Emory Medicine at Grady: Quality and Performance Improvement

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Medical Director for Performance Improvement
Emory at Grady
Institute of Medicine Reports

- Described the magnitude of the problem (1999)
- 44-98,000 preventable deaths each year in US hospitals
- Emphasis on “system” failures rather than on individual errors
- Roadmap for improvement (2001)
- Care should be safe, timely, effective, efficient, equitable and patient-centered (STEEEP)
How Hazardous Is Health Care?

**DANGEROUS (>1/1000)**
- HealthCare

**REGULATED**
- Driving
- Chemical Manufacturing
- Chartered Flights

**ULTRA-SAFE (<1/100K)**
- Scheduled Airlines
- European Railroads
- Nuclear Power

Total lives lost per year

Number of encounters for each fatality

Leape
The Quality of Health Care Delivered to Adults in the United States

Elizabeth A. McGlynn, Ph.D., Steven M. Asch, M.D., M.P.H., John Adams, Ph.D., Joan Keeseey, B.A., Jennifer Hicks, M.P.H., Ph.D., Alison DeCristofaro, M.P.H., and Eve A. Kerr, M.D., M.P.H.

ABSTRACT

BACKGROUND
We have little systematic information about the extent to which standard processes involved in health care — a key element of quality — are delivered in the United States.

METHODS
We telephoned a random sample of adults living in 12 metropolitan areas in the United States and asked them about selected health care experiences. We also received written consent to copy their medical records for the most recent two-year period and used this information to evaluate performance on 439 indicators of quality of care for 30 acute and chronic conditions as well as preventive care. We then constructed aggregate scores.

RESULTS
Participants received 54.9 percent (95 percent confidence interval, 54.3 to 55.5) of recommended care. We found little difference among the proportion of recommended preventive care provided (54.9 percent), the proportion of recommended acute care provided (53.5 percent), and the proportion of recommended care provided for chronic conditions (56.1 percent). Among different medical functions, adherence to the processes involved in care ranged from 52.2 percent for screening to 58.5 percent for follow-up care. Quality varied substantially according to the particular medical condition, ranging from 78.7 percent of recommended care (95 percent confidence interval, 73.3 to 84.2) for senile cataract to 10.5 percent of recommended care (95 percent confidence interval, 6.8 to 14.6) for alcohol dependence.

CONCLUSIONS
The deficits we have identified in adherence to recommended processes for basic care pose serious threats to the health of the American public. Strategies to redress these deficits in care are warranted.
Paradigm Change

- Old paradigm
  - Quality and safety are the natural and inevitable result of exceptionally skilled, highly trained individuals working extremely hard and seeking individual perfection

- New paradigm
  - Quality and safety result from system properties and team work and cannot be achieved through individual perfection
Quality Measurement

Hospitals/health systems
• Outcomes
  – Mortality rates
  – Infection rates (CAUTI, CLABSI, post-op wound)
  – Cost of care
• Process
  – Core Measures in surgery, Acute myocardial infarction, heart failure, pneumonia, stroke, VTE, ED throughput

Physicians/practices
• Outcomes
  – Cost of care
  – Complication rates for certain diseases and procedures
• Process
  – Physician Quality Reporting System (mostly focused on preventative care and chronic conditions)
What role do we as Emory’s leaders at Grady play in driving Grady toward becoming a “leading performer in clinical quality and patient safety”? 
Emory Medicine at Grady: Quality

• Alignment of Goals
  ✦ Integrate patient safety and quality improvement education across the medical education continuum.
  ✦ Develop a culture of safety (zero harm culture) among our providers and trainees
  ✦ Inter-professional teams
  ✦ Shared focus on value:
    ✦ Value=(quality x patient satisfaction)/cost
  ✦ Data driven change at an individual physician level
VISION
Grady Health System will become the leading public, academic healthcare system in the United States

STRATEGIC PLAN 2015

QUALITY
Leading performer in clinical quality and operational excellence and safety measures at all sites of care

SERVICE EXCELLENCE
Patient-centered, integrated system of care focused on meeting the service expectations of the patient

STEWARD-SHIP
Financially strong, innovative leader focused on providing funding for high quality care

PEOPLE
Highly engaged workforce who propel Grady toward excellence

GROWTH
Exceptional health system creating opportunities for profitable growth to fund the ongoing mission

The Triple Aim

- Improve population health
- Reduce / control per capita cost
- Enhance patient experience

