Using RAC Data Mining to Drive Process Improvement

HCCA DESERT SOUTHWEST REGIONAL ANNUAL CONFERENCE

November 15, 2013

Data Mining. The New Hot Topic?

• It has a new name – “BIG” Data
  • “The big-data revolution in US healthcare: Accelerating value and innovation” – McKinsey and Company April 2013
  • “Big Data Improves Health Care” – Salon.com 9/9/13
  • “The Promise of Big Data” – Harvard School of Public Health Spring/Summer 2012
  • “Big Data is BS in Healthcare. When will it become real?” – xconomy.com 4/15/13
Data Mining. MAC, OIG, RAC....

- We all know that data mining is anything but new – and that “BIG” Data is only going to change the game, and not necessarily in the provider’s favor.
- ICD-10
Use Data Mining to Stay Ahead of the RAC

• The RACs are data mining your hospital’s submitted Medicare claims data.

• By reviewing your data moving forward, your facility can significantly reduce its RAC exposure and gain additional revenue, while improving compliance.

• Being proactive with your facility’s data provides you with the ability to focus on where your hospital can make improvements in its clinical documentation, coding, billing, reimbursement and compliance.

Why it is Important to Stay Ahead of the RAC

• Minimize RAC take backs and the costs associated with defense.

• Improve compliance.

• Improve process as a result.

• Slow growth of the “RAC Liability Curve”

• Compliance pays…..
Compliance Pays

• History has taught us that the more compliant a hospital is, the greater its revenue.

• The amount of money at risk for compliance audit reviews (RAC, MAC…) pales in comparison to the amount of money that can be lost to:
  – Incomplete medical records
  – Vague clinical documentation
  – Overly conservative coding

• As hospitals adopt more stringent compliance procedures, these problems can intensify without better documentation and follow up processes.

A Proactive Approach to Compliance Through Specifics-Driven Data Mining

• Identify problematic accounts before the RACs can.

• Review only the specific cases identified by data mining.

• Determine if cases need to be rebilled and follow-up accordingly.

• Institute educational and process improvement programs.

The net result of this approach will be increased revenue and greater compliance.
The Case for Specifics-Driven Data Mining

- Enables hospitals to focus their resources only on specific claims and issues at risk.
  - This is a much more effective use of internal staff and external dollars than random audits.
- Confirms existing internal audit programs.
- Identifies previously unfamiliar areas for improvement.

Specifics-Driven Data Mining vs. Reactive Data Mining

- Specifics-driven data mining examines all accounts and identifies specific accounts for specific reasons.
- Specifics-driven data mining looks at the relationship between charges, diagnoses and procedures.
- Reactive data mining, such as PEPPER reports, looks at aggregate data and does not examine specific patient-level data, nor specific issues within a DRG.
- These lack of specifics lead to sampling of issues and accounts, not a focused review – which can be needlessly resource intensive.
Examples of Data Mining and Case Studies

Case Study #1: Coding Improvements

- How a large community hospital employs data mining to facilitate improvement in coding for key RAC target areas specifically to:
  - Reduce at-risk cases
  - Reduce potential underpayments
  - Improved coding compliance
  - Identify additional revenue
  - Improve physician documentation
Case Study #1: Coding Improvements

- On a monthly basis key RAC target areas are reviewed and trended for the hospital.

