**Report Methodology Notes**

**COMPARISON GROUPS**

So that we can compare your hospital with others most like it, we assign each hospital to one of five comparison groups according to size, teaching status, and residency/fellowship program involvement. Classification details are in the Study Overview.

<table>
<thead>
<tr>
<th>Comparison Group</th>
<th>Number of Winners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Teaching Hospital</td>
<td>15</td>
</tr>
<tr>
<td>Teaching Hospital</td>
<td>25</td>
</tr>
<tr>
<td>Large Community Hospital</td>
<td>20</td>
</tr>
<tr>
<td>Medium Community Hospital</td>
<td>20</td>
</tr>
<tr>
<td>Small Community Hospital</td>
<td>20</td>
</tr>
</tbody>
</table>

**BENCHMARK AND PEER GROUPS**

In the Watson Health™ 100 Top study, we select 100 **Benchmark hospitals** (winners) based on overall performance in the most recent year of data available. Winners are selected by comparison group, as indicated in the table above.

**Peer group hospitals** include all U.S. hospitals in our study database, excluding benchmark hospitals.

In this custom report, we provide two types of comparisons for current performance and for multi-year trend performance:

- Profiled hospital versus comparison group Benchmark hospitals
- Profiled hospital versus comparison group Peer hospitals

**METHODOLOGY NOTES**

Present on Admission (POA) coding was used in the risk models for mortality, complications and average length of stay. Due to increasing numbers of diagnoses with invalid POA code ‘0’, we made the following adjustments to the MEDPAR data:

1. Original, valid (Y,N,U,W or 1) POA codes assigned to diagnoses were retained.
2. Where a POA code of ‘0’ appeared, we took the next four steps:
   a) We treated all principal diagnoses (dx) as ‘present on admission’
   b) We treated all secondary dx on the CMS exempt list as ‘exempt’
   c) We treated secondary dx for which the POA code ‘Y’ or ‘W’ appeared more than 50 percent of the time in Watson Health’s all-payer database as ‘present on admission’
   d) All others were treated as ‘not present’

**RANK WEIGHTS AND PUBLIC DATA SOURCES**

<table>
<thead>
<tr>
<th>Measures</th>
<th>Rank Wt</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-Adjusted Inpatient Mortality</td>
<td>1</td>
<td>MEDPAR FFY¹ 2011-2016</td>
</tr>
<tr>
<td>Risk-Adjusted Complications</td>
<td>1</td>
<td>MEDPAR FFY¹ 2011-2016</td>
</tr>
<tr>
<td>Healthcare Associated Infections</td>
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<td>CMS Hospital Compare CY 2016</td>
</tr>
<tr>
<td>30-Day Mortality (AMI, Heart Failure, Pneumonia, COPD, Stroke)</td>
<td>1³</td>
<td>CMS Hospital Compare 3 yr data sets ending June 30 in 2013, 2014, 2015, 2016</td>
</tr>
<tr>
<td>30-Day Readmissions (AMI, Heart Failure, Pneumonia, Hip/Knee, COPD, Stroke)</td>
<td>1³</td>
<td>CMS Hospital Compare 3 yr data sets ending June 30 in 2013, 2014, 2015, 2016</td>
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<tr>
<td>Severity-Adjusted Average Length of Stay</td>
<td>1</td>
<td>MEDPAR FFY¹ 2012-2016</td>
</tr>
<tr>
<td>Emergency Department Throughput</td>
<td>1</td>
<td>CMS Hospital Compare CY 2012, 2014, 2015, 2016; FY2013</td>
</tr>
<tr>
<td>Adjusted Inpatient Expense per Discharge</td>
<td>1/2</td>
<td>HCRIS 2017 Q3 2012-2016 cost reports</td>
</tr>
<tr>
<td>Medicare Spend Per Beneficiary</td>
<td>1/2</td>
<td>CMS Hospital Compare CY 2012-2016</td>
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<tr>
<td>Adjusted Operating Profit Margin</td>
<td>1</td>
<td>HCRIS 2017 Q3 2012-2016 cost reports</td>
</tr>
<tr>
<td>HCAHPS</td>
<td>1</td>
<td>CMS Hospital Compare CY 2012-2016</td>
</tr>
</tbody>
</table>

¹Federal Fiscal year is Oct 1 through Sep 30.
²No trend data for Healthcare Associated Infections.
³Small community hospitals rank weights for these measures are increased to 1.25 to balance quality and operational group weights, due to exclusion of the HAI measure from this comparison group.

