A Matter of Life or Death: CDI Impact on Mortality Risk Adjustment

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Learning Objectives

- At the completion of this educational activity, the learner will be able to:
  - Identify how to interpret UHC risk model variables
  - Recognize the difference between observed vs. expected mortality
  - Define CDI role in impacting mortality risk adjustment
  - Implement lessons learned from case study review
Who Are We?

• Thomas Jefferson University Hospital
  – Center City Campus
  – Jefferson Hospital for Neuroscience (JHN)
  – Methodist
• Clinical documentation staff
  – Senior director of HIM and clinical documentation
  – Director of clinical documentation
  – 3 clinical documentation senior coordinators
  – 20 clinical documentation specialists

How Did It Happen?

• Quality initiative investigating clinical opportunities in unexpected deaths
• Robust clinical review process
• Opportunity for:
  – Improved documentation
  – Deeper analysis into risk models
• Beginning of mortality groups

What Is Risk Adjustment?

• What does it mean?
  – Risk
  – Adjustment
• Comparing like patients or populations
• Utilizing risk models
  – Applying risk models to your patient population
Why Risk Adjust?

- Benchmarking
  - Patient outcomes
  - Examine practice differences
  - Measure and compare patient care
- Quality improvement
  - Identify performance improvement opportunity
- Publicly reported data
  - Hospital Compare, Leapfrog, U.S. News & World Report, UHC

Key Factors for Risk Adjustment

- Present on admission (POA)
- Age
- Race
- Gender
- Admit status/source
- Comorbidities
- Procedures
- End-of-life decision

Risk-Adjusted Mortality Ratio

- Risk-adjusted mortality ratio: Observed mortality/expected mortality
- Observed mortality: Actual number of inpatient deaths that occur in the hospital during a specific time period
- Expected mortality: Predicted number of deaths in the hospital based on patients’ level of illness at the hospital
Improving Risk Adjustment Mortality

Two potential avenues:

Avenue #1: **Observed**
- **Clinical practice**
- **Patient selection**

Avenue #2: **Expected**
- **Coding & documentation**
- **Model comparisons**

A mortality index of 1.0 indicates that observed mortality is equal to the expected value. The goal should be to improve observed and expected mortality to achieve a lower mortality index (< 1.0).

History of TJUH Mortality Risk Adjustment

- Neuroscience survival scores given by *U.S. News & World Report* did not reflect the acuity of the patients treated at TJUH
- Acuity of the TJUH neuroscience population was much higher than documented in patient charts
- Objective:
  - Improve JHN (Jefferson Hospital for Neuroscience) overall mortality rate
  - Decrease neuroscience mortality index and improve *U.S. News & World Report* ranking

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Mortality Index Compared to U.S. News & World Report


Initial Implementation

• Identified cases with potential impact
• Initiated Jefferson Hospital for Neuroscience (JHN) mortality analysis group
  – Performance improvement
  – Physicians
  – Clinical documentation specialists
  – Coders
• Standardized case review process

Sample Case Summary
Star Definitions

Medicare severity DRG based on the interaction between the patient’s principal diagnosis and principal procedure.

Admit severity of illness and risk of mortality (3M).
Divided into four categories: (1) minor, (2) moderate, (3) major, and (4) extreme.
REM (relative expected mortality) for any patient that falls into the particular model group. This is model group-specific and not specific to your patient.
Relative expected mortality for this particular patient based on principal diagnosis/procedure and all secondary diagnoses that fall into the risk model variables for this DRG.
Specific (REM) is "below" the UHC’s model specific expected mortality. Divided into five categories: well below, below, equal, above, and well above.