Data Mining Example – Coding

<table>
<thead>
<tr>
<th>LIST</th>
<th>Risk Code</th>
<th>Risk Code Flags</th>
<th>Account Number</th>
<th>Admit Date</th>
<th>Length Of Stay</th>
<th>Total Charges</th>
<th>MS-DRG</th>
<th>Physician</th>
<th>CCI/MCC Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Risk* D</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>8</td>
<td>45,401</td>
<td>871</td>
<td></td>
<td></td>
<td>5/5</td>
</tr>
<tr>
<td>2</td>
<td>Risk* C</td>
<td>0000000000</td>
<td>09/01/2012</td>
<td>4</td>
<td>22,740</td>
<td>871</td>
<td></td>
<td></td>
<td>0/1</td>
</tr>
<tr>
<td>3</td>
<td>Risk* C</td>
<td>0000000000</td>
<td>10/01/2012</td>
<td>2</td>
<td>10,939</td>
<td>871</td>
<td></td>
<td></td>
<td>0/1</td>
</tr>
<tr>
<td>4</td>
<td>Risk D</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>4</td>
<td>23,706</td>
<td>871</td>
<td></td>
<td></td>
<td>4/1</td>
</tr>
<tr>
<td>5</td>
<td>Reward* CR</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>16</td>
<td>62,826</td>
<td>872</td>
<td></td>
<td></td>
<td>3/0</td>
</tr>
<tr>
<td>6</td>
<td>Reward PR</td>
<td>0000000000</td>
<td>10/01/2012</td>
<td>9</td>
<td>76,244</td>
<td>871</td>
<td></td>
<td></td>
<td>3/5</td>
</tr>
</tbody>
</table>

Targeted MS-DRG Grouping for Coding

Copyright CBIZ KA Consulting Services, 2013
Case Study #1: Coding Improvements

- Monthly and quarterly reports that analyze which cases are most likely to be requested by the RAC are generated.
  - Cases are further classified to identify those that are high risk
- Findings are trended and presented on a monthly and quarterly basis.

Data Mining Example – Coding

<table>
<thead>
<tr>
<th>LIST</th>
<th>Risk/Reward</th>
<th>Risk Code Flags</th>
<th>Account Number</th>
<th>Admit Date</th>
<th>Length Of Stay</th>
<th>Total Charges</th>
<th>MS-DRG</th>
<th>Physician</th>
<th>CCI MCC Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Risk*</td>
<td>D</td>
<td>000000000000</td>
<td>08/01/2012</td>
<td>8</td>
<td>45,401</td>
<td>871</td>
<td>5/1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Risk*</td>
<td>C</td>
<td>000000000000</td>
<td>08/01/2012</td>
<td>4</td>
<td>22,740</td>
<td>871</td>
<td>0/1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Risk*</td>
<td>C</td>
<td>000000000000</td>
<td>10/01/2012</td>
<td>2</td>
<td>10,939</td>
<td>871</td>
<td>0/1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Risk*</td>
<td>D</td>
<td>000000000000</td>
<td>08/01/2012</td>
<td>4</td>
<td>23,705</td>
<td>871</td>
<td>4/1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Reward*</td>
<td>CA</td>
<td>000000000000</td>
<td>08/01/2012</td>
<td>16</td>
<td>62,928</td>
<td>872</td>
<td>3/0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Reward*</td>
<td>PR</td>
<td>000000000000</td>
<td>10/01/2012</td>
<td>9</td>
<td>78,244</td>
<td>871</td>
<td>3/5</td>
<td></td>
</tr>
</tbody>
</table>
Data Mining Example – Coding

RAC Risk and Reward Reporting
Inpatient Coding Analysis
Sample Hospital
MS-DRGs 870/871/872 Septicemia