**FOR MORE INFORMATION**

For a Study Overview, with full details on performance measures, methods used, and winner list, visit [www.100tophospitals.com](http://www.100tophospitals.com)
INTEGRATED HOSPITAL PERFORMANCE COMPARISON

The 100 Top Hospitals® Performance Matrix, in a single view, compares your hospital’s current level of achievement and 5 year rate of improvement in percentiles. These percentiles are based on your hospital’s rank, overall and by measure, within your comparison group. This integrated performance comparison provides insight into the success of hospital performance improvement strategies relative to other similar hospitals.

INTERPRETING HOSPITAL PERFORMANCE

Overall hospital performance is a composite score based on the sum of the ranks of individual measures. This sum is used to rank your hospital within your comparison group. The matrix “Overall” dot integrates your national rank percentile for current overall performance with your national rank percentile for multi-year overall rate of improvement. Rank percentiles for each individual measure are also graphed. Measures may fall into any one of four quadrants: Declining (lower left), Improving (upper left), Leading (upper right), or At Risk (lower right).

100 Top Hospitals award winners are selected based on highest overall current performance. Winners fall into either the “Leading” or “At Risk” quadrants, depending on their multi-year rate of improvement performance. Those with a high rate of improvement will be “Leading” performers and those who have fallen behind their comparison group mean may be “At Risk” for falling behind peers in the future, if low rates of improvement continue.

Everest award winners fall into the right upper-most corner of the “Leading” performance quadrant. Everest winners are both a 100 Top Hospitals current performance winner and one of the 100 most improved hospitals on their multi-year trended performance.

PERFORMANCE MATRIX NOTES

Missing Matrix Graph

The matrix graph will be missing if your hospital was excluded from the study or did not have enough years of data to be trended. If trend analysis could not be done, there also will be no trend graphs in this report. Exclusion notes are found at the end of the graphs section of this report.

Missing Measure Dots

A measure dot will be missing from the matrix if your hospital had too few useable data points (after outlier exclusions) to calculate a multi-year trend t-statistic, which is the ranked variable. In this case, the overall performance dot will also be missing. We cannot rank the hospital overall if one or more measures are missing. Notes on excluded data points are in the Appendix following the Performance Matrix graph.
100 Top Hospitals Performance Comparison Group

Profiled hospital compared to Major Teaching hospitals
2016 Performance and Five-Year Rate of Improvement Matrix

DATA POINT KEY
1 OVERALL
2 Inpatient Mortality
3 Complications
4 30-Day Mortality
5 30-Day Readmit
6 ALOS
7 ED Measures
8 IP Expense/Disch
9 MSPB
10 Oper Profit Margin
11 HCAHPS

PROFILED HOSPITAL compared to:
2016 Major Teaching hospitals: n = 210
2012-2016 Major Teaching hospitals: n = 209
Improvement and Performance – Rank Percentiles Graphs

UNDERSTANDING THE GRAPHS

2012-2016 Rate of Improvement Rank Percentiles

This bar graph shows your hospital’s rate of improvement on each measure, and overall, reported as rank percentiles. Individual measure percentiles are calculated by dividing your measure rank within your comparison group by the number of hospitals in the group and multiplying by 100. The overall rank percentile is based on the sum of your individual measure ranks, re-ranked by comparison group. The overall rank sum is then converted into a percentile. The overall rank percentile is not the average of the individual measure percentiles.

Measures with rank percentiles above the median are likely to move ahead of peers on performance in the future, if those rates of improvement have continued.

Hospitals with overall and measure-specific rank percentiles below the median are likely to fall behind peers on performance in the future, if those low rates of improvement have continued. And winners with a low overall rate of improvement are at risk for dropping out of the winner circle entirely.

2016 Performance Rank Percentiles

This bar graph shows your hospital’s performance on each measure, in the most current year of data we analyzed, reported as rank percentiles. Individual measure percentiles are calculated by dividing your measure rank within your comparison group by the number of hospitals in the group and multiplying by 100.