S
Safe

T
Timely

E
Equitable

E
Effective

E
Efficient

P
Patient Centered
Aligned Goals: Emory Medicine

- Emory Medicine will deliver the **highest value health care for our patients** at all health systems where we serve.
- Emory will deliver **high impact biomedical research that addresses unmet patient or societal needs** through our strategically defined programs and platforms.
- Emory will prepare students, residents, allied health professionals, and researchers for the future in which they will serve and lead.
- Emory Medicine will develop, retain, engage, and empower **our people**.
- Emory Medicine will undertake changes to achieve a sustainable financial model.
Emory Medicine at Grady: Quality

- Alignment of Goals
  - Integrate patient safety and quality improvement education across the medical education continuum.
  - Develop a culture of safety (zero harm culture) among our providers and trainees
  - Inter-professional teams (Comprehensive Unit Safety Program)
  - Shared focus on value:
    - \( \text{Value} = \frac{\text{quality} \times \text{patient satisfaction}}{\text{cost}} \)
  - Data driven change at an individual provider level
### Using Data at the Individual Level

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<td>8.81%</td>
<td>19.50%</td>
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</tr>
</tbody>
</table>

### Data Tools:
- Crimson
- Crimson Medical Group Advantage
- University Healthcare Consortium
- EPIC
How are we doing?

2015 Quality and Accountability Performance Scorecard
Grady Health System

Star Rating: ★★
Overall Rank: 88
Overall Score: 57.6%

Domain Performance:
- Mortality: 14.69% of 25%
- Equity: 4.58% of 5%
- Efficiency: 5.63% of 10%
- Patient Centeredness: 7.71% of 15%
- Effectiveness: 12.50% of 20%
- Safety: 12.50% of 25%

Top Performers:
1. NYU - 72.55%
2. RUSH - 72.37%
3. MAYOCLINIC_MN - 72.16%
4. EMORY - 72.06%
5. FROEDTERT - 71.48%
6. COLORADO - 71.45%
7. UTAH - 71.38%
8. METHODIST_HOU - 70.65%
9. OHIOSTATE - 70.63%
10. HERMANN - 70.47%
11. BEAUMONT_ROYALOAK - 70.36%
12. TUFTS - 69.97%
13. KANSAS - 69.84%

Domain Performance Table:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rank</th>
<th>Weight</th>
<th>Score</th>
<th>Weighted Score</th>
<th>UHC Median</th>
<th>UHC Top Performer</th>
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<td>88</td>
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<td>57.60</td>
<td>64.00</td>
<td>72.55</td>
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<td>Mortality</td>
<td>39</td>
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<td>58.75</td>
<td>14.69%</td>
<td>56.25%</td>
<td>76.25</td>
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<td>Safety</td>
<td>94</td>
<td>25%</td>
<td>50.00</td>
<td>12.50%</td>
<td>60.00%</td>
<td>77.50</td>
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<tr>
<td>Effectiveness</td>
<td>99</td>
<td>20%</td>
<td>62.50</td>
<td>12.50%</td>
<td>79.17%</td>
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<td>Patient Centeredness</td>
<td>67</td>
<td>15%</td>
<td>51.39</td>
<td>7.71%</td>
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<tr>
<td>Efficiency</td>
<td>53</td>
<td>10%</td>
<td>56.25</td>
<td>5.63%</td>
<td>57.03%</td>
<td>75.00</td>
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<tr>
<td>Equity</td>
<td>80</td>
<td>5%</td>
<td>91.67</td>
<td>4.51%</td>
<td>100.00%</td>
<td>100.00</td>
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</table>

Historical Overall Rank:

Overall score over the years from 2005 to 2015.
2015 GHS Quality Pillar Goals

• Decrease hospital acquired conditions (CLABSI, CAUTI, SSI, HAPU and Falls w/Harm) by 15% by the end of December 2015 as measured by NHSN & NDNQI.

• Improve the overall observed/expected mortality ratio to 75th %tile by the end of 3rd quarter 2015 as measured by UHC Clinical Outcomes Report / Quality and Accountability Aggregate.
## Quality Pillar Scorecard

<table>
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<tr>
<td>Central Line Associated Blood Stream Infections (CLABSIs)</td>
<td>IC / NHSN</td>
<td>65</td>
<td>55</td>
<td>17</td>
<td>19</td>
<td>14</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>57</td>
<td>68</td>
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<td>Catheter Associated Urinary Tract Infections (CAUTIs)</td>
<td>IC / NHSN</td>
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<td>87</td>
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<td>14</td>
<td>18</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>57</td>
<td>68</td>
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<tr>
<td>Surgical Site Infections</td>
<td>IC / NHSN</td>
<td>26</td>
<td>22</td>
<td>9</td>
<td>10</td>
<td>13</td>
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<td></td>
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<td>32</td>
<td>43</td>
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<tr>
<td>Hospital Inpatient Patient Falls with Injury</td>
<td>Peminic / NDNQI</td>
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<td>11</td>
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<td>2</td>
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<td>All Hospital Acquired Conditions (HAC's)*</td>
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<td>231</td>
<td>64</td>
<td>64</td>
<td>56</td>
<td>16</td>
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<td></td>
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<td>200</td>
<td>244</td>
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<tr>
<td>Mortality Rate</td>
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<td>82%ile</td>
<td>75%ile</td>
<td>61%ile</td>
<td>13%ile</td>
<td>TBD</td>
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</table>

