Learning Objectives

- At the completion of this educational activity, the learner will be able to:
  1. Evaluate metrics for monitoring, evaluating, and improving CDI program effectiveness
  2. Identify educational opportunities for physicians and coders
  3. Describe opportunities for collaboration by CDI within the facility
  4. Identify opportunities for enhancing CDI program value by focusing on quality and financial models

Henry Mayo Metrics

- A Data-Driven Approach to CDI

Questions & Answers
The Henry Mayo Way

Our hospital is on a journey to exceed expectations of those we serve, every day, every time. It’s the “Henry Mayo Way,” and our goal is to create the ideal experience for our patients, our employees, our partners, and our community. “We care” is our message—and we want everyone to hear “we care,” say “we care,” and feel “we care.” Please join us on this journey.

Henry Mayo Newhall Hospital

- Hospital fast facts, fiscal year 2016
  - 238 beds
  - 1,900+ staff
  - 491 physicians
    - Including hospitalists and private practice
  - 13,348 inpatients
  - 35,247 outpatients
  - 1,299 babies delivered (Baby-Friendly designation)
  - 68,702 ED visits

Henry Mayo CDI Team Profile

2016
- 4 RN FTE/1 RN per diem
  - 27 years of CDI experience
  - 1 CDIP
  - All BSN
  - 3 with master’s degrees
  - 1 family nurse practitioner
  - All on-site
  - Coding supervisor is former CDIS!

2017
- Adding 2 FTE
  - Job description opened to foreign-trained MDs
  - Rotating remote positions
  - Space constraints
  - Attract larger work pool
Henry Mayo Software Used

- Precyse/nThrive version 5.0 with electronic query tracking
- Meditech version Client/Server 5.66 with electronic query capability, 5.67 upgrade late 2017
- 3M Encoder
- Internal supported database – DivePort
- External supported database – Revenue Optimization Compass (The Advisory Board)

Payer Types Reviewed 2016*

- Medicare – traditional and managed care
- MediCal (Medicaid) traditional
- All reviews done concurrently

* Additional payers or ORGs reviewed as needed
Planned Reviews in 2017

- Medicare traditional and managed care
- MediCal (Medicaid) traditional and managed care
- Additional concurrent reviews will be rolled out on a unit-by-unit basis in collaboration with new multidisciplinary rounding program
- All reviews done concurrently

---

Henry Mayo Metrics

2 A Data-Driven Approach to CDI

3 Questions & Answers

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Why Is It Important to Track CDI Information?

“If you don't know where you are going, you'll end up someplace else.”

Yogi Berra
**“Traditional” CDI Metrics Employed**

- Initial review rate (productivity)
- # queries
  - Type of queries
- Quality/revenue impact
  - DRG change
  - Quality change
- Query response rate
- Query agreement rate
- CMI
- Unspecified code
- SOI/ROM
- CC/MCC capture
- ICD-9 to ICD-10 change
- Medical vs. surgical

---

**Formal Evaluation Strategy Shift**

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>A year of confirming CDI success with impact queries and revenue enhancement</td>
<td>Less emphasis on impact queries, more emphasis on quality and productivity</td>
</tr>
<tr>
<td>Increasing productivity per staff member</td>
<td>Increasing patient review to unit-by-unit reviews in collaboration with multidisciplinary program</td>
</tr>
<tr>
<td>Increasing staff numbers</td>
<td>Increasing staff numbers</td>
</tr>
<tr>
<td>Remote opportunities (but always maintaining in-house presence)</td>
<td>Remote opportunities (but always maintaining in-house presence)</td>
</tr>
</tbody>
</table>

---

**Queries**

- **572**
  - 2014 Medicare traditional only
- **1,278**
  - 2015 Medicare traditional & managed care
- **1,607**
  - 2016 Medicare traditional & managed care & MediCal (Medicaid) traditional

CHF is still leading query
- Still need ongoing education for rotating hospitalists
- Still find charting opportunities in mature clinicians

Agreement rate used as educational tool
- "Doctor, we’re not wasting your time with our queries"
  - Query response rate close to 100%
How We Use Metrics

- CMI, unspecified code, SOI/ROM, CC/MCC capture helped guide our educational efforts over the past three years, especially during the ICD-10 implementation phase to determine effectiveness
  - Education for physicians
  - Education for staff

Challenges Faced

1. Struggling to understand root cause of lower CMI
2. ICD-10 transition
3. Desire to focus on broader range of metrics

4-Step Approach to CDI

- STEP 1: Compare Performance to Internal/External Benchmarks
- STEP 2: Review Charts to Validate Patterns and Areas of Focus
- STEP 3: Educate Physicians and Coders
- STEP 4: Track and Report Results
Step 1:
**Compare Performance to Internal/External Benchmarks**
Take Advantage of Free Data

**PEPPER Report**
The Program for Evaluating Payment Patterns Electronic Report (PEPPER) provides hospital-specific data for Medicare diagnosis-related groups (DRGs) and discharges at high risk for improper payments.

