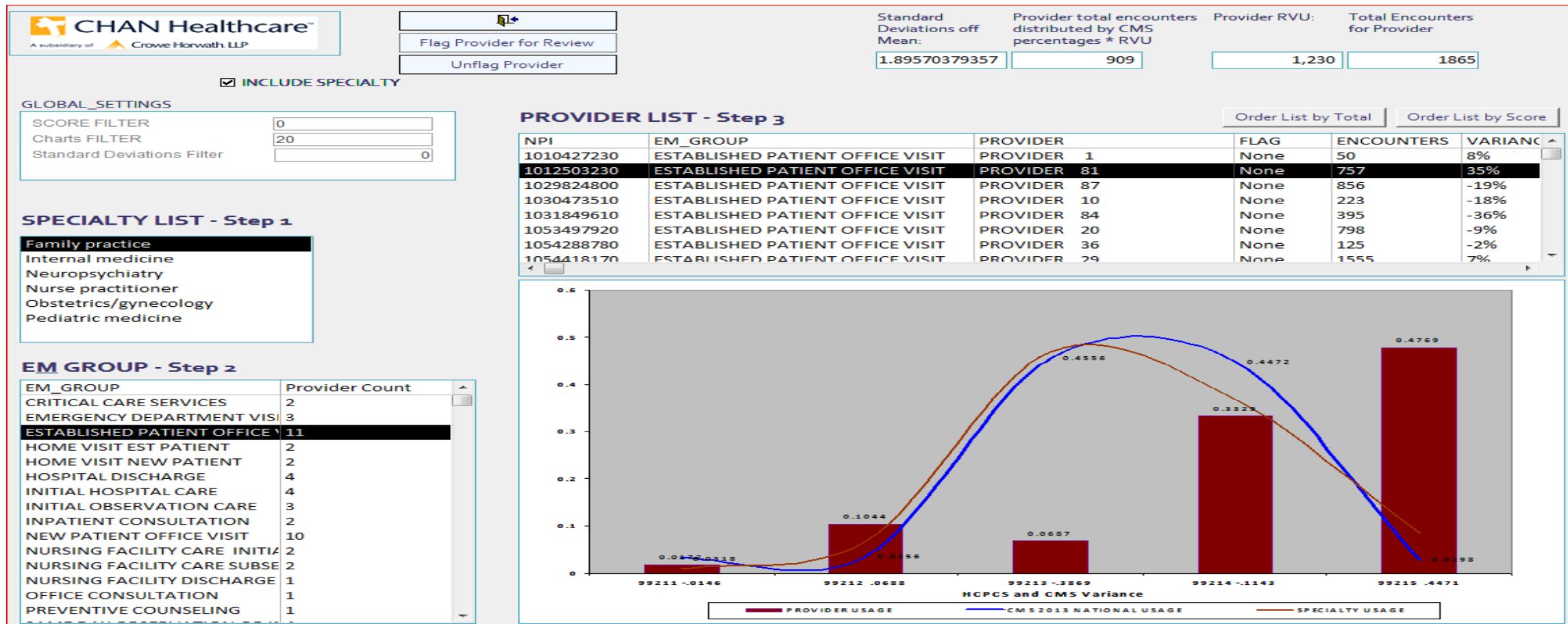
- Provides knowledge and insight into operations
- Facilitates and encourages conversations
- Offers a quantified risk assessment
- Adds auditor confidence in uncomfortable areas



