Double Down on Quality:
Understanding and Using NDNQI® Reports

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Improving the Odds on Quality
Pre-Conference Workshop #003
Las Vegas, Nevada
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Getting Started

- Introductions
- Agenda
- Housekeeping items
  - Report tables in this workbook contain simulated data
  - Comparison data are owned by ANA and may not be published by NDNQI member hospitals
Session Aims

* Describe the fundamentals of reading and interpreting NDNQI reports including research methodology and basic statistics
* Discuss how NDNQI reports may be used for improvement opportunities
Research Concepts and Application to NDNQI

- Measurement
- Sampling
- Basic Statistics
Validity – Does your instrument measure the concept it claims to measure?

Reliability – Is there consistency in the measure?
  * Between raters
  * At different times
  * Within the items of a measure (survey)
Measurement Error

* Every instrument used for measurement includes an element of error
* Measurement error presents threats to reliability and validity
Sampling

- Probability sampling
- Non-probability sampling
- NDNQI data result from non-probability sampling
Sample size is the number of observations used in a data analysis.

The larger the sample size, the more likely it represents the entire population of interest.
There are 1000 pieces of m&m’s

Take a small sample of 10 pieces

- 5 pieces are red
- 3 pieces are brown
- 2 pieces are yellow

Conclusions

- There are 3 colors of m&m’s (red, brown, and yellow)
- There are more red pieces than any other color
Example 1 (cont. 1)
Sampling m&m’s

* Take a larger sample of 500 pieces
  * 175 pieces are blue
  * 125 pieces are orange
  * 50 pieces are green
  * 50 pieces are red
  * 50 pieces are brown
  * 50 pieces are yellow

* Conclusions
  * There are 6 colors or m&m’s (blue, orange, green, red, brown and yellow)
  * There are more blue pieces than any other color
It may be infeasible to count all m&m’s.

Sample size only needs to be “sufficient”.

Sampling in NDNQI:
- The number of reporting units is the sample size.
- All units in U.S. hospitals is the population.
Sample Size in NDNQI

* NDNQI may not be representative of the population
  * Not a random sample of all units in U.S.
  * Higher proportion of Magnet facilities
  * Higher proportion of Teaching facilities
  * Higher proportion of large facilities
Use caution when making decisions based on comparison data with fewer than 20 reporting units, as they may vary substantially by quarter.

If fewer than 5 units are reporting, the data are suppressed for confidentiality.
* Measures of central tendency
* Percentiles
* Measures of dispersion
* Outliers
A statistic is neither good or bad, but it can be dangerous if used in the wrong way.
Central Tendency

- Estimates the expected value
- Mean
  - Mathematical average
- Median (50\(^{th}\) percentile)
  - Value at the mid-point of a distribution
- Mode
  - Most common data point
  - Not used by NDNQI
Which one do I use?

Example 2: Annual Income

- 25 employees in a company
- 12 employees make $20,000
- 1 employee makes $1,000,000
- The other 12 are somewhere in between

<table>
<thead>
<tr>
<th>Employee Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20,000</td>
</tr>
<tr>
<td>$20,000</td>
</tr>
<tr>
<td>$20,000</td>
</tr>
<tr>
<td>$37,000</td>
</tr>
<tr>
<td>$50,000</td>
</tr>
</tbody>
</table>
Example 2 (cont. 1)

Annual Income

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000,000</td>
<td>1</td>
</tr>
<tr>
<td>$130,000</td>
<td>1</td>
</tr>
<tr>
<td>$100,000</td>
<td>1</td>
</tr>
<tr>
<td>$77,000</td>
<td>1</td>
</tr>
<tr>
<td>$50,000</td>
<td>4</td>
</tr>
<tr>
<td>$37,000</td>
<td>4</td>
</tr>
<tr>
<td>$30,000</td>
<td>1</td>
</tr>
<tr>
<td>$20,000</td>
<td>12</td>
</tr>
</tbody>
</table>

Mean: $56,333.33
Median: $37,000
What is the best estimate of annual income for the company?

- Mean annual income is $77,000
- Median annual income is $30,000

- Mean can be skewed by extreme values
- Median can account for lopsided distributions
What is the expected (normal) rate for Injury Falls Per 1,000 Patient Days on an Adult ICU?

Table F2
Adult Critical Care
Injury Falls Per 1,000 Patient Days

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>2Q09</th>
<th>3Q09</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>4Q10</th>
<th>1Q11</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.29</td>
<td>0.29</td>
<td>0.28</td>
<td>0.32</td>
<td>0.28</td>
<td>0.28</td>
<td>0.29</td>
<td>0.28</td>
<td>0.29</td>
</tr>
<tr>
<td>S.D</td>
<td>0.72</td>
<td>0.83</td>
<td>0.73</td>
<td>0.81</td>
<td>0.78</td>
<td>0.68</td>
<td>0.77</td>
<td>0.79</td>
<td>0.76</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>1.15</td>
<td>1.15</td>
<td>1.13</td>
<td>1.19</td>
<td>1.04</td>
<td>1.10</td>
<td>1.11</td>
<td>1.11</td>
<td>1.12</td>
</tr>
<tr>
<td># of Reporting Units*</td>
<td>2,019</td>
<td>2,080</td>
<td>2,118</td>
<td>2,151</td>
<td>2,214</td>
<td>2,255</td>
<td>2,360</td>
<td>2,325</td>
<td>2,191.50</td>
</tr>
</tbody>
</table>

* Use caution when making decisions based on comparison data with fewer than 20 reporting units, as they may vary substantially by quarter
* Superseded for confidentiality
Percentiles

- The value which a certain percent of data fall at or below.
- The median is equivalent to the 50th percentile.
- Half the data is below the median.
- If we were interested in where the bottom ¼ of data lie, we would want the 25th percentile.
A score of 14 on the ACT corresponds the 8th percentile
8% of testers scored equal to or less than 14
92% of testers scored higher than 14

<table>
<thead>
<tr>
<th>ACT Score</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>20</td>
<td>49</td>
</tr>
<tr>
<td>21</td>
<td>56</td>
</tr>
<tr>
<td>22</td>
<td>64</td>
</tr>
<tr>
<td>23</td>
<td>70</td>
</tr>
<tr>
<td>24</td>
<td>76</td>
</tr>
<tr>
<td>25</td>
<td>82</td>
</tr>
<tr>
<td>26</td>
<td>86</td>
</tr>
<tr>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>29</td>
<td>95</td>
</tr>
<tr>
<td>30</td>
<td>97</td>
</tr>
<tr>
<td>31+</td>
<td>99</td>
</tr>
</tbody>
</table>
A score of 27 on the ACT corresponds the 90th percentile

90% of testers scored equal to or less than 27

10% of testers scored higher than 27

<table>
<thead>
<tr>
<th>ACT Score</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>20</td>
<td>49</td>
</tr>
<tr>
<td>21</td>
<td>56</td>
</tr>
<tr>
<td>22</td>
<td>64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACT Score</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>70</td>
</tr>
<tr>
<td>24</td>
<td>76</td>
</tr>
<tr>
<td>25</td>
<td>82</td>
</tr>
<tr>
<td>26</td>
<td>86</td>
</tr>
<tr>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>29</td>
<td>95</td>
</tr>
<tr>
<td>30</td>
<td>97</td>
</tr>
<tr>
<td>31+</td>
<td>99</td>
</tr>
</tbody>
</table>
Percentile distributions differ both by indicator and unit type.
Dispersion

* Estimates the variability or of the data
  * Spread
  * Scatter
  * Stability

* Standard Deviation
  * Most common measure of dispersion
  * Average distance from mean
  * Always positive

* Interquartile range (IQR)
  * $75^{th}$ percentile minus $25^{th}$ percentile
Standard Deviation

* Average distance each value lies from the mean
* Provides an indication of variability within the distribution

\[ \sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{N}} \]
What does it really tell me?

Example 4: City Climate

* You are trying to select a city for relocation based on weather
* You are given the mean and median of monthly temperatures

<table>
<thead>
<tr>
<th>City</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>72°</td>
<td>72°</td>
</tr>
<tr>
<td>B</td>
<td>72°</td>
<td>72°</td>
</tr>
<tr>
<td>C</td>
<td>72°</td>
<td>72°</td>
</tr>
</tbody>
</table>
The cities appear to all have the same climate.
Consider the standard deviations of the cities’ monthly temperatures.
Temperatures vary more in City C than City B.
Temperatures have no variance in City A.
* The median temperature for all three cities is also 72°
* Which city would you choose given all the data?

