Is CDI the Secret to Success?
How the Top Ranked Hospitals Outperform Peers in Quality

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Learning Objectives

• At the completion of this educational activity, the learner will be able to:
  – Discuss the quality improvement landscape for hospitals
  – Explain how to use a hospital quality rating methodology to gauge performance in inpatient care versus peers
  – Implement a clinically focused clinical documentation program that guarantees significant quality improvement and higher rankings for quality
Widespread Quality Variation Continues

Unwarranted variation is a ubiquitous feature of U.S. health care. Remedies for variations exist, and several are described in the current collection of Health Affairs papers. Several obstacles stand in the way of widespread adoption of these remedies:

1) A quality agenda that has yet to focus on improving the quality of patient decision-making
2) Economic incentives that do not reward exemplary practice
3) The poor state of clinical science

Increasing Value-Based Purchasing
State/Local Business Groups and Coalitions

500,000 covered lives represented by 60 employer members

More than 365,000 covered lives represented by 44 employer members

101 plan sponsors and over 135,000 covered lives

Represent more than 100 organizations, over 1.2 million covered lives, and more than $5 billion in healthcare costs

29 large employers, union trusts, and other purchasers

Members include one of the largest global pharmaceutical manufacturers, local government agencies

17 large employers with over 300,000 covered lives

46 large employers with 2 million covered lives

Represents 750,000 lives in local market and 1.4 million lives nationally

24 large and mid-size employers

350,000 covered lives

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Increasing Value-Based Purchasing

Large Employers

- Global pharmaceutical company (78,000 lives)
- Multinational speciality beverage company (191,000 lives)
- Global industry leader in bauxite, alumina, and aluminum products (60,000 lives)
- Leading food & beverage company in North America (32,200 lives)
- Leading sporting goods retailer in the country (37,600 lives)
- Leading global life sciences manufacturer (16,000 lives)
- Leading manufacturer of jetliners, defense, space, and security systems (160,000)
- Leading provider of property/casualty & life insurance products (65,000 lives)
- Leading manufacturer of construction and mining equipment (115,000 lives)
- Leading retailer operating 374 stores throughout the U.S. and Canada (10,000 lives)
- Leading building material supplier (371,000 lives)
- Multinational courier services company (400,000 lives)
- Multinational retailer (1,000,000+)
- Large multinational Internet services company (100,000 lives)
- Leading manufacturer of smart appliances and home energy solution (14,500 lives)
- Leading privately held supplier of building materials (5,000 lives)
- Multinational mass media company (62,000 lives)
- Large provider of property/casualty & life insurance products (65,000 lives)
- Leading manufacturer of construction and mining equipment (115,000 lives)
Employer Strategies for Finding Value

• High performance or tiered networks based on quality
  » 17% include in largest health plan
  » 33% of plans with 1,000–4,999 workers include

• Narrow networks & COEs based on quality
  » Limit provider networks to reduce plan costs
  » More limited than HMOs
  » 9% of employers have eliminated providers
  » 7% offer plan considered a narrow network
  » Using on-site care clinics as PCMH

• Telemedicine
  » Includes exchanging health information electronically
  » Includes webcasts & smartphones
  » 27% with 200 or more workers include this benefit
Consumers in First Dollar-Shopping Care With Administrative Data

**EXHIBIT F**

Percentage of Covered Workers Enrolled in a Plan with a General Annual Deductible of $1,000 or More for Single Coverage, by Firm Size, 2006-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>All Small Firms (3-199 Workers)</th>
<th>All Large Firms (200 or More Workers)</th>
<th>All Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>16%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>21%*</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>18%*</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>22%*</td>
<td>13%*</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>40%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>46%</td>
<td>22%*</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>50%</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>49%</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>58%*</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>61%</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>63%</td>
<td>46%</td>
<td>65%</td>
</tr>
</tbody>
</table>

* Estimate is statistically different from estimate for the previous year shown (p<0.05).

**NOTE:** These estimates include workers enrolled in HMOs/POS and other plan types. Average general annual health plan deductibles for PPOs, POS plans, and HDHRFSOs are for in-network services.

