Compliance Data Analytics: 
There's Gold in the Data

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Overall Objectives:

• Utilize data analytics and data mining to audit (critical to revenue) with Medicare’s new payment models.
• Recognize critical areas to audit for risk and reward.
• Understand unique data analytics essential to ICD-10 coding compliance.

Disclaimer

• This material is designed and provided to communicate information about clinical documentation, coding, and compliance in an educational format and manner.
• The author is not providing or offering legal advice but, rather, practical and useful information and tools to achieve compliant results in the area of clinical documentation, data quality, and coding.
• Every reasonable effort has been taken to ensure that the educational information provided is accurate and useful.
• Applying best practice solutions and achieving results will vary in each hospital/facility and clinical situation.
About Sharp HealthCare

- Not-for-profit serving 3 million residents of San Diego County
- Sharp has grown from one hospital in 1955 to an integrated care delivery system
  - Affiliated, aligned, and integrated medical groups
  - Fully integrated information technology systems and infrastructure
  - Centralized system support services (human resources, information technology, clinical effectiveness, billing, accounting, payroll, marketing, etc.)
  - Senior management has an excellent track record of marked financial and operational improvement, with an average of 15 years of service at Sharp
- Largest health care system in San Diego with highest market share
  - 4 acute care hospitals, 3 specialty hospitals, 2 affiliated med groups and health plan,
  - Market share leader and only health system that increased market share each of the past nine years
- Largest private employer in San Diego
  - 17,000 employees, 2,600 affiliated physicians, 2,195 volunteers

What is Data Analytics?

- Healthcare data analytics allows for the examination of patterns in various healthcare data in order to determine how clinical care can be improved while limiting excessive spending

Goal of Data Analytics?

- Optimize reimbursement and decrease financial risk.
  - Identify unreported and under-reported conditions
  - Identify billing/coding submission errors.
  - Optimize MS-DRG assignment
  - Optimize APR-DRG SOI/ROM
  - Ensure ICD-10 diagnosis/procedure coding and clinical documentation is:
    - Accurate, complete, and consistent
Goal of Data Analytics

• Hospital Resource Protection
  – Healthcare dollar is shrinking, so all payers are looking for additional ways to maintain surpluses
  – CMS wants to keep Medicare Trust Fund solvent
  – Medicaid plans must combat state budget shortfalls

• Knowing Your Own Risk Areas
  – Necessary to identify baseline performance
  – Diagnoses at risk (DRGs)
  – Coding errors
  – POA errors
  – Combination codes/conflicting diagnoses
  – Comparison
    • Benchmarks, cohorts and trending
  • Recovery Auditor (RA’s) targets

Know Your Risk Areas

• Tremendous amount of money at risk.
  – RAs recouped 2.39 billion in 2014, $359 million in 2015
  – Many RAs receive higher reward percentage from healthcare auditing than from their traditional work
  – Hospital reimbursement is directly tied to coding, so there is a perceived incentive for us to upcode
  – Doctors are notorious for poor documentation
  – Many hospitals do not appeal their denials as aggressively as they should

What Were the Catalysts for Change?

• Opportunities for Compliance
  – Compliance rarely used as a revenue opportunity
  • Definitions of Compliance
    – Culture of Organization
      • Responsibility
      • Accuracy of Documentation
      • Accuracy of Coding
  • Working (Developing) Relationships
    – Revenue Cycle
    – Clinical Documentation Improvement
    – HIM
  • Staffing
    – MD
What Were the Catalysts for Opportunity?

- RACTrac Survey Results (AHA)
  - Second Quarter 2016
    - Three percent of all Recovery Audit determinations included an underpayment, while 40 percent included an overpayment.
  - Third Quarter, 2016
    - Percentage remained the same based on data collected and reported activity
- CMS
  - National Recovery Audit Program Quarterly Newsletter
    - CMS identified $24.29 million in underpayments, compared to $75.22 million in overpayments
  - KEY Point: Can’t rely on RACs to identify underpayments, and must take matters into your own hands. Underpayments few and far between

The Opportunity?