<table>
<thead>
<tr>
<th>City</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>0°</td>
</tr>
<tr>
<td>B</td>
<td>55°</td>
<td>62°</td>
<td>65°</td>
<td>72°</td>
<td>75°</td>
<td>83°</td>
<td>86°</td>
<td>86°</td>
<td>78°</td>
<td>68°</td>
<td>62°</td>
<td>72°</td>
<td>72°</td>
<td>72°</td>
<td>10°</td>
</tr>
<tr>
<td>C</td>
<td>30°</td>
<td>44°</td>
<td>67°</td>
<td>72°</td>
<td>93°</td>
<td>99°</td>
<td>101°</td>
<td>103°</td>
<td>94°</td>
<td>72°</td>
<td>53°</td>
<td>36°</td>
<td>72°</td>
<td>72°</td>
<td>25°</td>
</tr>
</tbody>
</table>
* Indicator distributions with similar means or medians may look different due to differing dispersion (s.d.).
### Table F1

Adult Med-Surg Combined

Total Falls Per 1,000 Patient Days

<table>
<thead>
<tr>
<th></th>
<th>2Q09</th>
<th>3Q09</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>4Q10</th>
<th>1Q11</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med-Surg A</td>
<td>2.34</td>
<td>1.63</td>
<td>1.14</td>
<td>4.53</td>
<td>4.01</td>
<td>1.14</td>
<td>1.86</td>
<td>2.98</td>
<td>2.45</td>
</tr>
<tr>
<td>Med-Surg B</td>
<td>4.68</td>
<td>6.03</td>
<td>6.98</td>
<td>3.87</td>
<td>4.42</td>
<td>7.15</td>
<td>4.95</td>
<td>4.92</td>
<td>5.38</td>
</tr>
<tr>
<td>Hospital Adult Med-Surg Combined Median</td>
<td>3.51</td>
<td>3.83</td>
<td>4.06</td>
<td>4.20</td>
<td>4.21</td>
<td>4.15</td>
<td>3.41</td>
<td>3.95</td>
<td>3.92</td>
</tr>
</tbody>
</table>

### National Comparative Information - Teaching Facilities

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D</th>
<th>10th Percentile</th>
<th>25th Percentile</th>
<th>50th Percentile (median)</th>
<th>75th Percentile</th>
<th>90th Percentile</th>
<th># of Reporting Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.82</td>
<td>3.85</td>
<td>3.88</td>
<td>3.77</td>
<td>3.78</td>
<td>3.72</td>
<td>3.77</td>
<td>3.57</td>
</tr>
<tr>
<td></td>
<td>2.25</td>
<td>2.29</td>
<td>2.25</td>
<td>2.24</td>
<td>2.25</td>
<td>2.38</td>
<td>2.24</td>
<td>2.18</td>
</tr>
<tr>
<td></td>
<td>1.24</td>
<td>1.23</td>
<td>1.27</td>
<td>1.31</td>
<td>1.31</td>
<td>1.28</td>
<td>1.32</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>2.22</td>
<td>2.27</td>
<td>2.33</td>
<td>2.24</td>
<td>2.19</td>
<td>2.13</td>
<td>2.20</td>
<td>2.02</td>
</tr>
<tr>
<td></td>
<td>3.54</td>
<td>3.43</td>
<td>3.53</td>
<td>3.45</td>
<td>3.44</td>
<td>3.39</td>
<td>3.45</td>
<td>3.25</td>
</tr>
<tr>
<td></td>
<td>5.08</td>
<td>5.32</td>
<td>5.21</td>
<td>4.94</td>
<td>4.98</td>
<td>4.85</td>
<td>4.99</td>
<td>4.79</td>
</tr>
<tr>
<td></td>
<td>6.66</td>
<td>6.90</td>
<td>6.70</td>
<td>6.69</td>
<td>6.66</td>
<td>6.43</td>
<td>6.77</td>
<td>6.32</td>
</tr>
</tbody>
</table>

* # of Reporting Units: 839 843 863 886 907 916 941 933 891.00
NDNQI data are not necessarily normally distributed

Standard statistical hypothesis tests do not necessarily apply

Median may be a better measure of central tendency than the mean
Outliers

* **Representative outliers**
  * True values
  * Not unique to the population
  * Existence is not “surprising”

* **Non-representative outliers**
  * True values
  * Unique to the population
  * Existence is “surprising”

* **Erroneous outliers**
  * Not true values
  * Error in data entry or collection
Do any points look “out of place”? Graphs can help detect outliers. Determine type and cause of outlier.
Questions?

* Measurement
* Sampling
* Basic Statistics
NDNQI Reports

- Downloading Reports
- Dashboards
- Web Charts
- Comparison Groups
- Reading Reports
- Table Relationships
Standard Reports

* Contains all indicators for all eligible units
* Arranged by unit type or by table
Custom Reports

- Different comparison groups
- Indicator specific
- Unit specific
- PDF or Excel format
Dashboards

* Easy, visual data for a unit or unit type

**Percent of RNs with BSN or Higher Nursing Degree**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>MICU Unit</th>
<th>Non-Teaching Facilities - Adult Critical Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Q09</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>1Q10</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>2Q10</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>3Q10</td>
<td>80%</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Central Line Associated Blood Stream Infections Per 1000 Central Line Days**

- Hospital Adult Critical Care
- Median
- Non-Teaching Facilities - Adult Critical Care
- Between 25th and 75th Percentile
Downloading Dashboards

- Standard
- Custom
- Multiple or individual units
- PDF or Excel formats
Comparison groups

- Staffed Bed Size
- Teaching Status
- Census Division
- Metropolitan Status
- Case Mix Index
- Selected Adult Specialty
- Hospital Type
- Magnet Status
- All hospitals
Selecting Comparison Group

* Need a conceptual rationale
  * Specific similarities
  * Sample size
* Leadership agreement
* Consistent comparison over time
National benchmark data within comparison groups

National Comparison Data - Percent of RNs with BSN or Higher Degree - Adult Critical Care

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1. Start with the title.
   * Think about whether ‘high’ or ‘low’ numbers are desirable.
2. Note the unit type and units being evaluated.
   * Think about the patient population and nursing care required on those units.
3. Note the comparison group and number of reporting units.
4. Then check out your data and determine which percentile your units are in.
Table Relationships

- Related tables
- Contingent tables
- Trend vs. current tables
* Information in a table is directly related to information in one or more other tables.

* Subset tables
  * Injury Falls and Unassisted Falls are both subsets of Total Falls

* Trend vs. current tables

* Relationships may not always be clear
### Table E1
Adult Step Down
RN Education - Current Quarter Summary

#### 3rd Quarter 2009

<table>
<thead>
<tr>
<th>Adult Step Down</th>
<th>Total RNs</th>
<th>% Diploma</th>
<th>% ADN</th>
<th>% BSN</th>
<th>% MSN &amp; PhD</th>
<th>% Unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMCU</td>
<td>31</td>
<td>0.00</td>
<td>51.61</td>
<td>45.16</td>
<td>3.23</td>
<td>0.00</td>
</tr>
<tr>
<td>Hospital Adult Step Down Median</td>
<td>31.00</td>
<td>0.00</td>
<td>51.61</td>
<td>45.16</td>
<td>3.23</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Table E2
Adult Step Down
RN Education - Percent with BSN or Higher Nursing Degree

<table>
<thead>
<tr>
<th>Adult Step Down</th>
<th>4Q08</th>
<th>1Q09</th>
<th>2Q09</th>
<th>3Q09</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMCU</td>
<td>44.44</td>
<td>44.44</td>
<td>42.86</td>
<td>48.39</td>
<td>45.03</td>
</tr>
<tr>
<td>Hospital Adult Step Down Median</td>
<td>44.44</td>
<td>44.44</td>
<td>42.86</td>
<td>48.39</td>
<td>45.03</td>
</tr>
</tbody>
</table>
Contingent Tables

- Presence of data in one table relies on a value in another table
- A column within a table may depend on the value of another column

| Adult Critical Care | Total Falls | n | % Assisted Falls | | | % Unassisted Falls | | |
|---------------------|-------------|---|------------------|---|-------------------|---|------------------|
| Critical Care-Adult | 0           | 0 | n.d.             | n.d. | n.d.          | 0 | n.d.             | n.d. | n.d. |

* n.d. = Not documented
Contingent Tables

Five units in Table R1

Three units in Table R2

Cardiac and Respiratory Units had no restraints and therefore have no characteristics to report in table R2
- Trend tables provide information for one unit or a unit type over time
- Current quarter tables provide descriptive information for the most recent quarter.
Trend tables show one variable over time

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>45.00</td>
<td>45.00</td>
<td>50.00</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Hospital Adult Critical Care</td>
<td>45.00</td>
<td>45.00</td>
<td>50.00</td>
<td>50.00</td>
<td>50.00</td>
</tr>
</tbody>
</table>

Current quarter tables show more detailed data for most recent quarter only

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>Total RNs</th>
<th>% Diploma</th>
<th>% ADN</th>
<th>% BSN</th>
<th>% MSN &amp; PhD</th>
<th>% Unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>20</td>
<td>10.00</td>
<td>40.00</td>
<td>50.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Hospital Adult Critical Care</td>
<td>20.00</td>
<td>10.00</td>
<td>40.00</td>
<td>50.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Questions?