The 100 Top benchmark hospitals (winners) are selected based only on 2016 performance.
2012-2016 Rate of Improvement Rank Percentiles

Profiled hospital compared to Major Teaching hospitals: n = 209

2016 Performance Rank Percentiles

Profiled hospital compared to Major Teaching hospitals: n = 210
100 Top Hospitals Current Profile Notes

CURRENT PROFILE

The 100 Top Hospitals® Current Profile analyzes your hospital’s performance in the most recent year available, using a national balanced scorecard of critical performance metrics:

- Risk-Adjusted Inpatient Mortality Index
- Risk-Adjusted Complications Index
- Mean Healthcare Associated Infection Index
- Mean 30-Day Mortality Rate (AMI, HF, PN, COPD, Stroke)
- Mean 30-Day Readmission Rate (AMI, HF, PN, HipKnee, COPD, Stroke)
- Severity-Adjusted Average Length of Stay
- Mean Emergency Department Throughput
- Inpatient Expense per Discharge (wage- and casemix-adjusted)
- Medicare Spend Per Beneficiary Index
- Adjusted Operating Profit Margin
- HCAHPS Score (Patient Overall Hospital Rating)

Using this Profile, you can identify your hospital’s level of performance achievement by individual measure and overall, and target higher performance. In addition, the Profile shows the level of achievement of national award-winning (benchmark) hospitals and the median performance of non-winning (peer) hospitals in your comparison group.

UNDERSTANDING THE GRAPHS

Profiled Hospital Compared with Benchmark and Peer

The hospital’s current performance is represented by individual bar graphs for each of the performance measures included in the 100 Top Hospitals national balanced scorecard. Each bar graph shows performance achievement levels for three groups: your hospital, the benchmark group median, and the peer group median.

Binomial Measures

The graphs for the binomial measures – in-hospital mortality and complications – also have a statistical significance note that indicates whether your hospital’s performance is better than expected, as expected, or worse than expected (99% confidence).

For binomial measures, we rank your hospital on the z-score calculated from your observed and normalized expected values. Z-scores take statistical significance into account. If your graph note indicates your performance is “as expected”, your performance is average regardless of how high or low the index value.

Healthcare Associated Infections, 30-Day Rates, Emergency Department Measures and HCAHPS Detail

This section contains bar graphs for the individual measures that make up the composite ranked measures: healthcare associated infections, 30-day mortality, and 30-day readmissions and emergency department throughput. Performance on each HCAHPS question is included for information. Only the Overall Hospital Rating question (an outcome metric) is ranked.
100 Top Hospitals Current Profile Notes

USE OF MEDIAN VALUES
When individual measures are missing or the reported value is insufficiently precise (patient count too low), we substitute class median values so your hospital can be ranked. This was done for the following measures:

• 30-day mortality rates (AMI, HF, Pneumonia, COPD, Stroke)
• 30-day readmission rates (AMI, HF, Pneumonia, Hip/Knee, COPD, Stroke)

Because CMS does not publish Medicare spend per beneficiary data for Maryland hospitals, we substitute class median values so Maryland hospitals can be included in the study. These hospitals are not eligible to be 100 Top benchmark hospitals.

MISSING OR INCALCULABLE DATA POINTS

• No bar is displayed for your hospital if values were not reported or are incalculable.
• If a hospital was excluded from the study for missing or incalculable performance measures, the details are noted at the end of the graphs section.
• If a hospital was not eligible to be a winner due to statistically poor performance on inpatient mortality or complications (99% confidence), the details are noted at the end of the graphs section.
• If a hospital was not eligible to be a winner because it had one or more outliers (interquartile range methodology) for expense or profit, the details are noted at the end of the graphs section.
• If a hospital, assigned to the medium community hospital comparison group was not eligible to be a winner because it did not have at least 2 of the 3 individual healthcare associated infection measures required for this comparison group, the details are noted at the end of the graphs section.

EXCLUDED MEASURES
Due to low patient counts for some measures, the below comparison groups exclude the listed measures from analysis.

Small Community Hospitals
• Healthcare associated infections for all measures (HAI-1 – HAI-6)
• 30-day mortality rate for AMI patients
• 30-day readmission rate for AMI patients

Medium Community Hospitals
• Surgical site infection from colon surgery (HAI-3)
• Surgical site infection from abdominal hysterectomy (HAI-4)
• Methicillin-resistant Staphylococcus aureus blood laboratory-identified events (HAI-5)

Large Community Hospitals
• Surgical site infection from abdominal hysterectomy (HAI-4)

Teaching Hospitals
• Surgical site infection from abdominal hysterectomy (HAI-4)

Note: See Study Overview for a full list of included HAI measures.