Why Is Administrative Data Important?
Quality is no longer assumed & improvement is expected

**Increased Public Scrutiny**
- IOM
- Employers
- Payers

**Greater Regulatory Involvement**
- CMS/TJC core measures, eCQMs, & outcomes measures
- CMS bundles
- Medicaid payment reform

**More Public Reporting & Transparency**
- Leapfrog, Healthgrades, IBM Truven Top 100, Etc.
- CMS Hospital Compare
- Healthcare Blue Book
- Vitals
- Qualified Entities
Administrative Data Vital for Driving CDI & Outcomes Improvement

On the other hand, administrative data are useful as a screening tool for identifying quality problems and targeting areas that might require in-depth investigation. Administrative data in the future will rely extensively on electronic clinical databases, generating exciting opportunities for widespread quality assessment.
Most Analytics Lack Refinement for Coming Change, CDI, & QI

“It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.”

Mark Twain
Performance Assessment Approaches

- MS-DRG averaging
  - Least refined approach to quality assessment
  - Example
    - MS-DRG 872: Septicemia/Severe Sepsis w/o MV 96hr+ w/o MCC
    - 200 patients in the baseline measurement period and 8 patients died; expected mortality average is 4%
    - Does not consider any clinical/demographic variables for precise measurement of mortality (age, gender, chronic conditions, etc.)
    - No “true” expected rates of mortality
    - Not helpful for CDI
    - Clinicians WILL legitimately push back

<table>
<thead>
<tr>
<th>MS DRG</th>
<th>MS DRG Description</th>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>871</td>
<td>Septicemia/sev sepsis w/o MV 96+hrs w/MCC</td>
<td>Mortality Average</td>
<td>14.95%</td>
</tr>
<tr>
<td>872</td>
<td>Septicemia/sev sepsis w/o MV 96+hr w/o MCC</td>
<td>Mortality Average</td>
<td>1.75%</td>
</tr>
</tbody>
</table>
Performance Assessment Approaches

• 3M APR-DRG (All Payer Refined DRG) grouping
  – VERY different from MS-DRGs
  – Constructed for reimbursement, NOT quality
  – Taxonomy of APR-DRGs & MS-DRGs incompatible
  – Each APR-DRG is segregated into 4 refinement classes
  – Placement is based on the most significant secondary dx

<table>
<thead>
<tr>
<th>APR DRG</th>
<th>APR DRG Description</th>
<th>Mortality Expected APR</th>
</tr>
</thead>
<tbody>
<tr>
<td>720</td>
<td>Septicemia &amp; Disseminated Infections</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minor</td>
<td>0.29%</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>1.58%</td>
</tr>
<tr>
<td></td>
<td>Major</td>
<td>5.74%</td>
</tr>
<tr>
<td></td>
<td>Extreme</td>
<td>29.83%</td>
</tr>
</tbody>
</table>
Performance Assessment Approaches

- APR-DRG grouping (cont.)
  - May only compare within a refinement class, creating low “N” for comparisons
  - No variables considered to explain variation WITHIN a refinement class (age, gender, chronic conditions, etc.)
  - Cannot aggregate performance across refinement classes preventing comprehensive assessment (i.e., service line)
  - In this example, ONE APR-DRG accounts for most of the patients in MS-DRGs 871 & 872
Patient Attributes in Administrative Data for More Refined CDI & PI

**Severity**
- Stage or progression of disease (identified by the single CC that has the greatest impact on resource consumption)

**Intensity**
- Non-clinical factor that increases resource consumption independent of severity (e.g., patient age)

**Complexity**
- Number and type of CCs present upon admission that increase resource consumption independent of severity and intensity (e.g., 2 vs. 6 substantial CCs)

**Risk**
- Patient characteristics that increase the probability for adverse clinical outcomes (e.g., mortality, complications, readmissions, and patient safety events)
Adjustment Methods for Normalization Must Be Outcome-Specific

- **Clinical Adjustment**
  - Continuous outcomes measures
  - Charges, costs, & length of stay
  - Severity + intensity + complexity

- **Risk Adjustment**
  - Dichotomous measures
  - Mortality, complications, & readmissions
  - Binary logistic regression

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Clinical Outcomes Research From Harvard Medical School

Study selection

- Examined 3 severity systems: APR-DRGs, Disease Staging, and MedisGroups regarding the ability to produce accurate and consistent assessments of expected death rates for CABG, AMI, stroke, and pneumonia

Conclusion

- Severity does not adequately explain death rates across hospitals and assessments of mortality are inconsistent across severity systems

Source: JAMA (November 1997) 278 (19): pp. 1600-1607
Severity Level vs. Risk Level

“This distinction in terms recognizes a patient may not be severely ill (as defined by their principal diagnosis and most significant CC) but may still be at substantial risk of experiencing a particular adverse quality-related outcome (e.g., death) due to age, race, other comorbidities, or poor health behavior.”