- Downloading Reports
- Dashboards
- Web Charts
- Comparison Groups
- Reading Reports
- Table Relationships
Understanding indicators
Recognizing outliers
“n.d” and “SUP”
Evaluating an indicator
Understanding Indicators

- What’s being measured?
  - Title of report
- How are the data collected and reported?
  - NDNQI Data Collection Guidelines
- How is the indicator calculated?
  - Description and Glossary
Title is “Catheter Associated Urinary Tract Infections per 1000 Catheter Days”

# of UTIS / (Catheter Days/1000)

1Q10 rate is 6.00

### Table IN5

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>4Q10</th>
<th>1Q11</th>
<th>2Q11</th>
<th>3Q11</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>0.00</td>
<td>6.00</td>
<td>7.83</td>
<td>2.44</td>
<td>0.00</td>
<td>1.96</td>
<td>0.00</td>
<td>0.00</td>
<td>2.28</td>
</tr>
<tr>
<td>Hospital Adult Critical Care Median</td>
<td>0.00</td>
<td>6.00</td>
<td>7.83</td>
<td>2.44</td>
<td>0.00</td>
<td>1.96</td>
<td>0.00</td>
<td>0.00</td>
<td>2.28</td>
</tr>
</tbody>
</table>

NDNQI®

AMERICAN NURSES ASSOCIATION
* CAUTI and Urinary Catheter Days definitions

* From the Data Collection Guidelines:

**CAUTI**

For the purposes of this indicator, a CAUTI is defined as a urinary tract infection that:
- Meets the Centers for Disease Control (CDC) definition of one of the following types of urinary tract infections (See CAUTI Appendix for criteria):
  - Asymptomatic Bacteremic UTI (ABUTI)
  - Symptomatic UTI (SUTI)
- The associated patient had an indwelling urinary catheter at the time of or within 48 hours before the onset of the UTI.

**Urinary Catheter Days (device days)**

The number of patients on a unit each day with an indwelling catheter device, summed across all days of the month. Catheter day data should be collected at the same time each day. They should not be collected as a “running total” over the 24-hour period, but as a count of the patients with urinary catheters present on the unit at a given time. When catheter days are available from electronic databases, these sources may only be used as long as the counts are not substantially different (±5%) from manual counts. To assist, the Device Day collection tool may be downloaded from the NDNQI® website. Device day counts are inaccurate if the number of device days exceed the number of patient days submitted for the unit each month.
Details of calculations

From the Description and Glossary:

*Catheter Associated Urinary Tract Infections per 1000 Catheter Days (IN5)* is the rate of urinary tract infections per 1,000 catheter days.

- Total number of UTI X 1,000 / Number of device days
- The quarterly rate is obtained by summing all infections across the 3 month period and dividing by the sum of all device days across the 3 month period. The resulting quotient is then multiplied by 1,000.
Example 5 (cont. 3)

Table IN5

* In Formula format:

* CAUTI Rate = \( \frac{\# \text{ of CAUTIs in quarter}}{\# \text{ of Catheter Days in quarter}} \times 1,000 \)

\[
\text{CAUTI Rate} = \frac{1 + 0 + 2}{175 + 125 + 200} \times 1,000 = \frac{3}{500} \times 1,000 = 6.00
\]

<table>
<thead>
<tr>
<th>Month</th>
<th>CAUTIs</th>
<th>Catheter Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month 1</td>
<td>1</td>
<td>175</td>
</tr>
<tr>
<td>Month 2</td>
<td>0</td>
<td>125</td>
</tr>
<tr>
<td>Month 3</td>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>Quarter Totals</td>
<td>3</td>
<td>500</td>
</tr>
</tbody>
</table>

Catheter Associated Urinary Tract Infections Per 1,000 Patient Days

6.00
There were 3 infections in 500 device days
At that rate, we would expect 6 infections in 1,000 device days.

Table IN5

Adult Critical Care
Catheter Associated Urinary Tract Infections per 1000 Catheter Days

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>4Q10</th>
<th>1Q11</th>
<th>2Q11</th>
<th>3Q11</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>0.00</td>
<td>6.00</td>
<td>7.83</td>
<td>2.44</td>
<td>0.00</td>
<td>1.96</td>
<td>0.00</td>
<td>0.00</td>
<td>2.28</td>
</tr>
<tr>
<td>Hospital Adult Critical Care Median</td>
<td>0.00</td>
<td>6.00</td>
<td>7.83</td>
<td>2.44</td>
<td>0.00</td>
<td>1.96</td>
<td>0.00</td>
<td>0.00</td>
<td>2.28</td>
</tr>
</tbody>
</table>
Title is “Total Nursing Unit Turnover as % of Employed FTEs”

2Q09 rate is 62.79

<table>
<thead>
<tr>
<th>Adult Med-Surg Combined</th>
<th>% Separated Number of RN and APRN Staff</th>
<th>% Separated Number of LPN/LVN and UAP Staff</th>
<th>Four Quarter Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4Q08</td>
<td>1Q09</td>
<td>2Q09</td>
</tr>
<tr>
<td>3 West</td>
<td>8.46</td>
<td>18.87</td>
<td>0.80</td>
</tr>
<tr>
<td>4 North - Oncology</td>
<td>5.79</td>
<td>9.68</td>
<td>10.59</td>
</tr>
<tr>
<td>Hospital Adult Med-Surg Combined Median</td>
<td>7.13</td>
<td>14.28</td>
<td>5.70</td>
</tr>
</tbody>
</table>
Unit Turnover Rate definition

From the Data Collection Guidelines:

<table>
<thead>
<tr>
<th>Definitions</th>
<th>Total Turnover Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Turnover Rate</td>
<td>The proportion of permanent, direct care unit nursing staff that separate (leave their position) during the quarter for any reason. Turnover rates include all separations (see definition of separation below), whether the nurse left the hospital, left their position on the unit for one on another unit, left direct care for a non-direct care position, or changed from permanent to per diem or PRN. Rates are reported by NDNQI® as both number of employed full-time and part-time staff, and as full-time-equivalents (FTEs).</td>
</tr>
</tbody>
</table>
Details of calculations

From the Description and Glossary:

**Nurse Turnover Tables**

The rates in all turnover tables (T1-T4) are provided quarterly. In addition, for units that submit data for all four quarters contained on a given report, a “Four Quarter Rate” is provided. This rate is not an average of the four quarter rates, instead it is calculated by summing all separations (either people or FTE) for the 12 months and dividing by the mean of actual employees (either people or FTE) for the 12 months. The quotient is then multiplied by 100 to create a percent. The four quarter rate gives you a measurement of your nurse turnover for the entire 12 month period reflected in the report.

- \[(\text{Separations for: month 1 } + \text{ month 2 } + \ldots \text{ month 12}) / (\text{Actual employees for: month 1 } + \text{ month 2 } + \ldots \text{ month 12}) / 12)\] * 100

**Total Nursing Unit Turnover Rate as % of Employed FTEs (T1)** is calculated as a quarterly rate. The numerator is the sum of the separated FTEs for each month. The denominator is the sum of the full and part time FTEs employed on the last day of each month divided by 3. Categories are RNs and APRNs combined; and LPN/LVN and UAP combined.
Example 6 (cont. 3)

Written in formula form:

* Quarterly Rate (people or FTE):

\[
\frac{\text{Sum of all Separations (FTEs or people) in Quarter}}{\text{Quarter Average Actual (FTEs or people)}} \times 100
\]

* Four Quarter Rate (people or FTE)

\[
\frac{\text{Sum of all Separations (FTEs or people) in Year}}{\text{Year Average Actual (FTEs or people)}} \times 100
\]
Example 6 (cont. 4)

Table T1

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Unit Name</th>
<th>Month</th>
<th>Category of Nursing Staff</th>
<th>Total Actual Employed FTE's</th>
<th>Number of Separations</th>
<th>Separation FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>4 North - Oncology</td>
<td>4</td>
<td>LPN/LVN</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>4 North - Oncology</td>
<td>4</td>
<td>UAP</td>
<td>4.3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4 North - Oncology</td>
<td>5</td>
<td>LPN/LVN</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>4 North - Oncology</td>
<td>5</td>
<td>UAP</td>
<td>4.3</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>27</td>
<td>4 North - Oncology</td>
<td>6</td>
<td>LPN/LVN</td>
<td>0</td>
<td>2</td>
<td>0.9 x 2 = 1.8</td>
</tr>
<tr>
<td>28</td>
<td>4 North - Oncology</td>
<td>6</td>
<td>UAP</td>
<td>4.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\text{Separation FTE} = \frac{\text{Sum of all separations (FTEs or people) in Quarter}}{\text{Actual (FTES or people) in Quarter}}
\]

\[
\text{Separation FTE} = \frac{4.3}{1.8} = \frac{100}{62} = 62.5
\]
### Table T1

