SOI/ROM Queries: Why Is That "Healthy" Patient Dead in the Bed?

Sara Baine, MSN-Ed, CCDS  
CDI Consultant, MedPartnersHIM  
Barnes-Jewish Hospital  
St. Louis, Mo.

Rhonda Peppers, RN, BS, CCDS  
CDI Consultant, MedPartnersHIM  
Barnes-Jewish Hospital  
St. Louis, Mo.
Learning Objectives

• At the completion of this educational activity, the learner will be able to:
  – Define Severity of Illness and Risk of Mortality (SOI/ROM)
  – Discuss SOI/ROM Query opportunities
  – List three benefits of quality documentation of SOI/ROM
  – Describe the benefit of appropriate SOI/ROM documentation on the healthcare organization and clinician's public reported data and reimbursement.

So What Is All the Fuss About?

• Patient case: Looks healthy on paper, but they are dead. This mortality review appears contradictory to the case presented.
  – Case-specific review
    • Principal diagnosis
    • Secondary diagnoses
    • Comorbidities
Healthy Patient?

Case data:
86-year-old female with past medical history:
- Diabetes mellitus Type 2
- Hypertension
- Hyperlipidemia
- Coronary artery disease

Clinical Data Documented

- Found down/unresponsive at home
- Blood pressure 76/50
- Respiratory rate 8
- Heart rate 105
- Temperature 104 degrees
- Saturation on non-rebreather 87%
- Chest x-ray negative
- Complete blood cell count: white blood cell count 42,000
- Basic metabolic profile: BUN 62, creatinine 3.4
- Urinalysis: turbid urine, 4+ leuk esterase, > 50 WBCs, 4+ bacteria
Clinical Treatment Documented

• Treatment:
  – Pt was given 3 liters fluid
  – Levophed drip
  – Vancomycin IV
  – Intubated & on ventilator

If Not Documented, Didn’t Happen

• Why the chart reflects a noncritical patient that was found “dead in the bed”
  – What was documented
  – What was coded
  – What could have been coded (if documented)
  – Query sample(s)
What Was Documented in the Medical Record

1. Urinary tract infection: vancomycin, cultures obtained.
2. Resp distress: continue with assist control ventilator settings.
3. Diabetes mellitus Type 2: monitor blood sugar, insulin started.
4. Bacteremia: due to #1, continue to monitor CBC & continue antibiotic therapy.

5. Hypotension: probable due to urinary tract infection, give fluids and levophed drip.
6. Elevated BUN/creatinine: acute kidney injury vs. renal insufficiency. Baseline creatinine from previous admission is 1.0.
7. Unresponsive, pupils 4 mm, unreactive, no response to pain noted. Will check neuro status every hour.
What Was Coded

Primary diagnosis:
458.9 Hypotension

Secondary diagnoses:
599.0 Urinary tract infection
790.7 Bacteremia
250.00 Diabetes mellitus
780.2 Syncope and collapse
593.0 Disorder of kidney and ureter
401.9 Essential hypertension
809.7 Altered mental status

Procedures:
96.71 Ventilator for less than 96 hours
96.04 Intubation

3M™ APR DRG Classification System

316 base APR DRG categories

<table>
<thead>
<tr>
<th>Subclass</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minor</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
</tr>
<tr>
<td>3</td>
<td>Major</td>
</tr>
<tr>
<td>4</td>
<td>Extreme</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subclass</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minor</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
</tr>
<tr>
<td>3</td>
<td>Major</td>
</tr>
<tr>
<td>4</td>
<td>Extreme</td>
</tr>
</tbody>
</table>

- There are APR DRG weights for each subclass:
  - Severity weight is assigned by CMS
  - Expected mortality percentages based on state data APR DRG is the standard methodology used by most rating agencies
Severity of Illness/Risk of Mortality on What Was Coded

Severity of illness  1
Risk of mortality     3

- The relatively healthy-appearing patient expired on the 3rd day after admission
- What kind of effect will this have on your quality performance scores?

What Could Have Been Coded If Queried by the CDI Staff

**Primary diagnosis:**
038.9 Septicemia

**Secondary diagnoses:**
785.52 Septic shock
584.5 Acute kidney failure with lesion of tubular necrosis
518.81 Acute respiratory failure
780.01 Coma
599.0 Urinary tract infection
995.92 Severe sepsis
250.00 Diabetes mellitus Type 2

**Procedures:**
96.71 Ventilator for less than 96 hrs
96.04 Insertion of endotracheal tube
Severity of Illness/Risk of Mortality for Appropriate Diagnosis Coding

Severity of illness 4
Risk of mortality 4

• This gives a precise reflection of the critically ill patient’s diagnoses as reflected in the coding summary