NEW MEASURES FOR INFORMATION ONLY
We are including a number of new measures in this report, to allow you to compare your performance relative to your peer and benchmark groups. These measures are not included in your overall performance rating and are not used to select the 100 Top award-winning hospitals. You will find these measures in a separate section at the end of the report.

MORE INFORMATION ON METHODOLOGIES
The methodology section of the 100 Top Hospitals Study Overview provides more details on the calculation of each performance measure and an indication of whether higher or lower values are favorable. It also describes the methodologies for calculating confidence limits and outliers, and for determining statistically poor performance on the mortality and complications measures.

See Study Overview for more details. Visit www.100tophospitals.com
100 Top Hospitals Trend Profile Notes

TREND PROFILE OVERVIEW
The 100 Top Hospitals® Trend Profile analyzes your hospital’s rate of improvement over five years, using a balanced scorecard of critical performance metrics:

- Risk-Adjusted Inpatient Mortality
- Risk-Adjusted Complications
- 30-Day Mortality Rate (AMI, heart failure, pneumonia, COPD, stroke)
- 30-Day Readmission Rate (AMI, heart failure, pneumonia, hip/knee, COPD, stroke)
- Severity-Adjusted Average Length of Stay
- Mean Emergency Department Throughput
- Inpatient Expense per Discharge (casemix- and wage-adjusted)
- Medicare Spend Per Beneficiary Index
- Adjusted Operating Profit Margin
- HCAHPS Score (Overall Hospital Rating)

Minimum Data Requirements for Ranking
We require a minimum of four (4) valid data points for each measure (including the most current year) to include a hospital in the Trend Profile ranking. The exception to this requirement is for the 30-day mortality and readmission measures. We require only three (3) data points (including the most current year), due to the fact that there are only four (4) years of trend data available for all patient groups.

UNDERSTANDING THE GRAPHS

Improvement Trends Versus Comparison Group Quintiles (Color Quintile Graphs)
The hospital’s rate of improvement for each of the individual performance measures is represented by graphs showing your hospital’s actual data points for each year. These data points are displayed against a background of quintile ranges for the data points of all hospitals in your comparison group. Each range is color-coded to indicate rate of improvement level, from dark green (best quintile) to red (worst quintile). You can use these graphs to see whether you are moving ahead of or falling behind other similar hospitals.

A statistical significance note is displayed for each graph, indicating whether your performance is improving, not changing, or worsening over the five years we analyzed (99% confidence for mortality and complications; 95%, all other measures). We rank each measure using the t-statistic of the regression line through the data points (slope/S.E.).

Use of Median Values
For each data year, when individual 30-day measures are missing or the reported value is insufficiently precise (patient count too low) to be included, the median value of your comparison group is substituted. Median values are not displayed on the Color Quintile Graphs.

Missing Data Points
Individual data points are missing on the Color Quintile Graphs when values are not reported, or your comparison group median value has been substituted in a specific year.

Data Point Time Periods
Risk-adjusted inpatient mortality index

2016 IP MORTALITY PERFORMANCE

![Bar chart showing performance indices for Profiled Hospital, Benchmark Median, and Peer Median.]

- Profiled hospital: 0.82
- Benchmark Median: 0.93
- Peer Median: 1.00

Profiled hospital is statistically BETTER THAN expected (99% confidence)

- Desired Direction

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195

Note: 2016 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

2012-2016 IP MORTALITY RATE OF IMPROVEMENT

![Line chart showing trend of hospital performance over years.]

- Profiled hospital: Not changing (99% confidence)

Hospital performance compared to peer hospitals quintiles: n = 209

<table>
<thead>
<tr>
<th>YEARS</th>
<th>HOSPITAL COMPARISON GROUP</th>
<th>PROFILED HOSPITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20th</td>
<td>40th</td>
</tr>
<tr>
<td>2012</td>
<td>0.86</td>
<td>0.96</td>
</tr>
<tr>
<td>2013</td>
<td>0.83</td>
<td>0.93</td>
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<td>2014</td>
<td>0.83</td>
<td>0.94</td>
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<tr>
<td>2015</td>
<td>0.88</td>
<td>0.95</td>
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<tr>
<td>2016</td>
<td>0.92</td>
<td>0.99</td>
</tr>
</tbody>
</table>
Risk-adjusted complications index