* Baseline Adjusted: HAPU (III, IV, U) and unit adjustments

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Prepared by a Peer Review Committee pursuant to Title 31, Chapter 7 of the Official Code of Georgia.
Hospital Acquired Conditions

HACs per Month

34% Reduction (168 Fewer Patients w Harm Event) since 2012
17% Reduction (69 Fewer Patients w Harm Event) in 2014
15% Reduction Goal (41 Fewer Patients w Harm Event) in 2015

Pending Oct 2015 SSI

Prepared by a Peer Review Committee pursuant to Title 31, Chapter 7 of the Official Code of Georgia
2015 GHS Quality Pillar Goals

• Decrease hospital acquired conditions (CLABSI, CAUTI, SSI, HAPU and Falls w/Harm) by 15% by the end of December 2015 as measured by NHSN & NDNQI.

• Improve the overall observed/expected mortality ratio to 75th %tile by the end of 3rd quarter 2015 as measured by UHC Clinical Outcomes Report / Quality and Accountability Aggregate.
Observed/Expected Mortality

Crimson Clinical Clinical Advantage

September 2015
Result: 0.50
# Grady Health System

## Jul - Sep 2015 (Q3)

### UHC Academic Medical Centers/Teaching Hospitals

<table>
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<tr>
<th>Summary</th>
<th>Jul - Sep 2015 (Q3)</th>
<th>Oct 2014 - Sep 2015 (recent year)</th>
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<td></td>
<td>Relative Performance</td>
<td>Denom (Cases)</td>
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<td>Post-Surgical</td>
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<td>Quality Accountability Aggregate</td>
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<td>Total Inpatient</td>
<td>○● 7,902</td>
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### Service Line

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<th>Service Line</th>
<th>Relative Performance</th>
<th>Denom (Cases)</th>
<th>Obs Mort(%)</th>
<th>Obs/Exp Ratio</th>
<th>UHC Median</th>
<th>Rank</th>
<th>Relative Performance</th>
<th>Denom (Cases)</th>
<th>Obs Mort(%)</th>
<th>Obs/Exp Ratio</th>
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<td>0.41**</td>
<td>0.92</td>
<td>11/130</td>
<td></td>
<td>● 1,707</td>
<td>3.51</td>
<td>0.82</td>
<td>0.97</td>
<td>39/131</td>
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<tr>
<td>Neurosurgery</td>
<td>● 129</td>
<td>3.88</td>
<td>0.39*</td>
<td>0.92</td>
<td>24/130</td>
<td></td>
<td>● 515</td>
<td>9.32</td>
<td>0.03</td>
<td>0.98</td>
<td>58/131</td>
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<tr>
<td>Obstetrics</td>
<td>● 941</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>34/109</td>
<td></td>
<td>● 3,734</td>
<td>0.03</td>
<td>1.14</td>
<td>0.61</td>
<td>75/109</td>
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<tr>
<td>Orthopedics</td>
<td>● 207</td>
<td>0.48</td>
<td>0.88</td>
<td>0.61</td>
<td>80/124</td>
<td></td>
<td>● 849</td>
<td>0.24</td>
<td>0.48</td>
<td>0.89</td>
<td>24/126</td>
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<tr>
<td>Otolaryngology</td>
<td>○● 30</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>● 133</td>
<td>2.26</td>
<td>1.09</td>
<td>0.77</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>● 19</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>● 75</td>
<td>0.00</td>
<td>0.00</td>
<td>1.16</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Pulmonary/Critical Care</td>
<td>● 72</td>
<td>11.11</td>
<td>0.49</td>
<td>0.96</td>
<td>2/116</td>
<td></td>
<td>● 332</td>
<td>16.32</td>
<td>0.70</td>
<td>1.01</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Spinal Surgery</td>
<td>● 38</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>● 166</td>
<td>1.81</td>
<td>3.87**</td>
<td>0.62</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Surgical Oncology</td>
<td>○● 10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>● 38</td>
<td>5.26</td>
<td>2.30</td>
<td>0.96</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Thoracic Surgery</td>
<td>○● 7</td>
<td>14.20</td>
<td>12.65</td>
<td>0.49</td>
<td></td>
<td></td>
<td>● 36</td>
<td>2.78</td>
<td>2.53</td>
<td>0.99</td>
<td>res/73</td>
<td></td>
</tr>
<tr>
<td>Transplant Services</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>● 1,059</td>
<td>2.17</td>
<td>0.77</td>
<td>0.95</td>
<td>25/121</td>
<td></td>
<td>● 3,883</td>
<td>2.40</td>
<td>0.85</td>
<td>0.96</td>
<td>39/123</td>
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<tr>
<td>Urology</td>
<td>● 80</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>46/120</td>
<td></td>
<td>● 348</td>
<td>0.86</td>
<td>1.34</td>
<td>0.83</td>
<td>98/124</td>
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<tr>
<td>Vascular Surgery</td>
<td>○● 53</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>15/119</td>
<td></td>
<td>● 217</td>
<td>1.84</td>
<td>1.29</td>
<td>1.01</td>
<td>res/73</td>
<td></td>
</tr>
</tbody>
</table>