Step 1 of an Approach to Querying: Example 1

Step 1: Clinical indicators
84-year-old patient with:
• Urinary tract infection
• Temperature 104 degrees
• Unresponsive
• Blood pressure 76/50
• Heart rate 105
• Saturation 87% on non-rebreather
• White blood cell 42
Step 2 of an Approach to Querying: Example 1

Step 2: Treatment

- 3 liters intravenous fluid
- Levophed drip
- Intubated/ventilator
- Vancomycin intravenous

Step 3 of an Approach to Querying: Example 1

Step 3: Based on the information provided, please document if you are treating any of the following:

- Septic shock
- Shock unrelated to trauma
- Unable to determine
- Other (please specify)
Step 1 of an Approach to Querying: Example 2

Step 1: Clinical indicators
86 y/o pt with:
• Respirations @ 8/min
• Saturation 87% on non-rebreather
• Unresponsive

Step 2 of an Approach to Querying: Example 2

Step 2: Treatment
• Non-rebreather that progressed to intubation/ventilator
• Assist control vent with rate of 12, oxygen level to 90%
Step 3 of an Approach to Querying: Example 2

Step 3: Based on the information provided, please document if you are treating any of the following:

- Acute respiratory failure
- Acute respiratory insufficiency
- Other diagnosis (please specify)
- Unable to determine

Three-Step Approach to Querying: Example 3

1. Clinical indicators:
   86 y/o pt with chronic renal insufficiency
   - BUN 62, creatinine 3.4
   - Documented baseline creatinine of 1.0
   - Unresponsive
   - Blood pressure 76/50

2. Treatments:
   - 3 liters fluid
   - Levophed drip

3. Based on the information provided, please document if you are treating any of the following:
   - Acute renal failure/acute kidney injury with acute tubular necrosis
   - Acute renal failure/acute kidney injury without acute tubular necrosis
   - Other diagnosis (please specify)
   - Unable to determine
Three-Step Approach to Querying: Example 4

1. Clinical indicators:
   - Unresponsive to painful stimuli
   - Pupils 4 mm and nonreactive

2. Treatments:
   - Neuro checks q1 hour

3. Based on the above information, please document if you are treating any of the following:
   - Coma
   - Obtunded
   - Other diagnosis (please specify)
   - Unable to determine

Severity of Illness/Risk of Mortality (SOI/ROM)

• Definition
  – Interaction of SOI/ROM with APR-DRG
    • Principal diagnosis: what necessitated the admission
    • Secondary diagnosis: what impacts admission decision
    • What was documented appropriately: is it comprehensive
    • What was coded in the final summary: is it thorough
  – What affects SOI/ROM

• Number of comorbidities
  – NOT documented, NOT treated
Importance of SOI/ROM

Hospital

• Case-mix index validation/improvement
  – CMI is the sum of all DRG relative weights/number of Medicare cases in a given time period.

• Mortality rates
  – Observed mortality/expected mortality = risk-adjusted mortality rates
  – “Linking risk-adjusted mortality rates with hospital ratings = potential increase in lives saved from increased quality of care” (Reference: acponline.org)
  – Prevalence of comorbid conditions/disabilities (i.e., change in insurance-adjusted rates)

Hospital Quality Reports: Peer Rankings Affected by Severity of Illness/Risk of Mortality Data

• Individual and service lines: Can we provide extended services; can we maintain current services (i.e., new bariatric program, cardiovascular interventionist, robotic surgical procedures)?

• Healthgrades: www.healthgrades.com How does your hospital/physician profile reflect the care provided under 14 Patient Safety Indicators (i.e., pressure sores, death following serious complications after surgery, hip fracture after surgery)?

• Hospital Quality Report: www.hospital-quality.com Where does your facility rank in comorbid improvement, readmission rates?

• Physician Compare: www.medicare.gov/PhysicianCompare Poor results are possible when documentation does not reflect the disease state of your patient.

• PEPPER: www.pepperresources.org How are we benchmarked against like facilities? Does your report reflect improvements in clinical documentation (i.e., sepsis)?
Service Line Contract Negotiations
Affected by Severity of Illness/Risk of Mortality Results

How can you impact contract negotiations?
• Stop DRG reductions through appropriate diagnosis documentation of specificity
• Improved E&M professional fee arrangements with seamless documentation (outpatient to inpatient to discharge care)
• Quality data metric reporting & assessment
  – Medical necessity validation: physician decision to admit
  – Medical necessity validation for continued stay beyond GLOS/ALOS parameters

Importance of Severity of Illness/Risk of Mortality (Resource)

– Allocation of resources
  • Protecting the bottom dollar–improving safety net for RAC/MAC, value-based purchasing reductions
  • Physician recruitment/retention
  • Protecting the bottom dollar
  – Validate care delivered at the outpatient & inpatient level
  – Validation of E/M billing requirements and data captured
  – Pay for performance
  • Insurance quality metric assessment is valid
  • Outside entity referrals to increase relationships with smaller healthcare systems, increase market value with consumers (citizens, corporate, & healthcare)
  • Credit for work performed for physicians
Importance of Severity of Illness/Risk of Mortality (Nursing)