Risk Assessment Dashboard

Proprietary Confidential Information Not to be Copied Without Permission of Catholic Healthcare Audit Network, LLC.								
	A	B	C	D	E	F	G	H
1	Proprietary Confidential Information Not to be Copied Without Permission of Catholic Healthcare Audit Network, LLC.							
RISK ASSESSMENT DASHBOARD SUMMARY RESULTS								
5	RISK NAME	RISK DESCRIPTION	HOSP1 SCORE	HOSP2 SCORE	HOSP3 SCORE	SOURCE OF METRIC	RISK RANKING	
6							HIGH	MEDIUM
7	HAC_01	Foreign Object Retained After Surgery	0.621	0	0	HOSPITAL COMPARE	LOW	
8	HAC_02	Air Embolism	0	0	0	HOSPITAL COMPARE		
9	HAC_03	Blood Incompatibility	0	0	0	HOSPITAL COMPARE		
10	HAC_04	Pressure Ulcer Stages III and IV	0.51	0.734	0.789	HOSPITAL COMPARE		
11	HAC_05	Falls and Trauma	0.732	0.411	0.241	HOSPITAL COMPARE		
12	HAC_06	Vascular Catheter-Associated Infection	0.244	0.000	1.205	HOSPITAL COMPARE		
13	HAC_07	Catheter-Associated Urinary Tract Infection	0.000	0.617	0.321	HOSPITAL COMPARE		
14	HAC_08	Manifestations of Poor Glycemic Control	0.821	0	0	HOSPITAL COMPARE		
15	HAC_09	Surgical Site Infection, Mediastinitis, Following Cabg	0	0	0	HOSPITAL COMPARE		
16	HAC_10	Surgical Site Infection Following Certain Orthopedic Procedures	0	0	0	HOSPITAL COMPARE		
17	HAC_11	Surgical Site Infection Following Bariatric Surgery For Obesity	0	0	0	HOSPITAL COMPARE		
18	HAC_12	Deep Vein Thrombosis and Pulmonary Embolism Following Certain Orthopedic Procedures	0	0.687	0.954	HOSPITAL COMPARE		
19	HAC_13	Surgical Site Infection Following Cardiac Implantable Electronic Device Procedures	0	0	0	HOSPITAL COMPARE		
20	HAC_14	Latrogenic Pneumothorax with Venous Catheterization Procedures	0	0	0.92	HOSPITAL COMPARE		
21	NEVER_01	Surgery Performed on The Wrong Body Part	0	0	0	PROPRIETARY ALGORITHM		
22	NEVER_02	Surgery Performed on The Wrong Patient	0	0	0	PROPRIETARY ALGORITHM		
23	NEVER_03	Wrong Surgical Procedure Performed on a Patient	0	0	0	PROPRIETARY ALGORITHM		
24	NEVER_04	Unintended Retention of a Foreign Object In a Patient After Surgery or Other Procedure	0.815	0	0	PROPRIETARY ALGORITHM		
25	30 DAY READMISSIONS - AMI	30 Day Readmissions - Acute Myocardial Infarction (AMI)	6.630	0.000	0.000	PROPRIETARY ALGORITHM		
26	30 DAY READMISSIONS - HF	30 Day Readmissions - Heart Failure (HF)	8.510	6.980	7.940	PROPRIETARY ALGORITHM		
27	30 DAY READMISSIONS - PNEUM	30 Day Readmissions - Pneumonia (Pneum)	0.000	1.790	1.670	PROPRIETARY ALGORITHM		
28	1 DAY STAYS	One Day Stays and Related Admissions (Excludes Deaths, Transfers, and Ama Discharges)	21.44%	18.52%	16.63%	PEPPER		
29	POS PAYMENTS - IP	IP Accounts with a Payment Made on or Prior to Discharge Date	1.68%	2.90%	1.82%	PROPRIETARY ALGORITHM		
30	POS PAYMENTS - OP	OP Accounts with a Payment Made on or Prior to Discharge Date	5.91%	1.71%	1.51%	PROPRIETARY ALGORITHM		
31	POS PAYMENTS - ER	ER Accounts with a Payment Made on or Prior to Discharge Date	1.50%	3.87%	4.80%	PROPRIETARY ALGORITHM		
32	PAYMENT PERCENTAGES	Payments As a Percentage of Charges by Financial Class	34.34%	37.48%	40.47%	PROPRIETARY ALGORITHM		
33	LATE CHARGES	Charges Posted After The Bill Date	0.63%	0.19%	1.14%	HFMA MAP INITIATIVE		
34	CREDIT BALANCES	Summary of Credit Balances by IP/OP and Financial Class	1.360	0.543	0.684	HFMA MAP INITIATIVE		
35	BILLING DAYS	Summary of Days to Bill by Financial Class	4.655	5.188	5.964	HFMA MAP INITIATIVE		
36	DRUG CHARGES	Summary of ER Accounts with Drug Chgs Only	0.6	2.6	0.8	PROPRIETARY ALGORITHM		
37								