**Adult Med-Surg Combined**

**Total Nursing Unit Turnover Rate as % of Employed FTEs**

<table>
<thead>
<tr>
<th>Adult Med-Surg Combined</th>
<th>% Separated Number of RN and APRN Staff</th>
<th>% Separated Number of LPN/LVN and UAP Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4Q08</td>
<td>1Q09</td>
</tr>
<tr>
<td>3 West</td>
<td>8.46</td>
<td>18.87</td>
</tr>
<tr>
<td>4 North - Oncology</td>
<td>5.79</td>
<td>9.68</td>
</tr>
<tr>
<td>Hospital Adult Med-Surg Combined Median</td>
<td>7.13</td>
<td>14.28</td>
</tr>
</tbody>
</table>

**National Comparative Information - Non-Teaching Facilities**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>10th Percentile</th>
<th>25th Percentile</th>
<th>50th Percentile (median)</th>
<th>75th Percentile</th>
<th>90th Percentile</th>
<th># of Reporting Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.78</td>
<td>10.64</td>
<td>6.49</td>
<td>14.90</td>
<td>20.75</td>
<td>9.44</td>
<td>11.75</td>
<td>13.20</td>
</tr>
<tr>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>4.63</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>9.45</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>3.15</td>
<td>2.63</td>
<td>3.54</td>
<td>4.48</td>
<td>17.81</td>
<td>0.00</td>
<td>4.81</td>
<td>3.66</td>
</tr>
<tr>
<td></td>
<td>7.99</td>
<td>8.80</td>
<td>7.27</td>
<td>8.82</td>
<td>30.73</td>
<td>10.34</td>
<td>12.50</td>
<td>10.38</td>
</tr>
<tr>
<td></td>
<td>16.36</td>
<td>15.93</td>
<td>13.16</td>
<td>15.03</td>
<td>50.14</td>
<td>18.75</td>
<td>23.24</td>
<td>18.75</td>
</tr>
<tr>
<td></td>
<td>245</td>
<td>242</td>
<td>262</td>
<td>279</td>
<td>137.00</td>
<td>243</td>
<td>239</td>
<td>259</td>
</tr>
</tbody>
</table>
Recognizing an Outlier

* Does anything look out of place?
* Was there an error in collection or entry?
* Is this a representative outlier?
  * True value, reasonably explainable
  * In NDNQI data, “Is it clinically explainable?”
* Is this a non-representative outlier?
  * True value, difficult to explain
Recognizing an Outlier
Example 7: Total Nursing Hours Per Patient Day

<table>
<thead>
<tr>
<th>Adult Med-Surg Combined</th>
<th>4Q07</th>
<th>1Q08</th>
<th>2Q08</th>
<th>3Q08</th>
<th>4Q08</th>
<th>1Q09</th>
<th>2Q09</th>
<th>3Q09</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical/Surgical A</td>
<td>8.31</td>
<td>7.56</td>
<td>8.28</td>
<td>8.34</td>
<td>8.21</td>
<td>7.69</td>
<td>8.07</td>
<td>8.33</td>
<td>8.12</td>
</tr>
<tr>
<td>Medical/Surgical B</td>
<td>7.75</td>
<td>7.43</td>
<td>8.37</td>
<td>8.00</td>
<td>7.99</td>
<td>7.49</td>
<td>8.48</td>
<td>8.95</td>
<td>8.66</td>
</tr>
<tr>
<td>Medical/Surgical C</td>
<td>8.49</td>
<td>8.53</td>
<td>9.01</td>
<td>9.06</td>
<td>9.31</td>
<td>8.46</td>
<td>8.80</td>
<td>9.88</td>
<td>8.94</td>
</tr>
<tr>
<td>Medical/Surgical D</td>
<td>8.40</td>
<td>8.02</td>
<td>9.40</td>
<td>9.04</td>
<td>8.63</td>
<td>8.57</td>
<td>8.28</td>
<td>8.43</td>
<td>8.60</td>
</tr>
<tr>
<td>Medical/Surgical E</td>
<td>7.99</td>
<td>6.98</td>
<td>7.75</td>
<td>6.97</td>
<td>8.41</td>
<td>8.55</td>
<td>8.33</td>
<td>8.34</td>
<td>8.22</td>
</tr>
<tr>
<td><strong>Medical/Surgical F</strong></td>
<td>n.d.</td>
<td>n.d.</td>
<td>21.95</td>
<td>21.59</td>
<td>19.38</td>
<td>17.44</td>
<td>22.24</td>
<td>37.89</td>
<td>23.42</td>
</tr>
<tr>
<td>Medical/Surgical G</td>
<td>9.01</td>
<td>8.04</td>
<td>8.34</td>
<td>8.11</td>
<td>8.93</td>
<td>8.83</td>
<td>6.56</td>
<td>6.50</td>
<td>8.54</td>
</tr>
</tbody>
</table>

Hospital Adult Med-Surg Combined Median

<table>
<thead>
<tr>
<th>Adult Med-Surg Combined</th>
<th>4Q07</th>
<th>1Q08</th>
<th>2Q08</th>
<th>3Q08</th>
<th>4Q08</th>
<th>1Q09</th>
<th>2Q09</th>
<th>3Q09</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical/Surgical A</td>
<td>8.31</td>
<td>7.56</td>
<td>8.28</td>
<td>8.34</td>
<td>8.21</td>
<td>7.69</td>
<td>8.07</td>
<td>8.33</td>
<td>8.12</td>
</tr>
<tr>
<td>Medical/Surgical B</td>
<td>7.75</td>
<td>7.43</td>
<td>8.37</td>
<td>8.00</td>
<td>7.99</td>
<td>7.49</td>
<td>8.48</td>
<td>8.95</td>
<td>8.66</td>
</tr>
<tr>
<td>Medical/Surgical C</td>
<td>8.49</td>
<td>8.53</td>
<td>9.01</td>
<td>9.06</td>
<td>9.31</td>
<td>8.46</td>
<td>8.80</td>
<td>9.88</td>
<td>8.94</td>
</tr>
<tr>
<td>Medical/Surgical D</td>
<td>8.40</td>
<td>8.02</td>
<td>9.40</td>
<td>9.04</td>
<td>8.63</td>
<td>8.57</td>
<td>8.28</td>
<td>8.43</td>
<td>8.60</td>
</tr>
<tr>
<td>Medical/Surgical E</td>
<td>7.99</td>
<td>6.98</td>
<td>7.75</td>
<td>6.97</td>
<td>8.41</td>
<td>8.55</td>
<td>8.33</td>
<td>8.34</td>
<td>8.22</td>
</tr>
<tr>
<td><strong>Medical/Surgical F</strong></td>
<td>n.d.</td>
<td>n.d.</td>
<td>21.95</td>
<td>21.59</td>
<td>19.38</td>
<td>17.44</td>
<td>22.24</td>
<td>37.89</td>
<td>23.42</td>
</tr>
<tr>
<td>Medical/Surgical G</td>
<td>9.01</td>
<td>8.04</td>
<td>8.34</td>
<td>8.11</td>
<td>8.93</td>
<td>8.83</td>
<td>6.56</td>
<td>6.50</td>
<td>8.54</td>
</tr>
</tbody>
</table>

National Comparative Information - Teaching Facilities

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
<th>2.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.D.</td>
<td>1.81</td>
<td>2.07</td>
<td>2.03</td>
<td>2.07</td>
<td>1.93</td>
<td>1.93</td>
<td>2.30</td>
<td>2.01</td>
<td>1.77</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>7.33</td>
<td>7.07</td>
<td>7.37</td>
<td>7.53</td>
<td>7.45</td>
<td>7.25</td>
<td>7.49</td>
<td>7.60</td>
<td>7.33</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>8.29</td>
<td>8.03</td>
<td>8.35</td>
<td>8.49</td>
<td>8.41</td>
<td>8.15</td>
<td>8.33</td>
<td>8.47</td>
<td>8.31</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>10.67</td>
<td>10.46</td>
<td>11.04</td>
<td>11.24</td>
<td>11.21</td>
<td>10.81</td>
<td>11.00</td>
<td>11.11</td>
<td>10.97</td>
</tr>
<tr>
<td># of Reporting Units*</td>
<td>749</td>
<td>779</td>
<td>806</td>
<td>813</td>
<td>810</td>
<td>830</td>
<td>825</td>
<td>807</td>
<td>802.38</td>
</tr>
</tbody>
</table>
1. Start with the title.
   * Think about whether ‘high’ or ‘low’ numbers are desirable.
2. Note the unit type and units being evaluated.
   * Think about the patient population and nursing care required on those units.
3. Note the comparison group and number of reporting units.
4. Then check out your data and determine which percentile your units are in.