<table>
<thead>
<tr>
<th>LIST</th>
<th>Risk/Reward</th>
<th>Risk Code Flags</th>
<th>Account Number</th>
<th>Admit Date</th>
<th>Length Of Stay</th>
<th>Total Charges</th>
<th>MS-DRG</th>
<th>Physician</th>
<th>CCI/MCC Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Risk*</td>
<td>D</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>8</td>
<td>45,401</td>
<td>871</td>
<td>0</td>
<td>5/5</td>
</tr>
<tr>
<td>2</td>
<td>Risk*</td>
<td>C</td>
<td>0000000000</td>
<td>09/01/2012</td>
<td>4</td>
<td>22,740</td>
<td>871</td>
<td>0/1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Risk*</td>
<td>C</td>
<td>0000000000</td>
<td>10/01/2012</td>
<td>2</td>
<td>10,938</td>
<td>871</td>
<td>0/1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Risk</td>
<td>D</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>4</td>
<td>23,705</td>
<td>871</td>
<td>0/1</td>
<td>4/1</td>
</tr>
<tr>
<td>5</td>
<td>Reward</td>
<td>CR</td>
<td>0000000000</td>
<td>08/01/2012</td>
<td>16</td>
<td>82,826</td>
<td>872</td>
<td>3/0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Reward</td>
<td>PR</td>
<td>0000000000</td>
<td>10/01/2012</td>
<td>9</td>
<td>76,244</td>
<td>871</td>
<td>3/5</td>
<td></td>
</tr>
</tbody>
</table>

Reason Why Case is Selected
D = Incorrect Diagnosis Code
P = Missing Procedure Code
C = Irregular Charge Analysis
R = Reward Potential

Case Study #1:
Coding Improvements

- From this data, targeted case reviews are conducted.
- The results of the reviews are discussed with hospital coding staff and accounts where the findings are agreed upon are rebilled accordingly.
- Specific action items identified from the data mining are reviewed quarterly to focus the team on which areas to address where coding can be improved.
Case Study #1: Coding Improvements

- Over an 18-month period, the hospital has experienced significant progress in the coding of areas such as gram-negative pneumonia, excisional debridement and acute blood-loss anemia, all key RAC target areas.
- On-going data mining maintains continued compliance and helps correct missteps along the way.

Case Study #1: Coding Improvements

- For the targeted risk areas over an 18 month period, the hospital has experienced the following year-over-year results:
  - Overall Risk cases have been reduced from 263 to 233, an 11.4% decrease.
  - Potential underpayments have gone from 112 to 105, a 6.25% reduction.
  - In addition, the hospital has recovered more than $270,000 in additional, entitled revenue through the underpayment analysis.
Case Study #1: Coding Improvements

- Ultimately, data mining drives the specific areas that need to be addressed for improvement.
- Data mining finds the accounts that may need further examination.
- Chart reviews isolate key variables that lead to potential coding changes.
- Communication with hospital personnel leads to a plan to improve coding in these areas.

Case Study #1: Coding Improvements

- Documentation education for coding of gram negative pneumonia,
- Improvements to the physician query process and use of the query process,
- Coding of secondary diagnoses.
Case Study #2 Revenue Capture – 96-hour Vents: RAC Issue

• DRG 207 and 208 (respiratory system with ventilator support greater or less than 96 hours) is a known RAC target.

• Even though this is a fairly self-evident issue to code, a number of mistakes are still made in coding these DRGs.

Case Study #2 Revenue Capture – 96-hour Vents: The Problem

• Specifics-driven data mining, looking at length of ventilator time procedure codes and a patient’s length of stay, illustrated that the hospital assigned 6 out of 28 cases to DRG 208 instead of the higher-weighted DRG 207.

• The financial reimbursement implications for the DRGs are as follows: (per case)
  ➢ DRG 208 < 96 hours  $22,312
  ➢ DRG 207 > 96 hours  $41,285
  ➢ Net Change in Reimbursement:  $18,973
Case Study #2 Revenue Capture – 96-hour Vents: The Response

- After reviewing the data and performing subsequent chart reviews, the hospital re-billed a number of cases for the higher-weighted DRG 207.
- The hospital received tens of thousands of additional entitled dollars in just a three-month period.