2016 COMPLICATIONS PERFORMANCE

Benchmark hospitals are the winners in the comparison group: n = 15
Peer hospitals are the non-winners in the comparison group: n = 195

Note: 2016 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.
Mean HAI standardized infection ratio

2016 HAI SIR PERFORMANCE

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195
Mean 30-day mortality rate

2016 30D MORTALITY PERFORMANCE

<table>
<thead>
<tr>
<th>PERCENT</th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3%</td>
<td>11.9%</td>
<td>12.4%</td>
<td></td>
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</tbody>
</table>

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195

2013-2016 30D MORTALITY RATE OF IMPROVEMENT

Hospital performance compared to peer hospitals quintiles: n = 209

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENTILE POINTS</td>
<td>20th</td>
<td>40th</td>
<td>60th</td>
<td>80th</td>
</tr>
<tr>
<td>2013</td>
<td>11.0</td>
<td>11.7</td>
<td>12.2</td>
<td>12.8</td>
</tr>
<tr>
<td>2014</td>
<td>10.6</td>
<td>11.3</td>
<td>11.8</td>
<td>12.4</td>
</tr>
<tr>
<td>2015</td>
<td>11.6</td>
<td>12.3</td>
<td>12.9</td>
<td>13.6</td>
</tr>
<tr>
<td>2016</td>
<td>11.3</td>
<td>12.0</td>
<td>12.6</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Paid hospital is NOT CHANGING (95% confidence)

> 80 to Max
> 60 to 80
> 40 to 60
> 20 to 40
Min to 20

Profiled Hospital
Mean 30-day readmission rate

**2016 30D READMISSION PERFORMANCE**

<table>
<thead>
<tr>
<th>PERCENT</th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14.7%</td>
<td>14.9%</td>
<td>15.7%</td>
</tr>
</tbody>
</table>

- Desired Direction

*Benchmark hospitals are the winners in the comparison group: n = 15*

*Peer hospitals are the non-winners in the comparison group: n = 195*

**2013-2016 30D READMISSION RATE OF IMPROVEMENT**

Profiled hospital is NOT CHANGING (95% confidence)

- > 80 to Max
- > 60 to 80
- > 40 to 60
- > 20 to 40
- Min to 20

*Hospital performance compared to peer hospitals quintiles: n = 209*

**HOSPITAL COMPARISON GROUP**

- **PERCENTILE POINTS**
  - 20th
  - 40th
  - 60th
  - 80th

<table>
<thead>
<tr>
<th>YEARS</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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</thead>
<tbody>
<tr>
<td>20th</td>
<td>16.1</td>
<td>15.5</td>
<td>15.4</td>
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<tr>
<td>40th</td>
<td>16.6</td>
<td>16.0</td>
<td>15.9</td>
<td>15.4</td>
</tr>
<tr>
<td>60th</td>
<td>17.0</td>
<td>16.4</td>
<td>16.2</td>
<td>15.8</td>
</tr>
<tr>
<td>80th</td>
<td>17.5</td>
<td>16.9</td>
<td>16.8</td>
<td>16.3</td>
</tr>
</tbody>
</table>

| VALUE | 16.1 | 16.5 | 15.4 | 15.0 |

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Severity-adjusted average length of stay

2016 ALOS PERFORMANCE

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195

Note: 2016 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospitals quintiles: n = 209

<table>
<thead>
<tr>
<th>YEARS</th>
<th>PERCENTILE POINTS</th>
<th>HOSPITAL COMPARISON GROUP</th>
<th>PROFILED HOSPITAL</th>
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<tr>
<td></td>
<td>20th</td>
<td>40th</td>
<td>60th</td>
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<tr>
<td>2012</td>
<td>4.43</td>
<td>4.75</td>
<td>5.04</td>
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<tr>
<td>2013</td>
<td>4.49</td>
<td>4.78</td>
<td>5.03</td>
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<td>2014</td>
<td>4.46</td>
<td>4.76</td>
<td>5.03</td>
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<tr>
<td>2015</td>
<td>4.57</td>
<td>4.80</td>
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<tr>
<td>2016</td>
<td>4.50</td>
<td>4.76</td>
<td>5.09</td>
</tr>
</tbody>
</table>

Profiled hospital is NOT CHANGING (95% confidence)
Mean emergency department throughput

**2016 ED PERFORMANCE**

![Bar chart comparing Profiled Hospital, Benchmark Median, and Peer Median with a red downward triangle indicating Desired Direction.]