<table>
<thead>
<tr>
<th>Table P1</th>
<th>Adult Step Down</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent of Patients with Physical Restraints (Limb and Vest)</td>
</tr>
<tr>
<td></td>
<td>1Q07</td>
</tr>
<tr>
<td>5A Step-Down</td>
<td>0.00</td>
</tr>
<tr>
<td>Hospital Adult Step Down Median</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean</td>
<td>2.89</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.05</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>0.00</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>0.00</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>0.00</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>3.42</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>11.11</td>
</tr>
<tr>
<td># of Reporting Units</td>
<td>150</td>
</tr>
</tbody>
</table>

(check the number of reporting units)
Example 7 (cont. 1)
Total Nursing Hours Per Patient Day

1. Title is “Total Nursing Hours Per Patient Day”
2. Unit type is Adult Med-Surg Combined
3. Academic Medical Center
   * 800+ Reporting Units
4. Medical/Surgical F looks “out of place”
   * Well beyond the 90th percentile
   * Much higher than other units in this hospital
Example 7 (cont. 2)
Total Nursing Hours Per Patient Day

* Troubleshoot the outlier
* Is there an error in the data
  * Was the data collected correctly?
  * Was the data entered correctly?
  * Does the data reflect what actually occurs on the unit?
“n.d.” and “SUP”

* “n.d.” stands for “no data”
* Can occur for several reasons
  * Data not submitted
  * Required data elements are missing
  * Not applicable
* “SUP” stands for “Suppressed”
  * To protect confidentiality, comparison group data with less than 5 reporting units are suppressed
  * Survey units with fewer than 5 RNs responses
Where did my data go?

Example 8: “n.d.” fall rates

* Report reads “n.d.” for 3Q11 for Brandon’s Unit
* What happened?

Table F1
Adult Critical Care
Total Falls Per 1,000 Patient Days

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>4Q10</th>
<th>1Q11</th>
<th>2Q11</th>
<th>3Q11</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon’s Unit</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>n.d.</td>
<td>0.00</td>
</tr>
<tr>
<td>Hospital Adult Critical Care</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>n.d.</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Median
* Were falls entered?
* Check data summary report
* Falls appear to be entered

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Unit Name</th>
<th>Unit Type Desc</th>
<th>Month</th>
<th>Falls Count</th>
<th>Risk Assessmnt Scale</th>
<th>Last User</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>August</td>
<td>0</td>
<td>Other</td>
<td>Brandon Crosser</td>
<td>12/28/2011 1:22:03 PM</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>July</td>
<td>3</td>
<td>Other</td>
<td>Brandon Crosser</td>
<td>12/28/2011 1:21:24 PM</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>June</td>
<td>2</td>
<td>Other</td>
<td>Brandon Crosser</td>
<td>12/28/2011 1:21:52 PM</td>
</tr>
</tbody>
</table>
Table F1: Total Falls Per 1,000 Patient Days

Fall rates require both falls and patient days.

Data summary report shows no patient days data entered.

---

NDNQI Test Hospital
Patient Days Data for Year 2011, Quarter 3

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Unit Name</th>
<th>Unit Type Desc</th>
<th>Month</th>
<th>Inpatient Days</th>
<th>Short Stay Days from Actual Hours</th>
<th>Days from Average Hours</th>
<th>Last User</th>
</tr>
</thead>
<tbody>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>Brandon Crosser</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>Brandon Crosser</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>Critical Care-Adult</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>Brandon Crosser</td>
</tr>
</tbody>
</table>

BC13
same comment as previous
Brandon Crosser, 12/20/2011
Example 8 (cont. 3)
“n.d.” fall rates

- Run Error Reports
- Title is “Missing Patient Days for Fall Rate Report”
- Can be run at any point during data entry
- E-mailed to site coordinators before deadline
- If needed, consult the Guide to Correcting Errors

### NDNQI Test Hospital
#### Missing Patient Days for Fall Rate Report for Year 2011, Quarter 3

The issues listed below may or may not be actual errors. Please review the information to confirm the accuracy of your data. If errors are found or data are incomplete, please make appropriate corrections. To receive an accurate Quarterly Fall Rate, all months must have patient days entered if the unit was open.

**IMPORTANT NOTE:**
The following month(s) have fall data entered without patient days data. If you want an accurate fall rate report, please enter patient days data. If a unit was closed for the month, fall and patient days data should be left blank. If a unit was open and has no falls, please enter 0 for falls.

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Unit Name</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>June</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>July</td>
</tr>
<tr>
<td>41091</td>
<td>Brandon's Unit</td>
<td>August</td>
</tr>
</tbody>
</table>
Example 8 (cont. 4)
“n.d.” fall rates

* Fall rates cannot be computed without denominators.
* Division by zero is a violation of mathematical axioms.
* The result is “undefined”, not zero.
Another reason for “n.d.”

Table A9
Adult Psychiatric
Restraint Types and Duration of Restraints And Seclusion

3rd Quarter 2009

<table>
<thead>
<tr>
<th>Adult Psychiatric</th>
<th>Percent Use of Restraint Types</th>
<th>Median Duration in Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Holds</td>
<td>Pharmacological</td>
</tr>
<tr>
<td>BH</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Hospital Adult Psychiatric</td>
<td>0.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

* Intervention of Seclusion not used

Table A8
Adult Psychiatric
Post Assault Interventions

3rd Quarter 2009

<table>
<thead>
<tr>
<th>Adult Psychiatric</th>
<th>Calmly Talk to Patient</th>
<th>Instruct: Leave Area</th>
<th>Escort Patient from Area</th>
<th>1:1 Obsrv</th>
<th>Called Security</th>
<th>Restrained</th>
<th>Seclusion</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH</td>
<td>0.00</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>0.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Hospital Adult Psychiatric</td>
<td>0.00</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>12.50</td>
<td>0.00</td>
<td>25.00</td>
</tr>
</tbody>
</table>
For confidentiality, the comparison data may be suppressed.

<table>
<thead>
<tr>
<th>Pediatric Step Down</th>
<th>4Q08</th>
<th>1Q09</th>
<th>2Q09</th>
<th>3Q09</th>
<th>4Q09</th>
<th>1Q10</th>
<th>2Q10</th>
<th>3Q10</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Comparative Information - East North Central Division</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>SUP²</td>
<td>SUP²</td>
<td>13.56</td>
<td>15.66</td>
<td>14.87</td>
<td>13.53</td>
<td>13.78</td>
<td>13.26</td>
<td>14.11</td>
</tr>
<tr>
<td>S.D.</td>
<td>SUP²</td>
<td>SUP²</td>
<td>3.77</td>
<td>2.61</td>
<td>3.00</td>
<td>2.48</td>
<td>1.99</td>
<td>3.49</td>
<td>2.89</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>SUP²</td>
<td>SUP²</td>
<td>8.34</td>
<td>12.19</td>
<td>12.41</td>
<td>10.61</td>
<td>11.78</td>
<td>9.63</td>
<td>10.83</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>SUP²</td>
<td>SUP²</td>
<td>11.07</td>
<td>13.79</td>
<td>12.63</td>
<td>10.63</td>
<td>11.93</td>
<td>10.32</td>
<td>11.73</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>SUP²</td>
<td>SUP²</td>
<td>13.63</td>
<td>16.73</td>
<td>14.14</td>
<td>13.73</td>
<td>13.00</td>
<td>12.91</td>
<td>14.02</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>SUP²</td>
<td>SUP²</td>
<td>18.08</td>
<td>18.66</td>
<td>20.31</td>
<td>16.83</td>
<td>16.45</td>
<td>19.39</td>
<td>18.29</td>
</tr>
<tr>
<td># of Reporting Units¹</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5.38</td>
</tr>
</tbody>
</table>

¹ Use caution when making decisions based on comparison data with fewer than 20 reporting units, as they may vary substantially by quarter
² Suppressed for confidentiality
Evaluating an Indicator

Ask yourself:

∗ What are my unit/hospital standards?
∗ Am I improving, staying the same or performing worse?
∗ What are the causes of low performance?
∗ What are the causes of high performance?
Evaluating an Indicator
Example 9: Patient Falls

* Title is “Total Falls Per 1,000 Patient Days”

Table F1
Adult Med-Surg Combined
Total Falls Per 1,000 Patient Days

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Med-Surg A</td>
<td>5.12</td>
<td>7.48</td>
<td>4.87</td>
<td>2.88</td>
<td>2.44</td>
<td>2.45</td>
<td>2.29</td>
<td>1.98</td>
<td>3.69</td>
</tr>
<tr>
<td>Med-Surg B</td>
<td>5.31</td>
<td>4.01</td>
<td>3.30</td>
<td>4.35</td>
<td>4.79</td>
<td>3.61</td>
<td>3.99</td>
<td>5.45</td>
<td>4.35</td>
</tr>
<tr>
<td>Med-Surg C</td>
<td>8.46</td>
<td>4.73</td>
<td>6.01</td>
<td>3.45</td>
<td>3.72</td>
<td>8.21</td>
<td>7.63</td>
<td>8.66</td>
<td>5.37</td>
</tr>
<tr>
<td>Hospital Adult Med-Surg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined Median</td>
<td>5.31</td>
<td>4.73</td>
<td>4.87</td>
<td>3.45</td>
<td>3.72</td>
<td>3.99</td>
<td>5.45</td>
<td>4.40</td>
<td></td>
</tr>
</tbody>
</table>