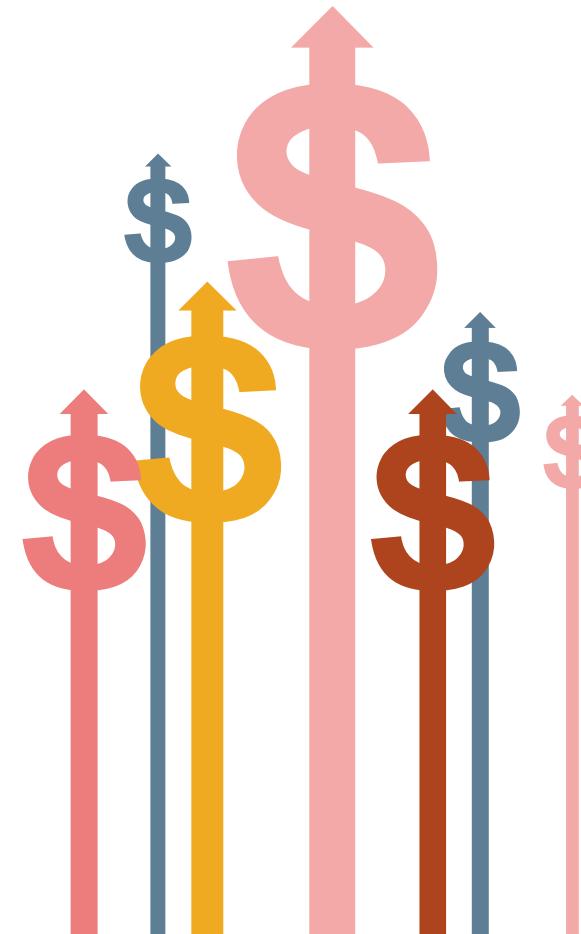
E & M Analysis



Financial Analysis

Summarize Trial Balance

- By revenue and expenses
- By company
- Compare current year to prior year



Future State of Risk Assessment

- Continuous Risk Assessment
- Incorporating Other Data
 - Audit Issues
 - Financial Benefits
 - Other Risk Assessment Data
- Other Means of Getting Information
 - Surveys (Questionnaires)
 - Use of Data Analytics
 - Predictive Analytics
 - Big Data in Health Care
 - Clinical Data Analytics



Data Analytics in Traditional Audit Areas

Traditional Internal Audit Methodology

Approach

- Linear/tactical
- Financial control driven
- Resource intense
- Limited sample/transaction focused
- Reactive
- Cycle coverage
- Risk universe determined by existing skill set

Audit Plan Areas

- Cash controls
- Accounts payable
- Payroll
- Travel and entertainment
- Basic charge capture
- External audit assistance

Traditional
Internal Audit
Approach

Results

- Lacks clarity and depth
- Extraneous detail
- Limited risk coverage
- Absence of key takeaways
- Lacks trend and comparative data

Accounts Receivable Valuation

INFORMATION - HINDSIGHT ANALYSIS	Completed Accounts Receivable	Additional Inpatient Charges	Additional Outpatient Charges	Total	Recorded	Differences (Understated)/Overstated
Accounts Receivable	96,805,933	30,199,724	11,343,540	138,349,197	138,349,197	0
Contractual and Admistrative Adj.	31,861,674	19,103,844	7,488,811	58,454,329		
Effect of Charges, Unbalanced Accts and Credit Bal.	(234,945)	0	0	(234,945)		
Total Contractual and Administrative Adj.	31,626,729	19,103,844	7,488,811	58,219,383	55,832,096	(2,387,287)
Charity	433,870	1,990	85,150	521,009	0	(521,009)
Bad Debt	7,878,317	61,464	160,025	8,099,806		
Balance still remaining at 03/31/2015 Bad Debt	10,154,264	1,086,363	540,489	11,781,116		
Total Bad Debt	18,032,581	1,147,827	700,513	19,880,921	11,100,000	(8,780,921)
Total Allowances	50,093,179	20,253,661	8,274,474	78,621,314	66,932,096	(11,689,218)
Net A/R	46,712,753	9,946,063	3,069,066	59,727,883	71,417,101	11,689,218
Realization Percentage	48.25%	32.93%	27.06%	43.17%	51.62%	
Adjustment Percentage	32.67%	63.26%	66.02%	42.08%	40.36%	
Charity Percentage	0.45%	0.01%	0.75%	0.38%	0.00%	
Bad Debt Percentage	18.63%	3.80%	6.18%	14.37%	8.02%	