*Benchmark hospitals are the winners in the comparison group: n = 15*

*Peer hospitals are the non-winners in the comparison group: n = 195*

**2012-2016 ED RATE OF IMPROVEMENT**

![Line chart showing improvement trends from 2012 to 2016 with a black arrow indicating Profiled Hospital is NOT CHANGING (95% confidence).]

*Hospital performance compared to peer hospitals quintiles: n = 209*

<table>
<thead>
<tr>
<th>YEARS</th>
<th>20th</th>
<th>40th</th>
<th>60th</th>
<th>80th</th>
<th>Value</th>
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<td>2012</td>
<td>235</td>
<td>272</td>
<td>303</td>
<td>357</td>
<td>344</td>
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<td>2013</td>
<td>234</td>
<td>270</td>
<td>304</td>
<td>366</td>
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<tr>
<td>2014</td>
<td>245</td>
<td>277</td>
<td>317</td>
<td>366</td>
<td>216</td>
</tr>
<tr>
<td>2015</td>
<td>257</td>
<td>287</td>
<td>326</td>
<td>367</td>
<td>224</td>
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<tr>
<td>2016</td>
<td>253</td>
<td>289</td>
<td>319</td>
<td>376</td>
<td>215</td>
</tr>
</tbody>
</table>
Adjusted inpatient expense per discharge

2016 INPT EXPENSE PERFORMANCE

Profiled Hospital: $8,206
Benchmark Median: $7,606
Peer Median: $7,970

Benchmark hospitals are the winners in the comparison group: n = 15
Peer hospitals are the non-winners in the comparison group: n = 195

2012-2016 INPT EXPENSE RATE OF IMPROVEMENT

Profiled hospital is NOT CHANGING (95% confidence)

Hospital performance compared to peer hospitals quintiles: n = 209

<table>
<thead>
<tr>
<th>YEARS</th>
<th>PECESSILE POINTS</th>
<th>HOSPITAL COMPARISON GROUP</th>
<th>PROFILING HOSPITAL</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>20th</td>
<td>40th</td>
<td>60th</td>
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<tr>
<td>2012</td>
<td>6,029</td>
<td>6,881</td>
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<td>2013</td>
<td>6,308</td>
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<tr>
<td>2014</td>
<td>6,443</td>
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<tr>
<td>2015</td>
<td>6,512</td>
<td>7,262</td>
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</tr>
<tr>
<td>2016</td>
<td>6,689</td>
<td>7,457</td>
<td>9,287</td>
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</tbody>
</table>
Medicare spend per beneficiary index

2016 MSPB PERFORMANCE

<table>
<thead>
<tr>
<th></th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDEX</td>
<td>0.97</td>
<td>0.97</td>
<td>1.00</td>
</tr>
</tbody>
</table>

- Benchmark hospitals are the winners in the comparison group: n = 15
- Peer hospitals are the non-winners in the comparison group: n = 195

2012-2016 MSPB RATE OF IMPROVEMENT

Profiled hospital is WORSENING (95% confidence)

Hospital performance compared to peer hospitals quintiles: n = 209

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<tbody>
<tr>
<td>Value</td>
<td>0.95</td>
<td>0.96</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
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<tbody>
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<tbody>
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<td>0.96</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
</tr>
</tbody>
</table>
Adjusted operating profit margin

**2016 PROFIT PERFORMANCE**

<table>
<thead>
<tr>
<th>PERCENT</th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>14.5%</td>
<td>11.1%</td>
<td>2.8%</td>
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</tbody>
</table>

*Desired Direction*

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195

**2012-2016 PROFIT RATE OF IMPROVEMENT**

Hospital performance compared to peer hospitals quintiles: n = 209

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>12.64</td>
<td>14.20</td>
<td>14.02</td>
<td>6.66</td>
<td>14.54</td>
</tr>
</tbody>
</table>

Profiled hospital is NOT CHANGING (95% confidence)