- Rather than rely on RA’s to identify underpayments, you must think about some proactive steps.
- What about pre-billing system audits, HIM system audits, etc?
- Should be annual coding audits as well as an annual clinical documentation improvement (CDI) audit by an external vendor to proactively identify areas of potential over and/or underpayments.
- Determine whether your organization has left any money on the table due to a missing modifier, omitted code, incorrect DRG, or a variety of other reasons.

Compliance Role

- Knowing that the hospital should not only prioritize protection against overpayments, but also prioritize to search for underpayments as well.
- That the end goal is to prioritize correct and compliant coding and DRG assignment.

Question: Isn’t under documentation just as wrong as over documentation?
Compliance Role

<table>
<thead>
<tr>
<th>Service Line Specialty</th>
<th>Unspecified Code Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology</td>
<td>29%</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>28%</td>
</tr>
<tr>
<td>Urology</td>
<td>28%</td>
</tr>
<tr>
<td>Medicine</td>
<td>26.5%</td>
</tr>
<tr>
<td>Pulmonology</td>
<td>26.3%</td>
</tr>
<tr>
<td>Best Specialties</td>
<td></td>
</tr>
<tr>
<td>Obstetrics</td>
<td>13.3%</td>
</tr>
<tr>
<td>Neonatal</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Transition - Prospecting

- Prospectors...
- Sutter’s Mill, Coloma, CA. May 1849

Tools (Mining) that you might need

- Identification/Datamining
  - Build algorithms for data mining
  - Identify focus/target DRGs
  - Key Performance DRG ratio analysis
- Use of resources
  - Software
  - Research Data
Tools (Mining) that you might need

- MedeAnalytics
  - Cohort benchmark
- 3M HDM Report
- MedPAR
- Pepper Data
- Quality Improvement Organizations (QIO’s)
- Office of Inspector General (OIG) Work Plan
- RAC Data
- Industry Experts

Partners You will need

“Howdy Partner”

- Relationship building – “Strike a Deal”
  - CDI
  - Health Information Management (HIM)
  - Information Systems (IS)
  - Case Management
  - Revenue Cycle
  - Physician Advisor-partnership /Consultant
- Share one nugget at a time

Understand the Reward-Risk-Investment

- As a prospector, you are digging...
  - CC (Complications/Comorbid Conditions) – Silver Nugget
  - MCC (Major Complications/Comorbid Conditions) – Gold Nugget
  - Reduction in Risk (RAC, MAC, QIO, CERT, etc.) – Priceless!
Beginning Your Endeavor
“Pioneer”

- Awareness of Immediate Risks
  - Kwashiorkor: E40 (Severe malnutrition with nutritional edema)
  - 96 Hour Vent: 5A1955Z
  - Sepsis as a PDX (DRG 871/872) with a short LOS
  - Alternatively, Sepsis > 2 days w/o organ dysfunction (if MD doesn’t state the patient looks toxic or critically ill)

Our Journey - Biggest Nuggets
“there for the taking”

- Obvious opportunities
  - DRGs with Actual LOS Greater than GMLOS.
  1. Any organ failure or infectious disease as PDX.
  2. Sepsis as SDX with actual LOS greater than GMLOS (Possibility of PCx).
  3. Other DRGs without CC/MCC with actual LOS greater than GMLOS.

Biggest Nuggets
“there for the taking”

- Cardiovascular-Complication or Comorbidity
  - Atrial Fibrillation, unspecified I48.91
  - Atrial Fibrillation, persistent I48.1
  - Angina
    - Angina Pectoris, unspecified I20.9
    - Angina Pectoris, unstable I20.0
    - As well as, Angina, Prinzmetal, pre-infarction, crescendo, progressive, accelerated, initial (new onset)
  - Mortality (Expired Patients) w/o a MCC
  - Medical or Surgical Cases w/o CC or MCC
  - High LOS with low SOI/ROM
Additional Risks

- Always Review DRGs 981-982
  - Principle OR Procedure Unrelated to the PDX
- Expensive MS-DRGs, lucrative target for RAs
- Established high error rate at baseline
- Difficult to defend (procedure for reason other than cause of the hospital admission)
- Will be flagged and audited
- Single CC and MCCs as a target
- 1 Day LOS
  - Excluding: AMA, Expired, Inpatient Only Procedure cases