Relationship of Severity & Risk

High Severity
(resource need)

High Risk
(adverse quality event)
Standard Components of Risk Adjustment

- Age
- Gender
- # of Major Chronic Conditions
- # of Other Significant Comorbidities

Risk Adjustment
**Patient-Specific Probability Value Calculations**

- **Beta Coefficients**
  - Age
  - Gender
  - Major chronic conditions
  - Other significant comorbidities
  - AHRQ-specified comorbidities

- **Intercept Term**
  (where the regression line crosses the Y-axis)

- **Probability Value**
  (the normative experience of patients with similar clinical characteristics)
## Probability Value Example
(Risk-Adjusted Mortality Model)

MS-DRG 872 Septicemia/Severe Sepsis w/o MV 96hr+ w/o MCC  
(N = 200 cases at risk)

<table>
<thead>
<tr>
<th>Actual Events</th>
<th>Mortality Probability Value</th>
<th>Age</th>
<th>Gender</th>
<th># of Major Chronic Conditions</th>
<th># of Other Significant Comorbidities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>0.218962</td>
<td>78</td>
<td>Male</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Alive</td>
<td>0.067245</td>
<td>59</td>
<td>Female</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Expired</td>
<td>0.633212</td>
<td>82</td>
<td>Male</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Alive</td>
<td>0.025003</td>
<td>76</td>
<td>Male</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Alive</td>
<td>0.312118</td>
<td>73</td>
<td>Female</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
</tr>
</tbody>
</table>
# Probability Value vs. APR-DRG vs. MS-DRG

**MS-DRG 872 Septicemia/Severe Sepsis w/o MV 96hr+ w/o MCC**

(N = 200 cases at risk)

<table>
<thead>
<tr>
<th>Actual Events</th>
<th>Probability Value %</th>
<th>APR-DRG (ROM)</th>
<th>MS-DRG (AVG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>21.89%</td>
<td>0.29%</td>
<td>14.95%</td>
</tr>
<tr>
<td>Alive</td>
<td>6.72%</td>
<td>1.58%</td>
<td>1.75%</td>
</tr>
<tr>
<td>Expired</td>
<td>63.32%</td>
<td>29.83%</td>
<td>14.95%</td>
</tr>
<tr>
<td>Expired</td>
<td>2.50%</td>
<td>0.29%</td>
<td>1.75%</td>
</tr>
<tr>
<td>Alive</td>
<td>31.21%</td>
<td>29.83%</td>
<td>14.95%</td>
</tr>
<tr>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
</tr>
</tbody>
</table>
Example of Precise Risk-Adjusted Mortality
Transposing Outcomes Indicators For Precise Measurement & Aggregation

Z-Value

Produced from the one-proportion z-test which identifies the level of statistical significance for the particular quality measure.

Differs from the z-score by taking into account differences in hospital caseload volume and failure rate.

Z-Score

Indicates how many standard deviations an observation is above or below the mean of a standard normal distribution. Also referred to as a standard score.

It allows comparison of observations from different normal distributions. This statistical conversion process is called standardizing or normalizing.
Example of Quality Scoring

Risk-Adjusted Mortality Index National Percentile Score
MS-DRG: 871. Septicemia or severe sepsis w/o MV 96+ hours w/ MCC

Hospitals

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Example of Proper Composite Scoring Methods

<table>
<thead>
<tr>
<th>HOSPITAL &amp; LOCATION</th>
<th>RATING</th>
<th>SCORE</th>
<th>PEER RANK</th>
<th>MORTALITY OVERALL</th>
<th>COMPLICATIONS OVERALL</th>
<th>READMISSIONS OVERALL</th>
<th>INPATIENT QUALITY</th>
<th>PATIENT SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baystate Medical Center: Springfield, MA</td>
<td>++</td>
<td>98.7</td>
<td>1</td>
<td>++</td>
<td>++</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Beth Israel Deaconess Medical Center: Boston, MA</td>
<td>✓</td>
<td>25.2</td>
<td>13</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Boston Medical Center Corporation: Boston, MA</td>
<td>✓</td>
<td>24.3</td>
<td>14</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Brigham and Women’s Hospital: Boston, MA</td>
<td>✓</td>
<td>77.7</td>
<td>5</td>
<td>++</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cape Cod Hospital: Hyannis, MA</td>
<td>++</td>
<td>91.5</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Lahay Hospital &amp; Medical Center, Burlington, MA</td>
<td>✓</td>
<td>69.9</td>
<td>7</td>
<td>✓</td>
<td>✓−</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Massachusetts General Hospital: Boston, MA</td>
<td>✓</td>
<td>63.3</td>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mount Auburn Hospital: Cambridge, MA</td>
<td>✓</td>
<td>87.3</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>North Shore Medical Center: Salem, MA</td>
<td>++</td>
<td>96.3</td>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Legend:**
- ✓+ ≥ 90th percentile
- ✓ 26th – 74th percentile
- ✓− 75th – 89th percentile
- ++ No Data / Not Eligible
- −− ≤ 10th percentile