- Nursing
- Why should I make sure the physician is documenting specific diagnosis?
  - CMI effects on staffing models = increased revenue = service line expansion = increased staffing needs filled
  - Allocation of resources in service lines
    - Low CMI = low resources available for future needs
  - Job security in shrinking healthcare market & troubled economy
  - Retention/recruitment

Importance of Severity of Illness/Risk of Mortality

Allocation/use of resources are in direct proportion to the documented levels of SOI/ROM
Role of CDS Staff-Unit Level Reviewer
With Severity of Illness/Risk of Mortality

• Peer support for CDI staff
• Guide to physician education at the unit level, new employee orientation, service line peer review
• Guide to physician documentation needs (i.e., Recovery Audit Contractor initiatives, value-based purchasing requirements, pay-for-performance regulations, shifts in healthcare: core measures, healthcare-acquired condition reporting)
• To engage nursing staff regarding importance of quality documentation
• Making the query clear & concise for the provider, and non-leading for compliance

Role of CDS Staff Effect on Mortality
Gap Analysis & Quality Reporting

• Guide CDS staff education: conducting second-level reviews, improving non-leading and compliant query templates, mortality reviews
• Guide to physician education: corporate level, service line peer review
• Engage nursing staff regarding importance of quality documentation
The “Transparency” of Quality to the Public

Mortality gap: The wider, the better

8% actual mortality rate → 20% “predicted” mortality rate

# of deaths/number of D/Cs per DRG
# of deaths
Predicted/number of D/Cs per DRG

*Additional MCC/CCs add to this number

***Quality outcomes are compared DRG to DRG. If a patient is “under-coded” to a DRG without complex conditions or major complex conditions (because physician “specificity” in documentation is missing), mortality rates could appear higher than expected.

Making the Query Clear and Concise for the Provider: Sample 1

1. **Clinical indicator:** 77 y/o pt with COPD exacerbation, wears home oxygen continuously at 2 liters/min, not responding to outpatient respiratory treatments, RR 24–30/min, working to breathe, speaking in short sentences, respiratory distress documented in the ED and progress notes

2. **Treatment/monitoring/evaluation:** continuous nebulizer in ED, oxygen titration 10–15L via non-rebreather mask in ED, decision to intubate/mechanical ventilation AC full support

3. **Please document the appropriate diagnosis for the clinical information above in your progress notes including through discharge:**
   - Acute respiratory distress
   - Acute on chronic respiratory failure
   - Other diagnosis
   - Unable to determine

* Possible, probable, suspected, and likely diagnosis may be documented by the provider
What Was Coded on Case 1
SOI/ROM = 4/3

Principal diagnosis:
496 Chronic airway obstruction

Secondary diagnoses:
V46.2 Dependence on supplemental oxygen
786.09 Dyspnea and respiratory abnormality
250.00 Diabetes mellitus Type 2
401.9 Hypertension
272.4 Hyperlipidemia

Procedure:
96.71 Ventilator for less than 96 hrs

Coding Difference: Case 1
SOI/ROM = 4/4

Principal diagnosis:
491.21 Obstructive chronic bronchitis with (acute) exacerbation

Secondary diagnoses:
518.81 Acute respiratory failure
276.2 Acidosis
V46.2 Dependence on supplemental oxygen
250.00 Diabetes mellitus
272.4 Hyperlipidemia
401.9 Hypertension

Procedures:
96.71 Ventilator for less than 96 hrs
96.04 Intubation
Making the Query Clear and Concise for the Provider: Sample 2

1. **Clinical indicator:** 56 y/o African American female with CKD with baseline creatinine 1.4, hypertension, and diabetes mellitus Type 2, presents with shortness of breath, lower extremity edema. Progress notes diagnosis of volume overload and creatinine up to 2.5 during last office visit. Pt was noted as noncompliant with medical therapy.

2. **Treatment/monitoring/evaluation:** emergent hemodialysis on day 2 of admission due to creatine of 10 after renal CT dye administration, renal MD consult, serial labs, telemetry.