Charge Capture

TEST DESCRIPTION	POPULATION SIZE	EXCEPTIONS	DAT AUDITOR COMMENTS	EXCEPTIONS TO TOTAL	AVERAGE CHARGE AMOUNT
MEDICARE OP WITH PRIMARY IR CPT AND NO RELATED SECONDARY CPT	277	43	13 exceptions for CPT code 62284 missing a imaging code.	15.52%	-
IP WITH IR CPT AND NO SURGERY CHARGE	355	8	2 exceptions for CPT code 74455 missing a surgical charge.	2.25%	86,143
IP WITH SURGICAL CPT AND NO IR CHARGE	158	16	2 exceptions for CPT code 62284 missing a imaging charge.	10.13%	6,192
IP WITH ADD ON CPT CHARGE AND MISSING PRIMARY CHARGE	70	3		4.29%	28,194
OP WITH IR CPT AND NO SURGERY CHARGE	531	41	21 exceptions for CPT code 74455 missing a surgical charge.	7.72%	20,043
OP WITH SURGICAL CPT AND NO IR CHARGE	374	34	25 exceptions for CPT code 62284 missing a imaging charge.	9.09%	3,242
OP WITH ADD ON CPT CHARGE AND MISSING PRIMARY CHARGE	35	1		2.86%	16,370
OP RADIOLOGY CPT REQUIRING CONTRAST MATERIAL AND MISSING CONTRAST CHARGE	1,553	113		7.28%	794
OP NUCLEAR MEDICINE CPT REQUIRING A RADIOPHARM AND MISSING RADIOPHARM CHARGE	980	14		1.43%	1,725
OP NUCLEAR MEDICINE CPT REQUIRING MISSING NUCLEAR MEDICINE CHARGE	987	15		1.52%	5,888