<table>
<thead>
<tr>
<th>Quintiles</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 to Max</td>
<td></td>
</tr>
<tr>
<td>&gt; 60 to 80</td>
<td></td>
</tr>
<tr>
<td>&gt; 40 to 60</td>
<td></td>
</tr>
<tr>
<td>&gt; 20 to 40</td>
<td></td>
</tr>
<tr>
<td>Min to 20</td>
<td></td>
</tr>
</tbody>
</table>
HCAHPS score: overall rating question

2016 HCAHPS PERFORMANCE

- **Profiled Hospital**: 275
- **Benchmark Median**: 264
- **Peer Median**: 262

**-question key:**
- How do patients rate the hospital overall?
- Highest possible score is 300

Benchmark hospitals are the winners in the comparison group: n = 15
Peer hospitals are the non-winners in the comparison group: n = 195

2012-2016 HCAHPS RATE OF IMPROVEMENT

- Hospital performance compared to peer hospitals quintiles: n = 209

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</thead>
<tbody>
<tr>
<td>2012</td>
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<td>2013</td>
<td>257</td>
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<td>260</td>
<td>260</td>
</tr>
<tr>
<td>2014</td>
<td>263</td>
<td>264</td>
<td>265</td>
<td>265</td>
<td>265</td>
</tr>
<tr>
<td>2015</td>
<td>268</td>
<td>269</td>
<td>269</td>
<td>270</td>
<td>270</td>
</tr>
<tr>
<td>2016</td>
<td>271</td>
<td>274</td>
<td>274</td>
<td>276</td>
<td>275</td>
</tr>
</tbody>
</table>

Profiled hospital is IMPROVING (95% confidence)

- > 80 to Max
- > 60 to 80
- > 40 to 60
- > 20 to 40
- Min to 20

Profiled Hospital
2016 Hospital performance – detail graphs

This section of your report contains the detail graphs of those measures that are ranked based on a composite of individual measures. These include:

- Healthcare associated infections
- 30-day mortality (AMI, HF, Pneumonia, COPD and Stroke)
- 30-day readmission (AMI, HF, Pneumonia, Hip/Knee, COPD and Stroke)
- Emergency department throughput (avg min to adm; avg min to ed d/c)
- HCAHPS – Note: we do not rank on the composite of the individual measures, the ranked measure is for the overall rating question. The individual measures are displayed for information only.
HAI SIR measure detail

2016 HAI PERFORMANCE

HEALTHCARE ASSOCIATED INFECTIONS
ABBREVIATION KEY:
CLABSI  Central line-associated blood stream infections
CAUTI   Catheter-associated urinary tract infections
SSI:COLON  Surgical site infection from colon surgery
SSI:HYSTER Surgical site infection from abdominal hysterectomy
MRSA   Methicillin-resistant staphylococcus aureus blood laboratory-identified events
C.DIFF Clostridium difficile laboratory-identified events

Profiled Hospital
Benchmark Median
Peer Median
▼ DESIRED DIRECTION

Benchmark hospitals are the winners in the comparison group: n = 15
Peer hospitals are the non-winners in the comparison group: n = 195
30-day rates by patient condition

2016 PERFORMANCE FOR 30D MORTALITY

2016 PERFORMANCE FOR 30D READMISSIONS

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195
Emergency department throughput measure detail

2016 ED PERFORMANCE

<table>
<thead>
<tr>
<th>MINUTES</th>
<th>Avg Min Inp Adm</th>
<th>Avg Min Disch</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>310</td>
<td>404</td>
</tr>
<tr>
<td>129</td>
<td>170</td>
<td>205</td>
</tr>
</tbody>
</table>

**EMERGENCY DEPARTMENT ABBREVIATION KEY:**

- **Avg Min Inp Adm**: Average time patients spent in the ED, before they were admitted to the hospital as an inpatient.
- **Avg Min Disch**: Average time patients spent in the ED before being sent home.