Note: Scores, ratings, and ranks in this table are based on Peer Group Rank (hospitals selected) and are not the same as CareChex hospital awards which are based on National or State Scores Rating and Rankings.
Example of Physician-Specific Composite Scoring

<table>
<thead>
<tr>
<th>PRIMARY PHYSICIAN</th>
<th>RATING</th>
<th>SCORE</th>
<th>PEER RANK</th>
<th>MORTALITY OVERALL</th>
<th>COMPLICATIONS OVERALL</th>
<th>READMISSIONS OVERALL</th>
<th>INPATIENT QUALITY</th>
<th>PATIENT SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEGGS, MARTIN LYNN (1625072228)</td>
<td>-</td>
<td>16.4</td>
<td>19</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CLEVELAND, JOSEPH (1801980131)</td>
<td>-</td>
<td>33.4</td>
<td>14</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CUMMINGS, STEVEN P (1336185636)</td>
<td>++</td>
<td>98.3</td>
<td>1</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>DOUTHIT, MARK B (1326036555)</td>
<td>-</td>
<td>94.3</td>
<td>2</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>FREDERICK, JOHN RICHARDS (1841347937)</td>
<td>-</td>
<td>17.1</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
<tr>
<td>GUADAGNOLI, MARK D (1043208259)</td>
<td>-</td>
<td>85.3</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
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<tr>
<td>GUBER, MYLES S (1205805709)</td>
<td>-</td>
<td>51.1</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>HOFER, BRADLEY O (168963869)</td>
<td>-</td>
<td>43.5</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KIM, BETTY S (1851355408)</td>
<td>-</td>
<td>19.9</td>
<td>17</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
<tr>
<td>LAPKIN, LEONARD (1437131455)</td>
<td>-</td>
<td>12.6</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MAHAN, BRYAN M (1134159023)</td>
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<td>55.1</td>
<td>7</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MATTHEW, THOMAS L (1750372231)</td>
<td>++</td>
<td>91.0</td>
<td>3</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NARROD, JAMES (1871570150)</td>
<td>-</td>
<td>34.7</td>
<td>13</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PARKER, RICHARD K (1174582357)</td>
<td>-</td>
<td>20.1</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**LEGEND:**

- ++ ≥ 90th percentile
- ++ 75th – 89th percentile
- ++ 26th – 74th percentile
- ++ 11th – 25th percentile

Note: To receive a composite quality rating of ++ must have a composite quality score ≥ 75th percentile with no individual quality measurement scores < 26th percentile (++) otherwise a ++ is assigned.
Data Sources for Outcomes Study

- Risk adjustment using BLR all payer model (peer reviewed)
- Includes all general non-federal short-term acute care hospitals
- Includes attending physicians & primary surgeons
- Usually a high R-squared to all payer claims (N = 36MM discharges)
Attributes of the Study

- Identified key attributes of CDI
- Identified national databases
- Used peer-reviewed risk adjustment
- Used proven statistical algorithms for scoring
- Created peer groups 7 aggregated performance
- Started with risk-adjusted mortality
- Assessed multiple indicators

Identified key attributes of CDI
Identified national databases
Used peer-reviewed risk adjustment
Used proven statistical algorithms for scoring
Created peer groups 7 aggregated performance
Started with risk-adjusted mortality
Assessed multiple indicators

- Risk-adjusted mortality
- Risk-adjusted complications
- Risk-adjusted readmissions
- Risk-adjusted inpatient quality indicators (AHRQ-IQI)
- Patient Safety Indicators (AHRQ-PSI)
- Patient Satisfaction (HCAHPS)

Ranked all U.S. hospitals using CMS claims across 6 variables & 37 different clinical areas
Key Attributes of a Clinically Focused CDI Program