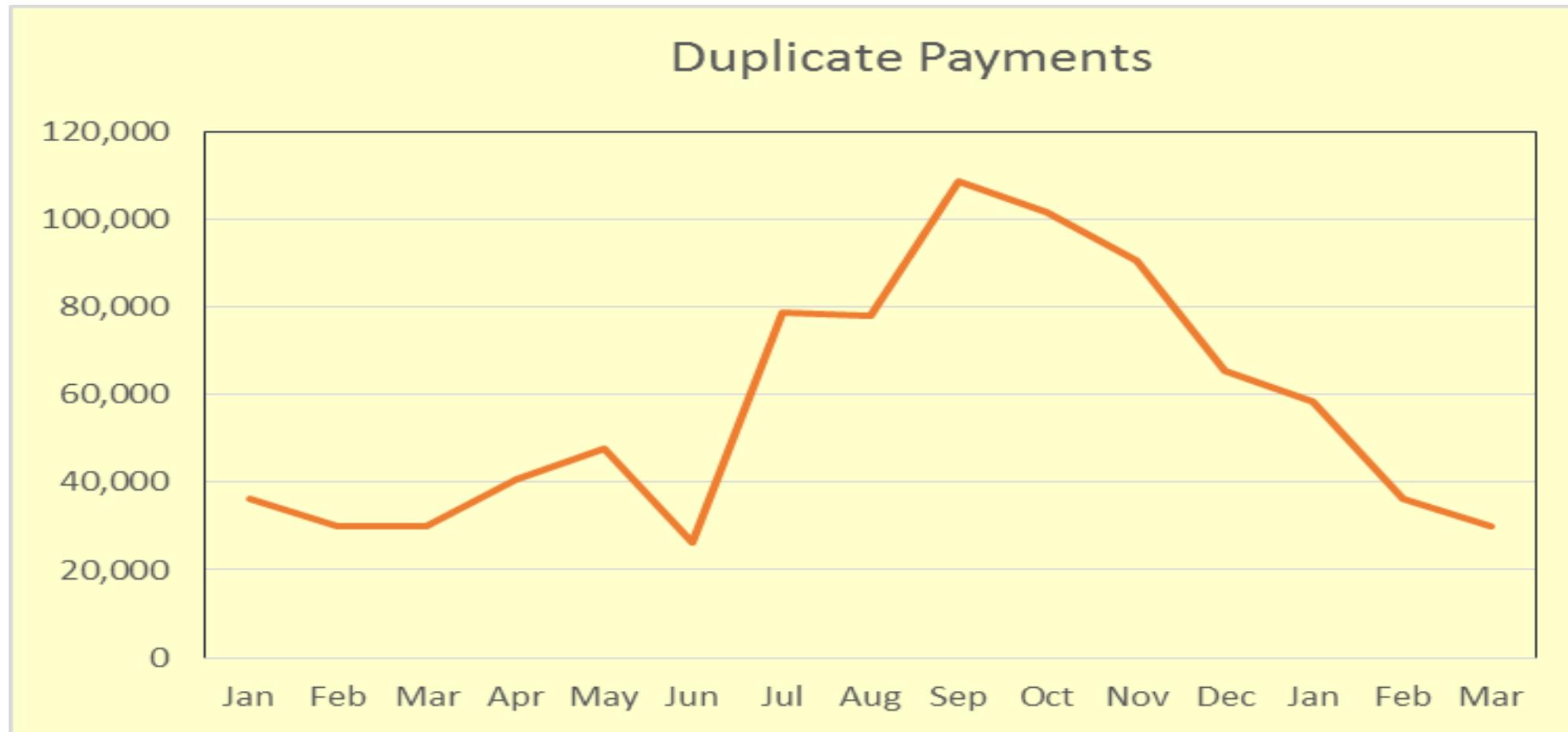
System Access

Terminated employees with access to critical systems



Data Analytics for Continuous Auditing

Accounts Payable Duplicate Payments



Three Day Rule

TEST DESCRIPTION	POPULATION	EXCEPTIONS	%
Number of Clinic patients meeting 3 day rule requirement – SSN	798	10	12.5%
Number of Clinic patients meeting 3 day rule requirement - Name	798	7	8.8%

Emergency Room Drug Dispenses

Drugs dispenses from Automated Drug Dispensing Machines for patients not seen in Emergency Room on the date the drug was dispensed



from : www.clipartbackgrounds.net

Data Analytics for Emerging Risk Areas

Use of Data Analytics in Emerging Risk Areas

- Healthcare Compliance
 - One Day Stays, 30 Day Readmissions, Same Day Readmissions, Transfers in Lieu of Discharges, Credit Balances, Three Day Rule, Two Midnight Rule, Sterilization, Medically Unlikely Edits, RACs
- Patient Access Statistics
- Denials Dashboard
- Physician Contractual Payments
- CDM Updates
- Compare CDM Prices to Payor Contracts
- Segregation of Duties Testing
- Interface Testing
- 340B Program Compliance
- Drug Diversion
- Fraud

Drug Diversion

- Drugs Dispensed Not Administered
- Excessive waste and witness combinations
- Drugs Dispensed from Unexpected Stations
- Drugs Dispensed by Non-Working Employees
- Excessive override, waste and witness transactions



340B Mixed Use and Contract

- Diversion
- Duplicate Discounts
- Non-compliance with GPO Prohibition
- Non-compliance with Orphan drug exclusion
- Lost savings



Payroll Fraud

- PTO diversion enabled by inappropriate access
- Media pressure created urgency in resolution
- Supported management in addressing issues



Value through Data Analytics

Data analytics can help internal auditors meet their audit objectives. By analyzing data within key organizational processes, internal audit is able to detect changes or vulnerabilities in organizational processes that could expose the organization to undue or unplanned risk.

This enables internal audit to identify changes in organizational processes and ensure that it is auditing today's risks — not yesterday's.



Thank you

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