---

**How to Effect Change**

- **Action plan:** All ICU/DOU (step-down unit) patients w/simple pneumonia (regardless of payer) queried by CDI to determine if we can increase specificity of type of pneumonia

---

**How to Effect Change**

- Physician education on medical necessity resulted in appropriate placement of TIA as observation patients rather than inpatients
Make Friends With Decision Support/IT

LOS vs GMLOS

Geometric Mean LOS

Av Patient Days
Chief Critical Practitioners
Cardiologists
IMH Hospitals
Other Hospitals
Everyone Else

Medicare LOS by Charting Group FY2016 N=3456

Using Outside Vendors to Compare Performance Over Time

<table>
<thead>
<tr>
<th>MS-DRG Group</th>
<th>ICD-9</th>
<th>ICD-10</th>
<th>VAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>October thru September 2015-2016</td>
<td>Exchs</td>
<td>Exchs</td>
<td>Exchs</td>
</tr>
<tr>
<td>166–168 OTHER RESP SYSTEM O.R. PROCEDURES</td>
<td>10</td>
<td>2.81</td>
<td>17</td>
</tr>
<tr>
<td>219-221 CARDIAC VALVE &amp; OTHER MAJOR CARDIAC PROCESSES EXC CARDIAC CATHER</td>
<td>5</td>
<td>6.06</td>
<td>6</td>
</tr>
<tr>
<td>325–331 MAJOR SMALL &amp; LARGE BOWEL PROCEDURES</td>
<td>21</td>
<td>3.79</td>
<td>22</td>
</tr>
<tr>
<td>515-517 OTHER MUSCULOSKELETAL SYS &amp; CONNECTIVE TISSUE O.R. PROC</td>
<td>6</td>
<td>2.58</td>
<td>8</td>
</tr>
<tr>
<td>987–989 NON-EXTEMPORANEOUS O.R. PROC UNRELATED TO PRINCIPAL DX</td>
<td>9</td>
<td>2.40</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>3.43</td>
<td>54</td>
</tr>
</tbody>
</table>

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Action Plan

- Selected 987–989 NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DX for immediate in-depth audit due to audit denial possibilities and limited time frame and spike in number of cases
- Creating cardiovascular tip sheet with CV surgeons
- Additional CV surgery education for coders and CDI staff

Compare Performance to Internal & External Benchmarks FY 2016

<table>
<thead>
<tr>
<th>MS-DRG Service Line</th>
<th>ALOS</th>
<th>Cohort ALOS</th>
<th>Cohort ALOS Var</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopedic surgery</td>
<td>4.8</td>
<td>3.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Cardiovascular surgery</td>
<td>5.2</td>
<td>5.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>8.4</td>
<td>7.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Surgery for malignancy</td>
<td>5.9</td>
<td>3.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MS-DRG Service Line</th>
<th>CMI</th>
<th>Cohort CMI</th>
<th>Cohort CMI Var</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopedic surgery</td>
<td>2.52</td>
<td>2.39</td>
<td>0.14</td>
</tr>
<tr>
<td>Cardiovascular surgery</td>
<td>3.34</td>
<td>3.89</td>
<td>(0.56)</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>3.47</td>
<td>3.63</td>
<td>(0.17)</td>
</tr>
<tr>
<td>Surgery for malignancy</td>
<td>2.12</td>
<td>1.95</td>
<td>0.17</td>
</tr>
</tbody>
</table>
Compare Performance to Internal & External Benchmarks FY 2016

<table>
<thead>
<tr>
<th>MS-DRG Service Line</th>
<th>MS-DRG CC/MCC Capture</th>
<th>Cohort CC/MCC Capture</th>
<th>CC/MCC Var</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopedic surgery</td>
<td>45%</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Cardiovascular surgery</td>
<td>44%</td>
<td>47%</td>
<td>-3%</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>73%</td>
<td>73%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Surgery for malignancy</td>
<td>68%</td>
<td>50%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Action Plan

Feedback to orthopedic co-management panel on good work but not there yet!

Piggyback on prior CV tip action plan

Compare Performance Over Time

<table>
<thead>
<tr>
<th>Top MS-DRG Groups by Volume</th>
<th>ICD-9</th>
<th>ICD-10</th>
<th>Var</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>871–872 SEPTICEMIA W/O MV 96+ HOURS</td>
<td>85</td>
<td>265</td>
<td>180</td>
<td>Sepsis initiative</td>
</tr>
<tr>
<td>251–253 HEART FAILURE &amp; SHOCK</td>
<td>88</td>
<td>207</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>151–195 SIMPLE PNEUMONIA &amp; PLEURIS</td>
<td>128</td>
<td>177</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>191–192 CHRONIC OBSTRUCTIVE PULMONARY DISEASE</td>
<td>47</td>
<td>153</td>
<td>106</td>
<td>Coding rule change</td>
</tr>
<tr>
<td>489–690 KIDNEY &amp; URINARY TRACT INFECTIONS</td>
<td>60</td>
<td>144</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>850 PSYCHOSES</td>
<td>46</td>
<td>124</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>482–684 RENAL FAILURE</td>
<td>52</td>
<td>117</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>054–056 INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION</td>
<td>44</td>
<td>107</td>
<td>63</td>
<td>Certified stroke center</td>
</tr>
</tbody>
</table>
Step 2: 
Review Charts to Validate Patterns and Areas of Focus