Additional Risks
Impella Procedure

- ICD-10-PCS Guideline for Coding and Reporting 2016:
  - “A device is coded only if a device remains after the procedure is completed. If no device remains, the device value No Device is coded.”
- For clarification of these 2016 guidelines/coding clinic, refer to: ICD-10-CM/PCS Coding Clinic, First Quarter ICD-10 2017 Volume 4 Number 1 Pages: 10-12. Effective with discharges: March 13, 2017.
  - Question: “Would both the assistance (5A0) and the insertion (02H) codes be assigned for every type of external heart assist device, such as the Impella regardless of whether or not the device was removed at the end of the procedure? Answer: No. Assign a code for only for (5A0) when an external heart assist device such as the Impella is inserted intraoperatively and removed at the completion of the procedure. It would not be appropriate to assign a code for the insertion of the device.

Impella Procedure

<table>
<thead>
<tr>
<th>Clinical Scenario</th>
<th>ICD-10-PCS Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/17 D/C Summary: An Impella device was inserted... following completion of the procedure which the patient tolerated well, the Impella device was taken out in the Cath Lab.</td>
<td>SA0221D Assistance with Cardiac Output using Impeller Pump, Continuous.</td>
</tr>
<tr>
<td>9/30 Op Note: We then placed an Impella via the right femoral artery across aorta and into the left ventricle for hemodynamic support given... the Impella will be left in place given his on going cardiogenic shock.</td>
<td>SA0221D Assistance with Cardiac Output using Impeller Pump, Continuous.</td>
</tr>
<tr>
<td>D/C Summary: Impella percutaneous left ventricular assist device via the right femoral artery performed by Dr. X on 09/30/2016. 2. Removal of the Impella pump performed by Dr. X on 10/05/2016.</td>
<td>32PA21Z Insertion of External Heart Assist System from Heart Percutaneous Approach. 32PA21Z Removal of External Heart Assist System from Heart Percutaneous Approach.</td>
</tr>
</tbody>
</table>
Additional Risks
“High Risk DRGs & Contract Coders”

- Statistically, most commonly targeted MS-DRGs:
  - 247 Perc CV Proc w/Drug-Eluding Stent w/o MCC
  - 312 Syncope & Collapse
  - 392 Esophagitis, Gastroenteritis & Misc. Digestive D/Os w/o MCC
  - 313 Chest Pain
  - 491 Back/Neck Proc Except Spinal Fusion w/o CC/MCC
  - 69 Transient Ischemia
  - 552 Medical Back Problems w/o MCC
- Contract Coders

Our Experience of Mining
“Dig deeper for the rewards”

- LOS Greater than the GMLOS
- Simple Pneumonia
- Unspecified Shock
- Unspecified CHF
- Other Circulatory System Diagnosis
- Quadriplegia

Focus DRG Analysis

DRG 195 Simple Pneumonia and Pleurisy without CC/MCC DRG Wt 0.7028
(One of the highest underpaid DRGs)

- Can have a more specific PDX:
  - J696 Aspiration Pneumonia
  - Change to DRG 179 Wt 0.9325
  - A419 Sepsis with J189 Pneumonia as MCC
  - Change to DRG 871 Wt 1.7660
- Can capture a CC:
  - Add as SDX J9611 Chronic respiratory failure
  - DRG change to 194 Wt 0.3469
- Can capture an MCC:
  - Add as SDX J9601 Acute respiratory failure
  - DRG change to 193 Wt 1.3860
Focus DRG Analysis

DRG 195 Simple Pneumonia and Pleurisy without CC/MCC DRG Wt 0.7028
(One of the highest underpaid DRGs)

- With simple PNA, look for antibiotics being utilized
  - Vancomycin, Meropenem, Ciprofloxacin, Flagyl
  - Clues as to what specific bacterial pneumonia MD is treating
    - Example: Zosyn: patient may have aspiration or gram negative pneumonia
- Then review for additional clinical indicators that may suggest specific type of pneumonia
  - Example: COPD, Vent status, Cystic Fibrosis, for gram negative PDA
- Finally, look for additional MCC’s or CC’s
  - Acute or chronic respiratory failure may be present
  - Clinical indicators for Sepsis