• Well-trained, clinically competent CDI team to partner with physicians, including peer leadership
• Clinically significant clarifications driven by a clinically based software program
• Present ALL significant clarifications, not only those impacting MS-DRG assignment
• Timely and frequent performance feedback to assess and continuously improve program (CLINICAL OUTCOMES)
• Engaged physicians & providers
  – Understanding the problem
  – Understanding the system
  – What does this mean to me?
Peer Groups

- Peer group 1: Large complex medical centers with > 6 solid organ transplants
- Peer group 2: Large complex medical centers with CABG surgical program of > 10 cases per year and > 30% surgery cases
- Peer group 3: Large complex medical centers with CABG surgical program of > 10 cases per year and < 30% surgery cases
- Peer group 4: Hospitals without cardiac surgery cases but have interventional cardiac cases of > 10
- Peer group 6: No cardiac interventions and < 3,500 cases
- Peer group 7: No cardiac interventions and > 3,500 cases
Hospitals With Clinically Focused CDI Outperform Their Peers in Overall Mortality Ratings

87% of hospitals are in the top 50th percentile for overall mortality ratings.
Hospitals With Clinically Focused CDI Hospital Performance: Overall Mortality Rating

Top 10%: 39%
Top 25%: 69%
Top 50%: 87%

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Hospitals With Clinically Focused CDI Improve

Mortality & Inpatient Mortality AHRQ Ratings

- Pre-Implementation: 54.12
- Post-Implementation: 48.3

- Pre-Implementation: 71.79
- Post-Implementation: 60.07

Up 33% Up 25%

Expected Mortality

- Pre-Implementation: 1.70%
- Post-Implementation: 2.10%

Up 24%
Optimizing Improves Performance in Clinical & Financial Outcomes

- Revenue capture
  - Coding
  - Severity adjusted outcome measures
- Clinical documentation improvement
  - CDI operational management
  - Documentation
  - Clarification
- Outcome measurements
  - Clinical performance improvement

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Five-Year Risk-Adjusted Mortality Ratings

Facilities with key CDI attributes outperform expected distribution at ALL percentiles

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All Hospitals vs. Nuance CDI Clients: Risk-Adjusted Mortality Index

![Bar chart showing comparisons between All Hospitals and Clinically Focused CDI clients across different peer groups. The chart includes data points for All, Peer Group 1, Peer Group 2, Peer Group 3, Peer Group 4, Peer Group 6, and Peer Group 7.]

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Summary

✓ Hospitals w/ key attributes of a sustainable CDI program consistently outperform expected levels of performance in national risk-adjusted data (over 80% of hospitals have some CDI activity underway)

✓ The hospitals have normal variation of performance before implementing a CDI program

✓ Pre- and post-implementation analysis show significant improvement in mortality indicators
The Future ... 

Artificial intelligence ... the future is here!
CDI Technology Enablement

**Physician facing**
- Improve case mix index, DNFB
- Appropriately document ROM, SOI
- Assist physicians in real-time at the point of documentation

**CDS facing**
- Reduce post-discharge queries
- High physician acceptance

**Improve case mix index by 4-8%**
- Guaranteed Results
- Improve quality outcomes

**Ensure appropriate reimbursement**
- Proven physician engagement
- Includes a Computer-Assisted option

**DRAGON MEDICAL ADVISOR**
- EMBEDDED CAPD
- FACT EXTRACT

**CLINTEGRITY CDI**
- CLINTEGRITY COMPUTER ASSISTED CDI
Physician-Facing CAPD

Integrated computer-assisted physician documentation (CAPD) solutions impact note completeness, compliance, ICD-10, support regulatory requirements/quality

**Dragon Medical Advisor**

Specify documented diagnoses—impact DNFB, HCCs, CMI, SOI, ROM, and reduce number of CDI/coder queries to physician.

**Embedded CAPD**

Discover undocumented diagnoses by analyzing all notes from a patient encounter to identify key clinical clarifications—impact principal diagnosis and severity.

**Embedded Fact Extraction**

Extract clinical facts (problems, procedures, medications, allergies, vitals, social history ...) from unstructured narratives—impact note quality, clinical productivity, and physician satisfaction.
Medical Advisor

• Streamline workflow, compliance, improve risk adjustment and billing

Real-time counter unobtrusively displays number of available advice without need to open advice window

Real-time auto-processing of any note—dictated, transcribed, typed—allows you to move seamlessly between documentation

Accelerates physician and hospital billing for inpatient—advises on most common diagnoses impacting DNFB

Provides more accurate reflection of disease and resource burden—increases CMI

Increases diagnostic specificity to support outpatient risk-adjusted payment models—better support HCCs
Thank you. Questions?

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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.