- In-depth chart review
- Identifying trends to target chart review efforts—limited time, limited people, productivity requirements
- Identifying trends to target educational efforts for staff and physicians
- Sometimes chart review is the hardest thing to do—“work gets in the way”

Step 3: 
Educate Physicians and Coders

Looking Back

In-Person Training Efforts

- ICD-10 physician in-office training
- Orientation of all new physicians to CDI-HIM processes
- Hospitalist call co-management panels monthly presentations

Training Reinforcement Materials

- Monthly CDI-HIM newsletters emailed
- Monthly tip sheets posted in dictation areas
- Distribution of external physician pocket guides to key admitting and new physicians
Step 3: Educate Physicians and Coders
Examples

- Data Monitoring
  - Mortality monitoring using internal mortality ROM data based on coding
  - Sepsis mortality monitoring using internal mortality ROM data based on coding
  - Decubitus ulcer charting & monitoring

Looking Back

Examples

[Image of brochure: Clinical Documentation Improvement CDI]

Brochure

[Image of educational material for CDI]
Step 3: 
**Educate Physicians and Coders**

**Looking Forward**

**In-Person Training Efforts**
- Hospitalist monthly staff meeting presentations
- Office visits to develop specialist tip sheets and build relationships
- Increased ICD-10-PCS training
- Denials notification

---

**Case Study: Presented to Hospitalists**

65 y/o Hispanic male admitted with SOB. PMHX pneumonia, diastolic CHF, CKD, DM, BPH, OSA-noncompliance with CPAP and atrial fibrillation. Diagnostic workup revealed: Room air sat 78%—placed on BIPAP, temp 100.8, HR 99, RR 28. CXR showed possible infiltrates to RML and LLL and moderate size left pleural effusion. BUN/creat 34/2.3 that worsened to 58/5.2. Pro-BNP 11,453. Recent ECHO showed EF 51%. TEE negative for vegetation.

---

**Case Study: Presented to Hospitalists**

- **Assessment/plan (actual):**
  - Acute respiratory failure
  - MRSA bacteremia—unknown source
  - Acute kidney failure on CKD
  - Atrial fibrillation
  - Type 2 DM with complications
  - Diastolic CHF
  - IV ceftriaxone, IVFs
  - Pulmonary, ID, nephrology consults
  - BIPAP
  - Thrombectomy
  - Hemodialysis
  - GMLOS: 3.8

- **Assessment/plan (more specific):**
  - MRSA sepsis due to diskitis/osteomyelitis of T9/10
  - Acute respiratory failure with hypoxia
  - Acute on chronic diastolic CHF
  - Possible MRSA pneumonia
  - Type 2 DM with renal manifestations/CKD stage 4
  - Acute renal failure with ATN
  - Pleural effusion, left
  - IV ceftriaxone, IVFs
  - Pulmonary, ID, nephrology consults
  - BIPAP
  - Thrombectomy
  - Hemodialysis
  - GMLOS: 4.9

SOI: 3  ROM: 3  GMLOS: 3.8

SOI: 4  ROM: 4  GMLOS: 4.9
**Step 3:**
**Educate Physicians and Coders**

Looking Forward

**Data Monitoring**
- Unit-by-unit rollout of chart reviews with multidisciplinary rounding program
- Full HAC monitoring, which includes PSI-90
- Rehab chart monitoring
- ICD-9 to ICD-10 retrospective review comparisons
- Surgical comparisons

**Step 4:**
**Track and Report Results**

- Reported monthly to CFO, medical staff, appropriateness review committee, and other hospital staff committees
- Reviewed with CDI staff monthly at strategy meeting
- Full transparency
- Increased denials tracking

**Formal Evaluation Metrics 2016**

- **1,607 queries**
- **82% initial charts reviewed**
- **40% financially impacting queries**
- **90% query agreement rate using agreement or disagreement queries**
$1.9 million dollars in positive query impact in 2016

Lessons Learned and Recommendations

- Our philosophy: We audit for quality, and the impact follows
- Don’t get overwhelmed with data—concentrate on bite-size pieces
- Learn each area well
- Coders are your partners
- Physicians are your allies
- Educate, educate, educate!

References

Thank you. Questions?

stoddardrv@henrymayo.com

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