DRGs with CC and Unspecified Shock as SDX

- Further Shock specificity: (significant opportunity)
  - Unspecified Shock R579: CC
  - Other specified Shock R578, Septic Shock R6521, Cardiogenic Shock R570, Hypovolemic Shock R571: MCC
- Coding Error versus Missing Specificity
  - Correct the coding error
  - Issue a query

DRGs with CC and Unspecified Shock as SDX (Continued)

- Principal Diagnosis and Shock most likely be specified to:
  - Sepsis, Septic Shock
  - GI Bleed/Trauma: Hemorrhagic Shock
  - Dehydration: Hypovolemic Shock
  - NSTEMI/STEMI: Cardiogenic Shock Coding Error versus Missing Specificity
DRGs with CC and Unspecified Shock as SDX (Continued)

• Coding Error Clinical Example

<table>
<thead>
<tr>
<th>Initial DRG</th>
<th>Audited/Corrected DRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>378 GI Hemorrhage with CC</td>
<td>377 GI Hemorrhage with MCC</td>
</tr>
<tr>
<td>DRG Wt 0.986</td>
<td>DRG Wt 1.772</td>
</tr>
<tr>
<td>Reimbursement: $7463.91</td>
<td>Reimbursement: $13,228.74</td>
</tr>
</tbody>
</table>

PDx K284 Chronic or unspecified gastrojejunal ulcer with hemorrhage
2Dx CC 57579 Unspecified Shock

San Diego's Health Care Leader

DRGs without CC/MCC and CHF Unspecified as SDX

• CHF unspecified: Non CC/MCC (Failure to document the specific type of CHF nor its acuity-I50.9 as a secondary dx)
• Chronic Systolic/Diastolic Heart Failure: CC
  – Systolic HF characterized by:
    • Low ejection fraction
    • Dilated, weak heart/thin ventricular wall
    • Decreased outflow of blood
  – Diastolic HF characterized by:
    • Normal or elevated EF
    • Diastolic dysfunction (EKG)
    • Thickened myocardium/hypertrophic ventricle
• Acute/Acute on Chronic Systolic/Diastolic CHF: MCC
• Specification of systolic or diastolic failure or dysfunction is essential for proper coding of heart failure.

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DRGs without CC/MCC and CHF Unspecified as SDX (Continued)

• Principal Diagnosis
  – AMI
  – CAD
  – Hypertensive Heart
  – ESRD
  – Atrial Fibrillation/Flutter

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Other Circulatory System Diagnosis (DRGs 314-316)

With review of the medical MS-DRG, there was a procedure that was not captured, that changed it to a surgical DRG. Patient was undergoing an adenopathy procedure, we added Lymph Node biopsy (not captured) which is coded to Excision with a qualifier diagnostic.

<table>
<thead>
<tr>
<th>Initial DRG</th>
<th>Audited DRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>315 Other Circulatory System Diagnoses w/ CC Wt</td>
<td>316 Other Circulatory System Diagnoses w/ CC Wt</td>
</tr>
<tr>
<td>GMLOS: 3.0</td>
<td>GMLOS: 3.0</td>
</tr>
<tr>
<td>Reimbursement: $6589.25</td>
<td>Reimbursement: $22,845.49</td>
</tr>
</tbody>
</table>

PDx: I313 Pericardial Effusion
2DX CC: C342 Malignant neoplasm of middle lobe, bronchus or lung

Quadriplegia, Functional Code R53.2 MCC

- Complete immobility due to server physical disability or frailty. (Most MDs know this definition, but don't document, quadriplegia).
  - Severe dementia
  - Severe contractures
  - Advanced arthritis, bed confinement status
  - Lack of ability to use one’s limbs or ambulate due to extreme disability
  - Example: Bed confinement status: contractures of bilateral feet and right hand. Metastatic uterine cancer. Previous stroke, aphasia, contractures, hemiplegia. (Needs to be caught by the coder, query).