National Comparative Information - Teaching Facilities

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>10th Percentile</th>
<th>25th Percentile</th>
<th>50th Percentile (median)</th>
<th>75th Percentile</th>
<th>90th Percentile</th>
<th># of Reporting Units *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Med-Surg</td>
<td>4.03</td>
<td>2.28</td>
<td>1.36</td>
<td>1.28</td>
<td>1.28</td>
<td>5.32</td>
<td>6.03</td>
<td>681</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* # of Reporting Units * represents the number of hospitals reporting the data.
Three Adult Med-Surg units being compared to 800 Med-Surg units in Teaching Hospitals

In the 4th quarter of 2008:

* Med-Surg A was between the 10th and 25th percentile (a good outcome!)
* Med-Surg B was slightly above the 75th percentile (not good)
* Med-Surg C was above the 90th percentile (not good – 90% of similar units have fewer falls!)
Over the 8 quarters shown in the table:

- Med-Surg A’s rates showed sustained improvement with an 8-quarter average (Avg) near the median.
- Med-Surg B’s rates were generally stable with an 8-quarter average above the median.
- Med-Surg C’s rates briefly improved but then worsened. Their 8-quarter average was above the 75th percentile.
Dashboards visually confirm the trends in Med-Surg A:

- Med-Surg A’s rates showed sustained improvement
Dashboards visually confirm the trends in Med-Surg B:

- Med-Surg B’s rates were generally stable
Dashboards visually confirm the trends in Med-Surg C:

- Med-Surg C’s rates improved briefly, but then worsened
What has contributed to the low performance of Med-Surg C?

What has contributed to the improved performance of Med-Surg A?

- Staffing
- An intervention was implemented
- Training
Communication

- Relay information of a unit’s performance to staff nurses, nurse managers, CNOs, etc.

Unit based quality improvement

- Create a sense of ownership among unit based staff

- Measure the impact of a specific intervention

- Meet external reporting requirements
Interventions could include

- Staffing levels
- Training
- Change of policy
- Change of personnel

Did the intervention have an affect?

- Were there additional factors involved?
To combat a high CAUTI rate in 3Q08 training sessions were held on all critical care units.

Did the additional training work?

### Table IN3

Adult Critical Care  
Catheter Associated Urinary Tract Infections per 1000 Catheter Days

<table>
<thead>
<tr>
<th>Adult Critical Care</th>
<th>4Q07</th>
<th>1Q08</th>
<th>2Q08</th>
<th>3Q08</th>
<th>4Q08</th>
<th>1Q09</th>
<th>2Q09</th>
<th>3Q09</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCU</td>
<td>n.d.</td>
<td>14.25</td>
<td>15.82</td>
<td>22.63</td>
<td>5.09</td>
<td>6.74</td>
<td>0.00</td>
<td>3.09</td>
<td>9.66</td>
</tr>
<tr>
<td>ICU</td>
<td>n.d.</td>
<td>10.92</td>
<td>9.89</td>
<td>8.51</td>
<td>13.37</td>
<td>7.26</td>
<td>4.31</td>
<td>2.34</td>
<td>8.08</td>
</tr>
<tr>
<td>Hospital Adult Critical Care Median</td>
<td>n.d.</td>
<td>12.58</td>
<td>12.86</td>
<td>15.57</td>
<td>9.23</td>
<td>7.00</td>
<td>2.16</td>
<td>2.71</td>
<td>8.87</td>
</tr>
</tbody>
</table>
Use a Web Chart to see the trend in CAUTI rates in critical care units.
* Does the training appear to have affected outcomes for the critical care units?

![Graph showing Catheter Associated Urinary Tract Infections per 1000 Catheter Days - Adult Critical Care](image)
The training appears to have lowered the CAUTI rates in Critical Care units.

Were there other factors that had an affect?
- Changes in staffing or personnel
- Policy changes
- Heightened awareness
Participation in NDNQI could satisfy reporting requirements such as
- Regulatory or State reporting requirements
- Magnet
- Joint Commission
Questions?

- Understanding indicators
- Recognizing outliers
- “n.d” and “SUP”
- Evaluating an indicator
- Report uses
NDNQI RN Survey Reports

Improving the Nursing Work Environment
Overview

- Report Fundamentals
  - Conceptual framework
  - RN Survey methodology
- Using Reports
  - Interpretation
  - Action plans
Unit Level Survey

* Unit level  ➔ Shapes all aspects of survey
  * Conceptual framework
  * Methodology
    * Measurement
      * Eligibility criteria
      * Instrument- item wording
      * Reliability & validity
  * Statistics
  * Action plans
Organizational Science
Multilevel Research

- Organizations
- Groups
- Individuals

→ Hospitals
→ Units/Work Groups
→ Patients/RNs

NDNQI
Unit Fall Rate

Unit standards & work processes
Staffing levels & skill mix
Health of individual patients
Care provided by individual RNs

Patient Falls
Job Satisfaction of Unit

Group processes:
selection & attrition
interaction & shared experiences

Perceptions of Individual RNs

Klein & Kozlowski, 2000
Original Conceptual Framework

**Antecedents**
- Unit type
- Workload
- Age
- Experience
- Education

**Defining Characteristics**
- General job satisfaction
- **Satisfaction with work components:**
  - Tasks
  - RN/RN interaction
  - RN/MD interaction
  - Autonomy
  - Decision-making
  - Professional status
  - Pay

**Consequences**
- Job commitment
- Anticipated turnover
- Patient outcomes

Aiken & Patrician, 2000
Stamps, 1997
Taunton et al., 2004
Measurement

- Eligibility criteria
- Instrument
- Reliability & validity
Eligibility Criteria

- Eligibility criteria
  - RNs or APRNs
  - Direct patient care provider
  - Minimum 3 months on unit
**Instrument Content Overview**

**RN Survey with Practice Environment Scales (PES)**
- Nurse manager ability, leadership
- Nurse participation in hospital affairs
- Nursing foundations for quality of care
- Staffing and resource adequacy
- Collegial RN-MD relations

**RN Survey with Job Satisfaction Scales**
- Satisfaction with tasks (SF)
- Satisfaction with RN-RN interaction
- Satisfaction with RN-MD interaction
- Satisfaction with decision-making (SF)
- Satisfaction with autonomy
- Satisfaction with professional status
- Satisfaction with nurse management
- Satisfaction with nursing administration
- Satisfaction with professional development
- Satisfaction with pay

**All options include:**
- Job Enjoyment Scale
- RN Work Context
- RN Characteristics
The National Database of Nursing Quality Indicators®

RN Survey and Scoring Guide®
Companion document to RN Survey Report
RN becomes reporter of work environment on unit

* Nurses with whom I work would say that.....
* Please indicate the extent to which you agree that.....is PRESENT IN YOUR CURRENT JOB.

Lake, 2002
Taunton, 2004
# Instrument Reliability & Validity

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Individual Level</th>
<th>Unit/Work Group Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
<td>Cronbach’s Alpha &amp; ICC(2)</td>
</tr>
<tr>
<td>Validity</td>
<td>Factor Analysis</td>
<td>ICC(1) &amp; F ratios</td>
</tr>
</tbody>
</table>

Boyle et al, 2006  
Lake, 2002  
Taunton et al., 2004  
Gajewski et al, 2010
* Unit level validity
  * Unit inclusion criteria
    * ≥5 RN responses
    * ≥50% response rates
  * Unit level response rates
* Unit level reliability
  * Not described by
    * # of participants
    * # of hospitals
    * # of respondents
  * # of units varies
  * comparison group
  * survey options
Table 2.1
Adult Surgical Cardio-thoracic
Practice Environment Scale Mean Scores

<table>
<thead>
<tr>
<th>Practice Environment Scale Mean Scores</th>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>National Comparative Information - Adult Surgical Cardio-thoracic</td>
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<td>SUP³</td>
<td>SUP³</td>
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<td>SUP³</td>
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<td>SUP³</td>
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<td>50th Percentile (median)</td>
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<td>SUP²</td>
<td>SUP²</td>
<td>SUP²</td>
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<tr>
<td>75th Percentile</td>
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<td>SUP²</td>
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<tr>
<td>90th Percentile</td>
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<td>SUP²</td>
<td>SUP²</td>
<td>SUP²</td>
<td>SUP²</td>
<td>SUP²</td>
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<td>4</td>
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<td>4</td>
</tr>
</tbody>
</table>

1 No data. No RN responses or ≤ 5 responses and unit data was suppressed to maintain confidentiality.
2 If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.