3. **Please document the appropriate diagnosis for the clinical information above in your progress notes including through discharge:**
   - Acute renal failure in setting of CKD stage 1–5 due to reaction to CT dye
   - Chronic kidney disease stage 1–5
   - Other diagnosis
   - Unable to determine

* Possible, probable, suspected, and likely diagnosis may be documented by the provider

---

**Coding Difference: Case 2**

**SOI/ROM = 2/1**

**Coded**

**Principal diagnosis:**
585.9  Chronic kidney disease

**Secondary diagnoses:**
276.69  Fluid overload
401.9  Hypertension
250.00  Diabetes mellitus Type 2
v15.81  Personal hx of noncompliance
Coding Difference: Case 2
SOI/ROM = 3/2

Principal diagnosis:
584.9 Acute kidney failure

Secondary diagnoses:
276.69 Fluid overload
250.00 Diabetes mellitus Type 2
585.2 Chronic kidney disease stage 2
403.90 Hypertensive kidney disease

Procedures:
39.93 Insertion of vessel-vessel cannula
39.95 Hemodialysis

Making the Query Clear and Concise
for the Provider: Sample 3

1. Clinical indicator: 81 y/o AAM with hx of diabetes mellitus II, chronic kidney disease III, hypertension, coronary artery disease, fluid overload, and noncompliance with treatment admitted with:
   - SOB, rales bilateral bases, 10lb wt gain/2 days, RR 30/min
   - Saturation 88% on 4 liters nasal cannula, edema to scrotum
   - Labs: BNP 2345
   - CXR: mod/severe pulmonary edema noted
   - Atrial fibrillation with RVR: heart rate 130s on admission
   - Ejection fraction 20%

2. Treatments:
   - Pt placed on Bipap
   - Lasix 40mg IV
   - Cardizem drip
   - 2D echo done
3. Please document the appropriate diagnosis for the clinical information above in your progress notes including through discharge:

- Acute systolic failure
- Acute diastolic failure
- Acute combined diastolic/systolic failure
- Acute pulmonary edema from a noncardiac source
- Other diagnosis (please specify)
- Unable to determine

* Possible, probable, suspected, and likely diagnosis may be documented by the provider

Coding Difference: Case 3
SOI/ROM = 1/1

Coded

Principal diagnosis:
403.90 Hypertensive kidney disease stage 1–4

Secondary diagnoses:
250.00 Diabetes mellitus Type 2 or unspecified, not uncontrolled
585.9 Chronic kidney disease
414.01 Coronary artery disease of native vessel
V15.81 Personal history of noncompliance with medical treatment
Coding Difference: Case 3
SOI/ROM = 2/3

Coded after query

Principal diagnosis:
428.21 Systolic heart failure, acute

Secondary diagnoses:
518.4 Acute edema of lung
585.3 Chronic kidney disease stage 3
250.00 Diabetes mellitus Type 2 or unspecified, not uncontrolled

Making the Query Clear and Concise for the Provider: Sample 4

1. Clinical indicator: 52 y/o female adm with abscess of abdominal wall s/p ventral hernia repair 2 wks ago and altered mental status
   - Potassium 3.0, physician documented “K repleted”
2. Treatment/monitoring/evaluation:
   - KCL 30 mEq IV given
3. Please document the appropriate diagnosis for the clinical information above in your progress notes including through discharge:
   - Hypokalemia
   - Other diagnosis
   - Unable to determine

* Possible, probable, suspected, and likely diagnosis may be documented by the provider
Making the Query Clear and Concise for the Provider: Sample 4

1. **Clinical indicator:** 52 y/o female adm with abscess of abdominal wall s/p ventral hernia repair 2 wks ago and altered mental status.
   - Mg 1.4, physician documented that the “Mg repleted”

2. **Treatment/monitoring/evaluation:**
   - Magnesium sulfate IV given

3. **Please document the appropriate diagnosis for the clinical information above in your progress notes including through discharge:**
   - Hypomagnesemia
   - Other diagnosis
   - Unable to determine

* Possible, probable, suspected, and likely diagnosis may be documented by the provider

Coding Difference: Case 4
SOI/ROM = 1/1

Coded

**Principal diagnosis:**
998.59 Other postoperative infection

**Secondary diagnoses:**
682.2 Cellulitis and abscess of trunk
401.9 Hypertension
780.97 Altered mental status

**Procedure:**
54.91 Percutaneous abdominal drainage
Coding Difference: Case 4
SOI/ROM = 2/1

After queries

Principal diagnosis:
998.59 Other postoperative infection

Secondary diagnoses:
275.2 Disorder of magnesium metabolism
682.2 Cellulitis and abscess of trunk
401.9 Hypertension
780.97 Altered mental status
276.8 Hypopotassium

Procedure:
54.91 Percutaneous abdominal drainage

Coding Difference: Case 4

If you go further with this case and query for type of altered mental status, you can potentially increase the SOI/ROM.

For example, vascular dementia—the SOI/ROM would increase to 2/2.
Conclusion

Proper queries lead to proper results.

It’s more than hunting for the CC/MCC.

It’s getting a clearer picture of the patient’s condition!

References

- American College of Physicians. SOI/ROM. http://acponline/about_acp/chap
Thank you. Questions?

In order to receive your continuing education certificate(s) for this program, you must complete the online evaluation. The link can be found in the continuing education section at the front of the workbook.