Unleashing the Power of Data Analytics

Presented to: 2016 Compliance Institute

Today’s Agenda

- What Makes CHAN Unique
- Adding Value through Data Analytics
- Using Data Analytics in the Audit Process
- Examples of High Value Data Analytics
What Makes CHAN Healthcare Unique

- The only U.S. provider of internal audit, risk consulting and cybersecurity services dedicated solely to healthcare organizations
- Our dedication to healthcare gives us deep industry knowledge, insight, and intense focus that are unmatched by any other firm
- We help approximately 600 provider care entities across the country effectively manage risk and meet their compliance obligations
- We provide more than 5,000 action plans annually to improve controls and processes
- CHAN identifies millions in revenue enhancements and costs savings for clients each year
- We apply our deep industry knowledge and expertise to develop sound methodology and advanced technology tools
- As a subsidiary of Crowe Horwath LLP, CHAN has access to additional subject matter experts and advanced technological innovation

Data Analytics Definition

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

- More risk focused
- More efficient
- Higher value

Why Data Analytics? Why Now?

- Increasingly complex business landscape
- Fast paced business environment
- Increasing expectations of stakeholders
- Limitations inherent in traditional audit techniques
- Need to move towards an environment of more sophisticated risk analysis and monitoring
- Availability of powerful data analytics tools
- Explosion of data
Emerging Risks in Healthcare

Traditional Method – No Data Analytics

Next Generation – With Data Analytics
Overview of the Internal Audit Process

- Risk Assessment and Audit Plan Development
- Audit Planning
- Fieldwork
- Follow Up
- Continuous Auditing/Monitoring

Data Analytics in Healthcare Video
Data Analytics in Risk Assessment and Audit Plan Development

- Provides knowledge and insight into operations
- Facilitates and encourages conversations
- Adds auditor confidence in uncomfortable areas
- Offers a quantified risk assessment
Examples of Data Analytics – Risk Assessment

- Charge capture analysis
- Healthcare compliance analysis
- Financial analysis
- Trending and Benchmarking
- Other routines such as patient access, denials, LOS, CDM and E&M analysis

Example of Data Analytics – Risk Assessment - Financial Analysis

- Summarize Trial Balance
  - By revenue and expenses
  - By company
  - Compare current year to prior year
Example of Data Analytics – Risk Assessment - Benchmarking

<table>
<thead>
<tr>
<th>Risk Name</th>
<th>Risk Description</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAC-1</td>
<td>Foreign Object Retained After Surgery</td>
<td>2</td>
<td>0.002</td>
<td>0.025</td>
<td>0.030</td>
</tr>
<tr>
<td>TAC-2</td>
<td>Infection</td>
<td>3</td>
<td>0.009</td>
<td>0.090</td>
<td>0.100</td>
</tr>
<tr>
<td>TAC-3</td>
<td>Medication Error</td>
<td>4</td>
<td>0.019</td>
<td>0.190</td>
<td>0.380</td>
</tr>
<tr>
<td>TAC-4</td>
<td>Blood Transfusion</td>
<td>5</td>
<td>0.033</td>
<td>0.330</td>
<td>0.760</td>
</tr>
<tr>
<td>TAC-5</td>
<td>Post-Surgical Complications</td>
<td>6</td>
<td>0.057</td>
<td>0.570</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Example of Data Analytics – Risk Assessment - Trending

- Regulatory Findings
- Audit Action Plans
Audit Planning

Data Analytics in Audit Planning

- Focuses audit resources on high risk areas
- Facilitates audit efficiency
- Provides insight into operations
Example of Data Analytics – Audit Planning – Managed Care

- Managed care contract reimbursement risk identified
- Management uncertainty of the payors/contracts most at risk
- Data analytics identifies high risk payors/contracts of focus

Example of Data Analytics – Audit Planning – Charge Capture

- Perform to target specific department(s) or areas
- Use to focus audit resources to high risk areas
Fieldwork

Data Analytics in Fieldwork

- Uses scarce audit resources effectively
- Increases audit efficiency
- Allows for analysis of 100% of a population
- Provides quantified results
- Expedites fraud detection
Example of Data Analytics – Fieldwork – Managed Care