Focus DRG Analysis
CMS 2015 Highest Underpayment Rate MS-DRGs

<table>
<thead>
<tr>
<th>MS-DRGs with the Highest Service-specific Underpayment Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRG</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>089</td>
</tr>
<tr>
<td>491</td>
</tr>
<tr>
<td>201</td>
</tr>
<tr>
<td>241</td>
</tr>
<tr>
<td>261</td>
</tr>
</tbody>
</table>

### Focus DRG Analysis

<table>
<thead>
<tr>
<th>DRG</th>
<th>Total Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>206 Other respiratory system diagnoses without MCC</td>
<td>49</td>
</tr>
<tr>
<td>419 Laparoscopic cholecystectomy without CDE without CC/MCC</td>
<td>569</td>
</tr>
<tr>
<td>310 Cardiac arrhythmia and conduction disorders without CC/MCC</td>
<td>262</td>
</tr>
<tr>
<td>254 Other vascular procedures without CC/MCC</td>
<td>49</td>
</tr>
<tr>
<td>195 Simple pneumonia and pleurisy without CC/MCC</td>
<td>200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1129</td>
</tr>
</tbody>
</table>

### Focus DRG Analysis

#### A. 206 Other respiratory system diagnoses without MCC DRG Wt 0.8320 (14.3% IPR, 49 cases).

Usually include PDX that are unspecified respiratory diagnoses.

- Can have alternate PDX
  - Search Clinical Indicators (High) RR, (Low) O2 Sat 85%, on 4L NC O2 (continuously) for ARF
  - Acute pulmonary edema
  - More specific Respiratory Infections
    - Lung Abscess, TB, or Bacterial PNA
- Can we discover an MCC

#### B. 419 Laparoscopic Cholecystectomy without CDE without CC/MCC DRG Wt 1.2619 (6.5% IPR, 569 cases).

- Can capture corrected surgical approach.
  - Laparoscopic turned into Open approach (OP Report’s detailed description).
  - Delete 0FT44ZZ DRG and Code 0FT40ZZ and 0F44ZZ DRG 415 Wt 2.0235.
- Can we discover an alternate PDX?
  - In patients with infection, if sepsis is not documented, always scan the record for clinical indicators for sepsis = Alternate DRG 854 DRG Wt 2.3655.
  - Look for complication following ambulatory surgery as reason for admission (Cardiac arrhythmia, ileus, etc.).
- Can we capture a CC?
  - Most surgical procedures have the risk of patients having acute blood loss anemia. Add as SDX D62 Acute blood loss anemia DRG change to 418 Wt 1.6499.
Focus DRG Analysis

C. 310 Cardiac Arrhythmia and Conduction Disorders without CC/MCC DRG Wt 0.5627 (5.6% IPR, 262 cases).
   - Can have alternate PDX
     - I110 Hypertensive Heart disease with Heart Failure with I50.33 Acute on chronic diastolic CHF
     - DRG change to 292 with DRG Wt 0.9574
     - I200 Unstable Angina with I481 Persistent Atrial Fibrillation
     - DRG 311 with DRG Wt 0.6310
   - Can capture a CC
     - Add as SDX E87.1 Hypo-osmolality and Hyponatremia will result in DRG 309 DRG Wt 0.7757
   - Can capture an MCC
     - Add as SDX N17.90 ATN DRG change to 308 Wt 1.2046

Focus DRG Analysis

D. 254 Other Vascular Procedures without CC/MCC DRG Wt 1.7764 (5.1% IPR, 49 cases).
   - Can capture other surgical procedure instead
     - Percutaneous Cardiovascular Procedure with Drug-Eluting Stent with MCC or 4+ Vessels/Stents DRG change to 246 Wt 3.2525
   - Can capture a CC
     - Add as 2dx D62 Acute blood loss anemia DRG change to 253 Wt 2.6441
   - Can capture an MCC
     - Add as 2dx N170 ATN DRG change to 252 Wt 3.3126