Risk Model Summary

The adult model groups are primarily grouped by base MS-DRG.
Expected mortality is the predicted percentage of deaths based on patients’ level of illness at the hospital.
Variables on each risk model are listed by their weights. The higher the variable on the list, the higher the impact it will have on expected mortality.
Risk Model Calculator

REM vs. ROM

Mortality Committees
Mortality Committees

• Review process
  – Cases selected and distributed by PI
  – Calculators
  – Clinical documentation specialist review
    • Risk model variable opportunity
    • Concurrent and retrospective queries
    • Missed coding opportunity
    • Missed query opportunity
    • POA assignment

Mortality Committees

• Presentation of cases
  – Physician
  – Clinical documentation specialist
    • Calculator
    • CDS summary
    • Spreadsheet
  – Coding input
  – Discussion

Mortality Committees

Mortality Review Template

• Background
• Risk in pt:
• Initial Plan of Attack
• Outcome of Attack
• Impact of Efforts
• Clinical Summary
  - Clinical improvements for improvement
• History and Physical (Coding Issues)
• Decision:
• Treatmentplan
• Admission/discharge
• Select clinical/physician (missed opportunity) and subject them to mortality process with this tool (nearly inevitable)
Sample Spreadsheet

<table>
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<th>Encounter</th>
<th>Adm. Code</th>
<th>Disch. Date</th>
<th>Documentation Opportunities</th>
<th>Coding</th>
<th>EVC Risk Score</th>
<th>Risk Model Variables</th>
<th>Reminders</th>
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<td>Risk model variable impact: 1. Cerebral edema 2. coma 3. Obstructive hydrocephalus 4. Documented variables relevant to the risk model, excluding the following variables 5. Type and levels of laboratory tests 6. Anticholinergic or respiratory failure</td>
<td>EVC Risk Score: 0.97264 Total impact: 0.09957</td>
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CDS Summary

- Patient presented to OSH ER with c/o headache
- Lapsed into altered mental status for which she was intubated
- CT head “subarachnoid hemorrhage with hydrocephalus”
- Transferred to TJUH for further management
- PMH: Negative
- PSH: Negative
- PDX: SAH Hunt-Hess Gr IV, ruptured cerebral aneurysm
- PPX: Coiling of basilar artery aneurysm

Case Summary

[Case Summary Diagram]

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CDS Summary

- Patient presented to outside hospital (OSH) with complaints of dark urine and decreased urine output.
- AST/ALT in 4000s. Transferred to TJUH 3 days after admission for acute liver failure workup.
- PMH: Acoustic neuroma, alcohol abuse (quit 1 month prior to this admission).
- PDX: Acute liver failure.
ROM Results

Medicare DRG and MDC Information

- DISORDERS OF LIVER EXCEPT MALIG. DRR, ALCO HEP A W/CC
  - CMS # 0.328
  - ALOS 4.2
  - LOS 2.4
  - Length of stay, discharge to a postacute care provider, and home health service condition codes can significantly impact reimbursement for this DRG.
  - DISEASES & DISORDERS OF THE HEPATOBILIARY SYSTEM & PANCREAS

- Estimated Reimbursement – Medicare Inpatient
  - Total: $7,500.00
  - Status: Not an Outlier

APR (all versions) DRG and MDC Information

- 270 HEPATIC COMA/HEPATIC INS
  - APR wt: 0.9419
  - Low Trim: 1
  - High Trim: 12
  - ALOS: 3.46
  - LOS: 2.79
  - Status: LOS Inlier
  - DISEASES & DISORDERS OF THE HEPATOBILIARY SYSTEM & PANCREAS
  - 2 Moderate Severity of Illness
  - 1 Minor Risk of Mortality

Revised ROM Results

Medicare DRG and MDC Information

- DISORDERS OF LIVER EXCEPT MALIG. DRR, ALCO HEP A W/CC
  - CMS # 0.328
  - ALOS 4.2
  - LOS 2.4
  - Length of stay, discharge to a postacute care provider, and home health service condition codes can significantly impact reimbursement for this DRG.
  - DISEASES & DISORDERS OF THE HEPATOBILIARY SYSTEM & PANCREAS

- Estimated Reimbursement – Medicare Inpatient
  - Total: $7,500.00
  - Status: Not an Outlier