* Reliability
  * Suppressed if <5 units
  * Caution if <20 units
Rolling Benchmarks

* Units accumulate across the survey year
Validity of Your Hospital’s Data

* Validity
  * Recommend 50% response rate
  * Not suppressed
  * **Must use judgment**
  * Response rate
  * # of eligible RNs
  * Survey coordinator
Table 1.2
Adult Medical-Surgical Comparison Data and Your Hospital Data
Number of Hospitals, Units, and Responses

<table>
<thead>
<tr>
<th>Number of Responses</th>
<th>Average Unit Response Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>Units</td>
</tr>
<tr>
<td>Unit 1</td>
<td>3</td>
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<td>Unit 2</td>
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</tr>
<tr>
<td>Unit 3</td>
<td>4</td>
</tr>
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<td>Unit 4</td>
<td>14</td>
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</table>

Table 2.1
Adult Medical-Surgical Practice Environment Scale Mean Scores

<table>
<thead>
<tr>
<th>Practice Environment Scale Mean Scores</th>
<th>Adult Medical-Surgical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating of the extent to which characteristic is present</td>
<td>The higher the score, the more positive the rating on a scale of 1-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Nurse Participation in Hospital Affairs</th>
<th>Nurse Foundations for Quality of Care</th>
<th>Nurse Manager Stability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>n.d.</td>
<td>n.d.</td>
<td>n.d.</td>
<td>1.43</td>
<td>2.43</td>
<td>2.28</td>
</tr>
<tr>
<td>Unit 2</td>
<td>2.42</td>
<td>2.84</td>
<td>2.20</td>
<td>1.43</td>
<td>2.43</td>
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</tr>
<tr>
<td>Unit 4</td>
<td>2.88</td>
<td>2.95</td>
<td>2.93</td>
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<tr>
<td>Median</td>
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<td>2.90</td>
<td>2.78</td>
<td>2.16</td>
<td>2.73</td>
<td>2.65</td>
</tr>
</tbody>
</table>
* Individual responses are aggregated to unit level
  * Mean scores
    * Response options vary
  * Modified T-Scores
    * Job Satisfaction
    * Job Enjoyment
  * % of unit RNs
Limitations

- Question validity if average of all units response rate is <50%
- Equally influenced by
  - Large & small units
  - Units with low & high response rates
- Unit type differences hidden
  - Comparisons with your unit level data are misleading
  - Boyle et al. 2006.
Table 2.1
**Adult Medical Cardiac**

**Practice Environment Scale Mean Scores**

<table>
<thead>
<tr>
<th>Practice Environment Scale Mean Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nursing Participation in Hospital Affairs</strong></td>
</tr>
<tr>
<td>----------------------------------------</td>
</tr>
<tr>
<td>2.81</td>
</tr>
<tr>
<td>0.27</td>
</tr>
<tr>
<td>2.48</td>
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<tr>
<td>2.65</td>
</tr>
<tr>
<td><strong>50th Percentile (median)</strong></td>
</tr>
<tr>
<td><strong>75th Percentile</strong></td>
</tr>
<tr>
<td><strong>90th Percentile</strong></td>
</tr>
<tr>
<td><strong># of Units</strong></td>
</tr>
</tbody>
</table>

*Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4.*
Survey Reports

Formats

• Reports
  ✓ Data Tables
    o Current
    o No Trends

• Graphics
  ✓ Dashboards
    o Current
    o Trend
  ✓ Web Graphics
    o Current
    o Trend

Distribution & Comparison Data

• Your Unit Data
  ✓ RNs, Unit Managers, Division Directors
  ✓ Unit type comparison data

• Your Unit type data
  ✓ RNs, Unit Managers, Division Directors
  ✓ Hospital Executives
  ✓ Unit type comparison data

• Your Average of all units
  ✓ Hospital Executives
  ✓ Average of all units comparison data
Survey Unit Types

**Same as Quarterly Report**
- Adult Critical Care
- Adult Step-down
- Adult Medical
- Adult Surgical
- Adult Medical-Surgical
- Obstetric

**Different from Quarterly Report**
- Neonatal
- Rehabilitation
- Pediatrics
- Psychiatric
- Emergency
- Peri-Operative

**Not Eligible for Quarterly Indicators**
- Ambulatory Care
- Interventional Units
- Other – no comparison data provided

*See Data Collection Guidelines: Appendices B & D*
Questions?

* RN Survey report fundamentals
  * Conceptual framework
  * Methodology
    * Measurement
    * Statistics
Using RN Survey Reports
Strategy

* Identify expectations
* Interpret results
  * Take-home points
    * Unit level survey
    * Report labels
    * Rolling benchmarks
    * Unit response rate
    * Average of all units
    * Conceptual framework
  * Questions to ask
    * Do our units have a problem?
    * What are our opportunities for improvement?
* Develop action plans
* Examine effect of interventions

Conceptual Model

Patient Outcomes: Patient Safety Quality of Care

RN Outcomes: Job Plans Turnover

RN Job Enjoyment

RN Work Environment:
- Leadership
- RN Workforce
- Work Hours
- Culture of Safety

Adapted from IOM’s Keeping Patients Safe: Transforming the Work Environment of Nurses, 2004
1st Interpretation Question

* Do our units have a problem?
  * Job enjoyment
  * Unit RN job plans
  * Perceived quality of care on unit
Do our units have a problem?

Job Enjoyment

Job Enjoyment Scale T-Score
2008

< = 25  35  45  55  65  75  > = 85

Unit 1
All Hospitals:
Adult Surgical

ANA
AMERICAN NURSES ASSOCIATION

NDNQI
NATIONAL DATABASE OF NURSING QUALITY INDICATORS
Do our units have a problem?

Job Plans

RN Job Plans Next Year
2008

% Other Job Plans

% Remain in Direct Patient Care on a Different Unit in the Same Hospital

% Remain in Direct Patient Care on the Same Unit

Unit 1

All Hospitals:
Adult
Surgical

American Nurses Association

National Database of Nursing Quality Indicators
Do our units have a problem?

Perceived Quality of Care

1=Poor, 2=Fair, 3=Good, 4=Excellent
What are our opportunities for improvement?

- Aspects of the RN work environment
  - Leadership
  - Workforce
  - Work process
  - Organizational culture
- Measured by
  - PES/Job Satisfaction Scales
    - Complex cultural concepts
  - Work context items
    - More immediately actionable
RN Work Environment

Threats
Recommendations

Leadership
Workforce
Work Process
Organizational Culture
RN Work Environment

- Leadership  **Threat: Failure of management practices**
  - Administration & management
  - RN involvement
- Workforce  **Threat: Unsafe workforce deployment**
  - Staffing levels
  - Knowledge & skills
- Work process  **Threat: Unsafe work design**
  - Work hours
  - Meal breaks
- Organizational culture  **Threat: Punitive cultures**
  - Culture of safety
    - Team interactions
LEADERSHIP
The leader always sets the trail for others to follow.
Leadership

* Administration & management
  * PES
    * Nurse manager ability, leadership
  * Job Satisfaction
    * Satisfaction with nursing management
    * Satisfaction with nursing administration

* RN involvement
  * PES
    * Nursing participation in hospital affairs
  * Job Satisfaction
    * Satisfaction with decision-making
    * Satisfaction with autonomy
    * Satisfaction with professional status
### Table 2.1

#### Adult Medical-Surgical

Practice Environment Scale Mean Scores

<table>
<thead>
<tr>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adult Medical-Surgical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MES</td>
<td>2.08</td>
<td>2.23</td>
<td>2.14</td>
<td>1.99</td>
<td>2.02</td>
</tr>
<tr>
<td>MSU</td>
<td>2.66</td>
<td>3.02</td>
<td>2.48</td>
<td>2.74</td>
<td>2.92</td>
</tr>
<tr>
<td>Hospital Adult Medical-Surgical Median</td>
<td>2.36</td>
<td>2.63</td>
<td>2.51</td>
<td>2.37</td>
<td>2.47</td>
</tr>
<tr>
<td>National Comparative Information - Non-Magnet Facility</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
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<td>2.85</td>
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<td>2.83</td>
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<td>0.32</td>
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<td>2.69</td>
<td>2.63</td>
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<td>2.98</td>
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<td>50th Percentile (median)</td>
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<td>2.99</td>
</tr>
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</table>

1 No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.
2 If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.

**PES Response Options**

1 = Strongly Disagree  
2 = Disagree  
2.5 = Midpoint  
3 = Agree  
4 = Strongly Agree
### Modified T-Scores

<40 = Low Satisfaction  
40-50 = Moderate  
50 = Midpoint  
50-60 = Moderate  
>60 = High Satisfaction
### Table 2.1