Additional Potential Mining

- Codes to Review
  - Hypoglycemia in a Diabetic
    - Secondary Dx (E08.641)
    - DRGs w/o MCC and DRGs w/o CC/MCC
  - HIV Infection w/o Disease
    - Secondary Dx (221)
    - Any DRG
  - Nicotine Withdrawal
    - Secondary Dx (F17.200)
    - DRGs w/o CC/MCC
Establish Safeguards

- Educate medical staff to use currently recognized ICD system terminology (CMO, CDI).
  - Show them the actual ICD-10 codes
  - Differences exist between clinical terminology and the ICD system
  - Show them the coding results if they continue to use terminology not recognized by the ICD system
  - Constantly remind them they should routinely use what is on their CDI pocket cards
  - Constantly remind them that your CDI team and their queries are there to help them

Establish Safeguards

- Encourage medical staff to use consultants' more specific terminology
  - Coding from consultant terminology is allowed.
  - However... cannot be conflicting or contradictory to that used by primary service.
  - "If documentation from different physicians conflicts, seek clarification from the attending physician, as he or she is ultimately responsible for the final diagnosis."
    - AHA Coding Clinic, First Quarter 2004

Establish Safeguards

- Solidify procedural necessity
  - ALL auditors have/will increase scrutiny of medical necessity for certain procedures
    - High revenue, so rewarding targets
    - Many proceduralists are poor documenters
  - Your medical staff must definitively establish why procedure XYZ is medically necessary
    - PTCA w/ and w/out stent
    - Total joint replacements (knees & hips)
    - Multi-level spinal fusions
Establish Safeguards

- Develop house-wide disease definitions
  - Improves communication between providers
  - Limits RAC vulnerabilities as all providers are consistent
  - Strengthens appeals with articles, references, book chapters for defense
  - Facility and/or regionally accepted disease definitions permitted & recognized by CMS & Coding Clinic
  - However, must use nationally recognized definition, if exists
    - RACs certainly will if leads to denial opportunity

- Need to stay current in CDI/CMS world
  - Review annual ICD-coding updates (October 1)
  - Review quarterly Coding Clinic updates
  - Monitor AHIMA, ACDIS websites/blogs
  - Review HCPro’s “Medicare Weekly Update”
  - Review HCPro’s “The RAC Report”
  - Review AHA’s quarterly “RACTrac”
  - Monitor Medicare/RAC/MAC websites for new postings regarding NCDs, LCDs, MLN matters

- Develop a DRG Reconciliation Process
  - When the CDS nurse reviews a record, a preliminary MS-DRG is assigned
  - Coder reviews the record after patient discharged and arrives at an MS-DRG after it is coded
  - If the two MS-DRGs don’t match, must converse
    - If no resolution, send to coding supervisor and/or CDI PA for review
  - Consider a Coding Escalation (Process) Committee
Ways to Proactively Identify Overpayments

• Audit, audit and audit!
• Analyze your audits looking for trends
• Do underpayments typically relate to a particular diagnosis or principle procedure
• Is a specific CC or MCC typically lacking
• Is it a documentation problem related to a particular physician
• Finally, follow-up with Coders, MDs, and CDI Specialists’ education
  – Utilize audit results to educate staff about vulnerabilities and how to mitigate risk

Summary: Creating a New Philosophy Compliance is an Asset which is beneficial

• To be compliant, health care systems need to ensure that they capture entitled revenue. Opportunities exist with:
  ✓ Vague clinical documentation
  ✓ Weak internal communication (feedback loops)
  ✓ Incomplete medical records
  ✓ Overly conservative or inconsistent coding
  ✓ Lack of education to physicians
• With the transition to ICD-10, increased emphasis toward data driven outcomes, and the associated financial implications, clinical data integrity is monumental.

Questions
References

RAC Underpayment and Overpayment

AHIMA journal

Medicare Fee For Service Improper Payment Reports 2015


AHIMA Practice Brief - Guidelines for Achieving a Compliant Query Practice (2016 Update)

2017 ICD-10-CM-Official Guidelines for Coding and Reporting

ICD-10-CM/PCS AHA's Coding Clinic, First Quarter ICD-10 2017 Volume 4 Number 1 Pages: 10-12. Effective with discharges: March 13, 2017