### Legend

- **●**: Substantially Worse than Target Range, Performance < 90th percentile of peer group
- **○**: Worse than Target Range, Performance < 50th percentile of peer group
- **●**: Within Target Range, Performance ≤ 50th percentile of peer group
- **●**: Substantially better than Target Range, Performance > 90th percentile of peer group
- **!**: Interpret with Caution, Low volume, excluded from top-10

**Quality Alert Warning**: Quality alert screening criteria triggered (only for current quarter)

- Most recent 8 quarters mortality higher than expected and one of the most recent 4 quarters has c/e Ratio >= 1.4
- Any 2 data points in the most recent 4 quarters have Q/E Ratio >= 1.4
- 6 of the most recent 8 quarters trending upwards

**Note**: Service lines are not based on physician specialties. Further analysis in the Clinical Database is necessary to identify opportunities for specific physician groups.
### UHC Top 10 Observed/Expected Mortality Q3 2015

#### UHC Academic Medical Centers/Teaching Hospitals

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayo Clinic in Arizona, Scottsdale</td>
<td>Scottsdale</td>
</tr>
<tr>
<td>Froedtert &amp; Medical College of Wisconsin, Milwaukee</td>
<td>Milwaukee</td>
</tr>
<tr>
<td>NYU Langone Medical Center, NYC</td>
<td>NYC</td>
</tr>
<tr>
<td>Grady Memorial Hospital, Atlanta</td>
<td>Atlanta</td>
</tr>
<tr>
<td>Emory University Hospital, Atlanta</td>
<td>Atlanta</td>
</tr>
<tr>
<td>Cedars-Sinai Medical Center, Los Angeles</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>Christiana Care Health System, Wilmington, DE &amp; Newark, NJ</td>
<td>Wilmington, DE &amp; Newark, NJ</td>
</tr>
<tr>
<td>Ohio State University Wexner Medical Center, Columbus, OH</td>
<td>Columbus, OH</td>
</tr>
<tr>
<td>The Miriam Hospital, Providence, RI</td>
<td>Providence, RI</td>
</tr>
<tr>
<td>The Methodist Hospital, Houston</td>
<td>Houston</td>
</tr>
</tbody>
</table>

#### Summary

<table>
<thead>
<tr>
<th>Service Line</th>
<th>Jul - Sep 2015 (Q3)</th>
<th>Oct 2014 - Sep 2015 (recent year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Surgical</td>
<td>1,514 2.51 0.82 0.92 36/121</td>
<td>5,890 2.80 0.95 0.94 67/124</td>
</tr>
<tr>
<td>Quality and Accountability Aggregator</td>
<td>4/125</td>
<td>25,768 2.07 0.83** 0.92 13/127</td>
</tr>
<tr>
<td>Total Inpatient</td>
<td>5/124</td>
<td>31,824 1.78 0.83** 0.92 31/126</td>
</tr>
</tbody>
</table>