Case Study #2 Revenue Capture – 96-hour Vents: Process Improvement

- DRG 207/208 is now on the hospital’s internal audit plan.
- The hospital held a “refresher” coder education on this issue.
- Forms used to document ventilator time were improved, key physicians were reeducated.
- Recent data mining has shown a substantial reduction of the number of cases at risk in this DRG grouping.
Case Study #3 Medical Necessity Risk Reduction in DRG 247

- This DRG had been an area of focus at a hospital prior to the use of detailed data mining and is also a frequent target for RACs and MACs.
- The hospital had received several audit requests from different audit entities.
- The hospital was successful at winning its appeals in these cases at the ALJ level, but that was a costly and resource-intensive process.

We reviewed one-day surgeries in this DRG. This is not a procedure that is on the inpatient only list.
Case Study #3 Medical Necessity Risk Reduction in DRG 247

• Here’s what the data mining identified:

We saw several cases with low charges, few CCs and MCCs and repeated cases with the same physicians. Were these valid admissions?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Account Number</th>
<th>Medical Record Number</th>
<th>Admit Date</th>
<th>Disch Date</th>
<th>Length Of Stay</th>
<th>Total Charges</th>
<th>Diagnosis Code</th>
<th>DRG</th>
<th>Physician</th>
<th>CCI</th>
<th>MCC</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0000000000</td>
<td>000000</td>
<td>11/01/2012</td>
<td>11/01/2012</td>
<td>1</td>
<td>35,520</td>
<td>01 247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0000000000</td>
<td>000000</td>
<td>12/01/2012</td>
<td>12/01/2012</td>
<td>1</td>
<td>38,655</td>
<td>01 247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0000000000</td>
<td>000000</td>
<td>01/01/2013</td>
<td>01/01/2013</td>
<td>1</td>
<td>72,117</td>
<td>01 247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0000000000</td>
<td>000000</td>
<td>02/01/2013</td>
<td>02/01/2013</td>
<td>1</td>
<td>25,671</td>
<td>01 247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Case Study #3 Medical Necessity Risk Reduction in DRG 247

• It was determined that several of these cases each month would be reviewed
  – Part of a monthly medical necessity review of at-risk cases.
  – Reviewed by RNs.
• Through the chart reviews, it was determined that several of these cases did not meet InterQual admission criteria.
Case Study #3 Medical Necessity Risk Reduction in DRG 247

- As a takeaway from the monthly reviews the hospital's Care Management Department engaged the specific physicians regarding the appropriateness of these admissions.
- After consulting with the physicians, there was a determination that these were valid admissions.
- However, a crucial physician documentation issue was uncovered.

As part of the transition to a fully electronic health record in the cardiac department, an area for free-form physician notes was not included.

Thus, physicians were using templates for these specific cases and did not provide the complete documentation that would deem these admissions medically necessary.

The hospital identified and corrected the issue as well as provided subsequent physician documentation education.
Case Study #3 Medical Necessity Risk Reduction in DRG 247

• As a result, far fewer cases in DRG 247 are now identified as audit risks.
• During the first six-month period of specific data mining, 16.7% of the cases were identified as high risk.
• In the most recent six-months, only 8.7% of the accounts were High Risk

Case Study #3 Medical Necessity Risk Reduction in DRG 247

• Fewer subsequent cases will need to be appealed to the ALJ.
• This process change has led to revenue assurance, more compliant practices and improved documentation.
• Ultimately, the data mining and subsequent follow up by the hospital identified and corrected a very costly systems implementation issue.
Other Examples of Process Improvement Resulting from RAC Data Mining

- Syncope
- Case Management in the ED
- Readmissions

The Two Midnight Rule....