- Audited managed care contract reimbursement
  - Fieldwork results suggested that the payor was compliant
  - Gaps were found between charges and contracted rates

Example of Data Analytics – Fieldwork – System Access

- Identify terminated employees with access to critical systems
  - No process to communicate terminated employees
Example of Data Analytics – Fieldwork – Payroll Fraud

- Engaged to quantify the impact of a PTO fraud scheme
  - PTO diversion enabled by inappropriate access
  - Media pressure created urgency in resolution
  - Supported management in addressing issues

Example of Data Analytics – Fieldwork – CDM Comparisons

- CDM pricing compared to contracts and competitors
  - Revealed charges below contracted rates
  - Identified charges above or below market pricing
  - Success led management to request additional projects
Example of Data Analytics – Fieldwork – Drug Diversion

- Analyzed drug dispensing records and identified:
  - Late or incomplete drug administration records
  - Dispensing of drugs from unexpected stations
  - Excessive waste and witness nurse combinations
  - Exceptional override, waste and witness transactions

Example of Data Analytics – Fieldwork – Pyxis Analysis

- Audited Emergency Department drug dispensations
  - Identified dispensations not traceable to a patient log
  - Success led to ongoing monthly continuous monitoring
Example of Data Analytics – Fieldwork – 340B Mixed Use

- 340B mixed use pharmacy audits identified:
  - Lost savings due to missed 340B accumulations
  - Ineligible accumulations
  - Inappropriate inclusion/exclusion of Medicaid activity
  - Inappropriate monitoring of Orphan drugs
  - Drug purchases in excess of eligible dispensing records

Example of Data Analytics – Fieldwork – 340B Contracted

- 340B contract pharmacy audits identified:
  - Ineligible accumulations
  - Credit transactions not being processed
  - Inappropriate inclusion/exclusion of Medicaid activity
  - Ineligible carveout drugs
  - Drug purchases in excess of eligible dispensing records
Follow Up

Data Analytics in Follow Up

- Very efficient use of resources
- Simplified data access
- More efficient data validation
- Leveraged programming syntax
- Straightforward and efficient exception testing
- Identification of patterns, outliers and trends
Example of Data Analytics – Follow Up

- Examples of data analytics in Follow Up are as limitless, some examples include:
  - 340B Drug Discount
  - Charge Capture
  - Payroll and Paid-Time-Off
  - AR Valuation (Hindsight)

Continuous Auditing
Data Analytics in Continuous Auditing

- Traditional auditing
- Broadens audit coverage
- Uses scarce resources more efficiently
- Best Practice

Example of Data Analytics – Continuous Monitoring – AR Valuation
Example of Data Analytics – Continuous Auditing – Three Day Rule

<table>
<thead>
<tr>
<th>TEST DESCRIPTION</th>
<th>POPULATION</th>
<th>EXCEPTIONS</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Clinic patients meeting 3 day rule requirement – SSN</td>
<td>798</td>
<td>10</td>
<td>12.5%</td>
</tr>
<tr>
<td>Number of Clinic patients meeting 3 day rule requirement - Name</td>
<td>798</td>
<td>7</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

Example of Data Analytics - Continuous Auditing – Duplicate Payments

![Duplicate Payments Graph]

© 2016 CHAN Healthcare
Key Takeaways

- Rapidly changing industry
- Next Generation Internal Audit
- Specialized resources
- Deeper risk coverage
- Innovative thinking
- Knowledge growth for Auditors
## 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.

![Risk Icon]
THANK YOU
for your time today.

We appreciate the opportunity to tell you about CHAN Healthcare and the value we can bring to your organization.
For more information, please contact:

<table>
<thead>
<tr>
<th>Terri Allen</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analytics Audit Director</td>
<td></td>
</tr>
<tr>
<td>Direct: 501.552.6506</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:tallen@chanllc.com">tallen@chanllc.com</a></td>
<td></td>
</tr>
</tbody>
</table>

In accordance with applicable professional standards, some firm services may not be available to attest clients.

This material is for informational purposes only and should not be construed as financial or legal advice. Please seek guidance specific to your organization from qualified advisers in your jurisdiction.