APR (all versions) DRG and MDC Information

- 219 HEPATIC COMA/HEPATIC INS
  - APR wt: 1.0769
  - Low Trim: 1
  - High Trim: 20
  - ALOS: 5.34
  - LOS: 4.21
  - Status: LOS Inlier
  - DISEASES & DISORDERS OF THE HEPATOBILIARY SYSTEM & PANCREAS
  - 2 Major Severity of Illness
  - 2 Moderate Risk of Mortality

Lessons Learned

- Minor stroke sequelae
- Loss of consciousness
- Epilepsy
- DNR/palliative care
- Procedures
- Brain death
- Code submission
- Physician education
CDI Impact

- CC/MCC capture rate
- Case-mix index
- Improved communication
- Decreased legal risk
- Quality of care
- Patient Safety Indicators (PSI)
- Coding opportunity
- Query opportunity
  - Concurrent CDS opportunity
  - Retrospective coding opportunity

CDI Impact: Process

- Clinical processes
  - Appropriate level of care
  - Appropriate treatment
  - Correct diagnoses? Failure to diagnose?
- Documentation processes
  - Staff education
  - Mortality committee involvement
  - Reinforce importance of POA assignment

CDI Impact: Guidelines

- Concurrent queries for neuroscience patients
  - Cerebral edema
  - Brain compression
  - Coma
  - Hydrocephalus
  - Encephalopathy
- Concurrent and retrospective queries
  - Brain death
CDI Impact: Mortality Coordinator

• Previous mortality review process
  – Low discharge SOI/ROM
  – Potential DRG impact
  – Second-level review by coding
• Current mortality review process
  – 100% mortality review by CDI
  – Continued second-level review by coding
  – Review for risk model impact, SOI/ROM, DRG impact, coding opportunity

Mortality Coordinator

• Training
  – Experienced clinical documentation specialist
  – Appropriate contacts
    • Admitting attending vs. attending of record
    • Coding
  – Risk models
    • Calculators
    • Interpreting variables
    • Spreadsheets

Mortality Coordinator

• Auditing
  – Weekly reporting to CDI and coding department
  – Update weekly spreadsheets
  – Productivity
    • # of charts reviewed
    • % of charts queried
  – Escalation of unanswered queries
  – Query compliance
Mortality Spreadsheets

- Case encounter numbers
- Hospital (JHN, Center City, Methodist)
- Service line
- Cases with/without recommendations
- Reason for query (if generated)
- Physician response (agree/disagree/no response)

Changes in TJUH U.S. News & World Report Survival Scores

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Mortality Index Compared to U.S. News

TJUH Neuroscience Mortality Index Compared to 2014 USNEWS Top 20 Neuroscience Hospitals by Quarters

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What’s Next?

- Current service lines
- Additional service lines
- Hospital mortality
- Continued physician education
- Death packet
- Staff education
- Survival score

Where Do You Start?

- Assess current mortality review process
- Evaluate your publically reported data
- Work with physicians to form review committees
  - Case selection process
  - Choice of committee members
  - Frequency of meetings
- Feedback

  It all centers on accurate documentation!

Thank you. Questions?

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kathleen.shindle@jefferson.edu

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 program guide.
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<th>Expected or Unexpected</th>
<th>Coder’s comments (RA-C)</th>
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<td>Risk model variable impact: 1. Cerebral edema 2. Coma 3. Obstructive Hydrocephalus Documentation opportunities not impacting the risk model: 1. Type and Acuity of CHF 2. Acute respiratory distress/Acute respiratory failure</td>
<td>Obesity documented PN pg 3/6 BMI 33.6</td>
<td>0.09957</td>
<td>0.97264 Well above Coma 0.9939 Obstructive Hydrocephalus 0.9880 Cerebral edema 0.9744 Total impact: 0.9978</td>
<td>Kathy Shindle Physician</td>
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<td>Mortality review 7/7 by Kathy Shindle. Suggestions to query for acute respiratory distress/acute respiratory failure, Coma, Cerebral edema. Retrospective queries sent to the attending on 7/8, 7/15 and 7/22 with no response. Suggestion to the coder: “moderate obese” documented progress note 3/6, Obesity now coded.</td>
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