**Profiled Hospital**: Benchmark Median

**Benchmark hospitals are the winners in the comparison group: n = 15**

**Peer hospitals are the non-winners in the comparison group: n = 195**
HCAHPS questions – only overall rating used in ranking

2016 HCAHPS PERFORMANCE

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drs comm well</td>
<td>275</td>
</tr>
<tr>
<td>Nurses comm well</td>
<td>275</td>
</tr>
<tr>
<td>Quick help</td>
<td>276</td>
</tr>
<tr>
<td>Meds explained</td>
<td>275</td>
</tr>
<tr>
<td>Pain well controlled</td>
<td>275</td>
</tr>
<tr>
<td>Room area quiet</td>
<td>255</td>
</tr>
<tr>
<td>Room/bath clean</td>
<td>279</td>
</tr>
<tr>
<td>Info for home</td>
<td>264</td>
</tr>
<tr>
<td>Understood care</td>
<td>254</td>
</tr>
<tr>
<td>Would recommend</td>
<td>271</td>
</tr>
<tr>
<td>Overall rating</td>
<td>275</td>
</tr>
</tbody>
</table>

**QUESTION KEY:**
- Drs comm well: How often did doctors communicate well with patients?
- Nurses comm well: How often did nurses communicate well with patients?
- Quick help: How often did patients receive help quickly from hospital staff?
- Meds explained: How often did staff explain about medicines before giving them to patients?
- Pain well controlled: How often was patients pain well controlled?
- Room area quiet: How often was the area around patients rooms kept quiet at night?
- Room/bath clean: How often were the patients rooms and bathrooms kept clean?
- Info for home: Were patients given information about what to do during their recovery at home?
- Understood care: How often did patients understand their care at discharge?
- Would recommend: Would patients recommend the hospital to friends and family?
- Overall rating: How do patients rate the hospital overall?

Profiled Hospital
Benchmark Median
Peer Median

**DESIRED DIRECTION**

*Benchmark hospitals are the winners in the comparison group: n = 15*
*Peer hospitals are the non-winners in the comparison group: n = 195*
New metrics under consideration

This section of your report contains measures that we are currently considering for future inclusion in the study.

- Medicare Episode of Payment measures
  - 30-day payment for AMI patients
  - 30-day payment for HF patients
  - 30-day payment for pneumonia patients
  - 90-day payment for hip/knee replacement patients

- Excess days in acute care (EDAC) measures
  - 30-day excess days in acute care for AMI patients
  - 30-day excess days in acute care for HF patients

- Readmission measure
  - 30-day readmission rate hospital-wide

- Complication measure
  - 90-day complication rate for hip/knee replacement patients

We welcome your comments and feedback on the usefulness and relevance of these measures in assessing leadership’s ability to drive high-level, balanced performance.
30-day episode of payment measures by patient condition

**2016 30D PAYMENT PERFORMANCE FOR AMI**

<table>
<thead>
<tr>
<th></th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOLLARS</td>
<td>$21,193</td>
<td>$22,574</td>
<td>$23,266</td>
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</tbody>
</table>

**2016 30D PAYMENT PERFORMANCE FOR PNEUMONIA**

<table>
<thead>
<tr>
<th></th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOLLARS</td>
<td>$16,857</td>
<td>$17,414</td>
<td>$17,519</td>
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</table>

**2016 30D PAYMENT PERFORMANCE FOR HF**

<table>
<thead>
<tr>
<th></th>
<th>Profiled Hospital</th>
<th>Benchmark Median</th>
<th>Peer Median</th>
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</thead>
<tbody>
<tr>
<td>DOLLARS</td>
<td>$16,352</td>
<td>$16,776</td>
<td>$16,530</td>
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Desired Direction

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195
30-day excess days in acute care measures by patient condition

**2016 30D EDAC PERFORMANCE FOR AMI**

- Days: -6.20, -6.20, 14.00

**2016 30D EDAC PERFORMANCE FOR HF**

- Days: -11.30, 12.40, 21.80

*Benchmark hospitals are the winners in the comparison group: n = 15*

*Peer hospitals are the non-winners in the comparison group: n = 195*
30-day readmission rate hospital-wide

2016 30D READMISSION PERFORMANCE FOR ANY CAUSE

Benchmark hospitals are the winners in the comparison group: n = 15

Peer hospitals are the non-winners in the comparison group: n = 195
90-day episode payment and complication rate for hip/knee replacement

**2016 90D PAYMENT PERFORMANCE FOR HIP/KNEE**

- Profiled Hospital: $21,961
- Benchmark Median: $21,772
- Peer Median: $22,931

**Desired Direction**

**2016 90D COMPLICATIONS PERFORMANCE FOR HIP/KNEE**

- Profiled Hospital: 2.6%
- Benchmark Median: 2.7%
- Peer Median: 2.8%

**Desired Direction**

*Benchmark hospitals are the winners in the comparison group: n = 15*

*Peer hospitals are the non-winners in the comparison group: n = 195*