- Ripe for INTERNAL data mining
Two Midnight Rule

RAC Risk and Reward Reporting
Short Stay Analysis - Medical Necessity
Sample Hospital
Syncope and Nervous Disorders

Pick list for review

| LDT | Risk | Revenue | Admit | Disch | DOD | Length of Stay | Total Charges | Total Disch | Total Doc | Medicare | Medicaid | Textbook | Physician | CBO | RAC |
|-----|------|---------|------|-------|-----|----------------|---------------|-------------|-----------|----------|----------|----------|----------|-----------|-----|-----|
| 1   | 2    | 3       | 4    | 5     | 6    | 7              | 8             | 9           | 10        | 11       | 12       | 13       | 14        | 15 | 16 |
| 2    | 3    | 4       | 5    | 6     | 7    | 8              | 9             | 10          | 11        | 12       | 13       | 14        | 15 | 16 |
| 3    | 4    | 5       | 6    | 7     | 8    | 9              | 10            | 11          | 12        | 13       | 14       | 15        | 16 | 17 |
| 4    | 5    | 6       | 7    | 8     | 9    | 10             | 11            | 12          | 13        | 14       | 15       | 16        | 17 | 18 |
| 5    | 6    | 7       | 8    | 9     | 10   | 11             | 12            | 13          | 14        | 15       | 16       | 17        | 18 | 19 |

Other Examples of Process Improvement:
Local Coverage Determinations (LCDs)

RAC Risk and Reward Reporting
Outpatient Automated Denials
LCD / NCD Medical Necessity
Sample Hospital

Specifics-driven data mining found left heart catheterization was billed 10 times without the proper ICD-9 codes out of 338 units billed for a total RAC risk of $29,594

Cardiac Catheterization (L0066)

| Policy Name | HCPCS Code | Description | Total Units Billed | Bill
Without ICD-9 Code | CMS Reimbursement | Amount of Risk |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Catheterization (L0066)</td>
<td>05539</td>
<td>Injection, cardiac cath</td>
<td>85</td>
<td>$23.56</td>
<td>$23.56</td>
<td></td>
</tr>
<tr>
<td>05543</td>
<td>Injection for heart x-rays</td>
<td>424</td>
<td>$19.83</td>
<td>$19.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05545</td>
<td>Imaging, cardiac cath</td>
<td>463</td>
<td>$200.66</td>
<td>$200.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05562</td>
<td>R &amp; L heart catheters</td>
<td>120</td>
<td>$2,698.43</td>
<td>$2,698.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05563</td>
<td>Injection, cardiac cath</td>
<td>110</td>
<td>$25.02</td>
<td>$25.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05564</td>
<td>Injection for angiography</td>
<td>51</td>
<td>$14.85</td>
<td>$14.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05566</td>
<td>Cardiac catheterization</td>
<td>1</td>
<td>$2,698.43</td>
<td>$2,698.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05567</td>
<td>Left heart catheterization</td>
<td>108</td>
<td>$2,698.43</td>
<td>$2,698.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05568</td>
<td>Right heart catheterization</td>
<td>10</td>
<td>$2,698.43</td>
<td>$2,698.43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Copyright 2012 CBIZ KA Consulting Services, LLC
Other Examples of Process Improvement:
Local Coverage Determinations (LCDs)

• The hospital had an education session regarding the proper outpatient billing and coding protocols for left heart catheterization.

• Next quarter, their risk in this LCD was $0.

Establishing a Continuous Process Improvement Program

1. Specifics-driven data mining is the foundation.
   - This process identifies the particular cases and issues needed for further review

2. Select your facility’s pressing issues which could be determined by:
   - Volume of cases
   - Dollars at risk
   - Existing internal audit plan
   - “Easy victories”
   - Available resources
Establishing a Continuous Process Improvement Program

3. Dive Deeper
   - Specific chart reviews
   - Identify documentation improvement efforts
   - Identify process improvements

4. Effect Change
   - Implement revised clinical documentation protocols
   - Educational programs
   - Resource allocation

5. Monitor, Monitor, Monitor.

Unfortunately, because of changes to CDMs, coding protocols and groupers, what you fix today might be broken tomorrow.

Without specifics-driven data mining, you will be dealing with yesterday’s problems instead of the issues that affect your hospital today.
Questions????

Contact Information

George Kelley, COO, CBIZ KA Consulting Services, LLC
gkelley@cbiz.com
609-918-0990