#### Service Line Details

- **BMT**
  - Performance: 7/15
  - Denom: 173
  - Obs: 142
  - Obs/Exp Ratio: 0.82
  - UHC Median: 47/51
  - Rank: 106
- **Cardiac Surgery**
  - Performance: 3/10
  - Denom: 52
  - Obs: 13
  - Obs/Exp Ratio: 0.25
  - UHC Median: 32/114
  - Rank: 9/51
- **General Surgery**
  - Performance: 12/41
  - Denom: 11
  - Obs: 12
  - Obs/Exp Ratio: 1.00
  - UHC Median: 121/131
  - Rank: 125
- **Gynecologic Oncology**
  - Performance: 7/17
  - Denom: 5
  - Obs: 4
  - Obs/Exp Ratio: 0.80
  - UHC Median: 15/75
  - Rank: 36
- **HIV**
  - Performance: 1/12
  - Denom: 7
  - Obs: 6
  - Obs/Exp Ratio: 0.80
  - UHC Median: 46/5
  - Rank: 9/91
- **Medical Oncology**
  - Performance: 5/11
  - Denom: 65
  - Obs: 12
  - Obs/Exp Ratio: 0.19
  - UHC Median: 5/27
  - Rank: 76
- **Neurosurgery**
  - Performance: 8/90
  - Denom: 10
  - Obs: 8
  - Obs/Exp Ratio: 0.80
  - UHC Median: 4/10
  - Rank: 99
- **Obstetrics**
  - Performance: 1/11
  - Denom: 13
  - Obs: 12
  - Obs/Exp Ratio: 0.92
  - UHC Median: 1,614
  - Rank: 170
- **Orthopedics**
  - Performance: 1/11
  - Denom: 13
  - Obs: 12
  - Obs/Exp Ratio: 0.92
  - UHC Median: 1/16
  - Rank: 77
- **Otolarngology**
  - Performance: 1/10
  - Denom: 10
  - Obs: 10
  - Obs/Exp Ratio: 0.80
  - UHC Median: 6/20
  - Rank: 99
- **Plastic Surgery**
  - Performance: 1/116
  - Denom: 11
  - Obs: 116
  - Obs/Exp Ratio: 0.10
  - UHC Median: 7/116
  - Rank: 107
- **Pulmonary/Critical Care**
  - Performance: 1/62
  - Denom: 62
  - Obs: 62
  - Obs/Exp Ratio: 1.00
  - UHC Median: 33/162
  - Rank: 100
- **Spinal Surgery**
  - Performance: 1/80
  - Denom: 80
  - Obs: 80
  - Obs/Exp Ratio: 0.00
  - UHC Median: 8/80
  - Rank: 100
- **Surgical Oncology**
  - Performance: 1/38
  - Denom: 38
  - Obs: 38
  - Obs/Exp Ratio: 0.00
  - UHC Median: 3/38
  - Rank: 100
- **Thoracic Surgery**
  - Performance: 1/38
  - Denom: 38
  - Obs: 38
  - Obs/Exp Ratio: 0.00
  - UHC Median: 3/38
  - Rank: 100
- **Transplant Services**
  - Performance: 1/11
  - Denom: 11
  - Obs: 11
  - Obs/Exp Ratio: 0.00
  - UHC Median: 1/11
  - Rank: 100
- **Trauma**
  - Performance: 1/53
  - Denom: 53
  - Obs: 53
  - Obs/Exp Ratio: 0.00
  - UHC Median: 2/53
  - Rank: 100
- **Urology**
  - Performance: 0/80
  - Denom: 80
  - Obs: 80
  - Obs/Exp Ratio: 0.00
  - UHC Median: 0/80
  - Rank: 100
- **Vascular Surgery**
  - Performance: 0/53
  - Denom: 53
  - Obs: 53
  - Obs/Exp Ratio: 0.00
  - UHC Median: 0/53
  - Rank: 100

#### Legend

- Substantially Worse than Target Range: Performance > 90th percentile of peer group
- Worse than Target Range: Performance > 50th percentile of peer group
- Within Target Range: Performance <= 50th percentile of peer group
- Substantially Better than Target Range: Performance < 10th percentile of peer group
- Interpret with Caution: Low volume, excluded from top 10
- Significant difference from expected at .05 level of significance
- Significant difference from expected at .01 level of significance

#### Note

- Observations are not based on specific physician specialties. Further analysis in the Clinical Data Base is necessary to identify opportunities for specific physician groups.
U. S. News Honors Grady As One of Nations Best Hospitals

Recognized by American Heart and American Stroke Associations

- Silver Plus (heart failure)
- Gold Plus & Elite Plus Honor Roll (stroke)
- Silver (heart attacks)
2016 GHS Quality Pillar Goals

• Decrease hospital acquired conditions (CLABSI, CAUTI, SSI, HAPU and Falls w/Harm) by 15% by the end of December 2016 as measured by NHSN & NDNQI.

• Improve the overall observed/expected mortality ratio to 25th %tile by the end of 3rd quarter 2016 as measured by UHC Clinical Outcomes Report / Quality and Accountability Aggregate.
Questions?