**Adult Medical-Surgical Practice Environment Scale Mean Scores**

<table>
<thead>
<tr>
<th></th>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
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</thead>
<tbody>
<tr>
<td><strong>Adult Medical-Surgical</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>MS</td>
<td>2.98</td>
<td>2.23</td>
<td>2.14</td>
<td>1.99</td>
<td>2.02</td>
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<td>2.88</td>
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<td>2.84</td>
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<td>Hospital Adult Medical-Surgical Median</td>
<td>2.36</td>
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<td>2.51</td>
<td>2.37</td>
<td>2.47</td>
<td>2.47</td>
</tr>
</tbody>
</table>

**PES Response Options**

1 = Strongly Disagree  
2 = Disagree  
2.5 = Midpoint  
3 = Agree  
4 = Strongly Agree

---

1 No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.

2 If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
Modified T-Scores

- **<40=Low Satisfaction**
- **40-50=Moderate**
- **50=Midpoint**
- **50-60=Moderate**
- **>60=High Satisfaction**

### Table 2.3
**Adapted Index of Work Satisfaction T-Scores**

**Adult Critical Care**

<table>
<thead>
<tr>
<th></th>
<th>Tasks</th>
<th>RN-RN Interactions</th>
<th>RN-MD Interactions</th>
<th>Decision-making</th>
<th>Autonomy</th>
<th>Professional Status</th>
<th>Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MDU</strong></td>
<td>49.98</td>
<td>60.89</td>
<td>61.52</td>
<td>55.97</td>
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<td>50.20</td>
<td>54.92</td>
<td>51.26</td>
<td>55.05</td>
<td>56.77</td>
<td>33.87</td>
</tr>
<tr>
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<td>58.22</td>
<td>48.66</td>
<td>52.05</td>
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<td>37.59</td>
</tr>
</tbody>
</table>

**National Comparative Information - Magnet Facility**

<table>
<thead>
<tr>
<th></th>
<th>Tasks</th>
<th>RN-RN Interactions</th>
<th>RN-MD Interactions</th>
<th>Decision-making</th>
<th>Autonomy</th>
<th>Professional Status</th>
<th>Pay</th>
</tr>
</thead>
<tbody>
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<td>60.34</td>
<td>59.94</td>
<td>47.02</td>
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<td>65.71</td>
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<td>49.90</td>
<td>38.84</td>
<td>44.67</td>
<td>55.10</td>
<td>27.98</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>45.28</td>
<td>64.02</td>
<td>55.94</td>
<td>47.24</td>
<td>55.01</td>
<td>69.28</td>
<td>33.52</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>50.50</td>
<td>69.23</td>
<td>59.77</td>
<td>47.62</td>
<td>54.40</td>
<td>69.18</td>
<td>39.32</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>55.08</td>
<td>74.38</td>
<td>63.88</td>
<td>53.32</td>
<td>57.38</td>
<td>70.93</td>
<td>46.88</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>59.23</td>
<td>78.56</td>
<td>68.89</td>
<td>57.48</td>
<td>62.20</td>
<td>77.41</td>
<td>49.55</td>
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<td>138</td>
<td>138</td>
<td>153</td>
<td>138</td>
<td>138</td>
<td></td>
</tr>
</tbody>
</table>

* No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.
* If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
**Leadership Action Plans**

- Transformational leadership
  - Decentralized decision making
  - Patient safety a priority
  - Management processes & structures facilitate positive relationships with nursing staff
  - Evidence based management practices

Hinshaw, 2006.
Institute of Medicine, 2004.
Workforce

* Staffing levels
  * Work context items
    * Patient assignment was appropriate
    * Number of patients assigned
    * % working extra because of short staffing
  * PES
    * Staffing and resource adequacy
  * Job Satisfaction
    * Satisfaction with tasks

* Knowledge & skills
  * Work context items
    * Unit orientation
  * Job Satisfaction
    * Satisfaction with professional development opportunities
### Table 3.4
**Adult Surgical**

**Description of Unit Last Shift**

<table>
<thead>
<tr>
<th></th>
<th>Mean Rating of Unit</th>
<th>Mean number of patients assigned to unit RNs and APRNs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The higher the score the more positive the rating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Important things didn't get done</td>
<td>Overall had a good shift</td>
</tr>
<tr>
<td></td>
<td>1 = strongly agree 6 = strongly disagree</td>
<td>1 = strongly disagree 6 = strongly agree</td>
</tr>
<tr>
<td><strong>Adult Surgical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical 1</td>
<td>4.03</td>
<td>4.70</td>
</tr>
<tr>
<td>Surgical 2</td>
<td>3.71</td>
<td>3.25</td>
</tr>
<tr>
<td>Hospital Adult Surgical Median</td>
<td>4.32</td>
<td>3.98</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean Rating of Unit</th>
<th>Mean number of patients assigned to unit RNs and APRNs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The higher the score the more positive the rating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Important things didn't get done</td>
<td>Overall had a good day</td>
</tr>
<tr>
<td></td>
<td>1 = strongly agree 6 = strongly disagree</td>
<td>1 = strongly disagree 6 = strongly agree</td>
</tr>
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<td><strong>National Comparative Information - Bed Size &gt;= 500</strong></td>
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<td></td>
</tr>
<tr>
<td>Mean</td>
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<td>4.27</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.48</td>
<td>0.48</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>3.22</td>
<td>3.67</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>3.50</td>
<td>3.84</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>3.84</td>
<td>4.31</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>4.13</td>
<td>4.60</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>4.32</td>
<td>4.86</td>
</tr>
<tr>
<td># of Units*</td>
<td>151</td>
<td>151</td>
</tr>
</tbody>
</table>

* No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.

* # of units is < 5; comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
### Table 3.12
**Adult Surgical**

#### Unit RNs Working Extra Hours

<table>
<thead>
<tr>
<th></th>
<th>% of Unit RNs Reporting Working Extra Hours</th>
<th>Mean Change in Unit Overtime During Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Extra Money</td>
<td>% Unit Busy</td>
</tr>
<tr>
<td>Adult Surgical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical 1</td>
<td>44</td>
<td>34</td>
</tr>
<tr>
<td>Surgical 2</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Hospital Adult Surgical Median</td>
<td>32</td>
<td>31</td>
</tr>
</tbody>
</table>

#### National Comparative Information - Teaching Facilities

<table>
<thead>
<tr>
<th></th>
<th>% of Unit RNs Reporting Working Extra Hours</th>
<th>Mean Change in Unit Overtime During Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Extra Money</td>
<td>% Unit Busy</td>
</tr>
<tr>
<td>Mean</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>S.D.</td>
<td>15.46</td>
<td>14.16</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>36</td>
<td>33</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td># of Units</td>
<td>234</td>
<td>234</td>
</tr>
</tbody>
</table>

1. No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.
2. If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
### Workforce Staffing Levels

#### Table 2.1

**Adult Medical-Surgical Practice Environment Scale Mean Scores**

<table>
<thead>
<tr>
<th></th>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adult Medical-Surgical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M/S</td>
<td>2.08</td>
<td>2.23</td>
<td>2.14</td>
<td>1.99</td>
<td>2.02</td>
<td>2.09</td>
</tr>
<tr>
<td>PVC</td>
<td>2.66</td>
<td>3.02</td>
<td>2.88</td>
<td>2.74</td>
<td>2.92</td>
<td>2.84</td>
</tr>
<tr>
<td>Hospital Adult Medical-Surgical Median</td>
<td>2.36</td>
<td>2.63</td>
<td>2.51</td>
<td>2.37</td>
<td>2.47</td>
<td>2.47</td>
</tr>
</tbody>
</table>

#### PES Response Options

1 = Strongly Disagree  
2 = Disagree  
2.5 = Midpoint  
3 = Agree  
4 = Strongly Agree

---

1 No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.

2 If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
Tasks

* **Nurses with whom I work would say that...**
  * They could do a better job if they did not have **so much to do** all the time.
  * They have **plenty of time** to discuss patient care problems with other nursing staff.
  * They have **sufficient time** for direct patient care.
  * They could deliver much better patient care if they had **more time** with each patient.
Workforce Action Plans
Staffing Levels

* Include admits, discharges, same day in estimates of patient volume for assignments
* Involve direct care staff in determining staffing methods
* Provide staffing elasticity
* Involve direct care staff in retention strategies
* Empower staff to regulate unit workflow & set criteria for unit closure

Hinshaw, 2006.
Institute of Medicine, 2004.
Hospital Recommendation and Unit Orientation 2008

1 = Strongly Disagree, 6 = Strongly Agree
Workforce Action Plans
Knowledge & Skills

- Preceptors for new hires
- Annual education plan for all staff
- Education for new technology
- Decision support technology
- Point of care learning: clinical tools, algorithms, pathways

Hinshaw, 2006.
Institute of Medicine, 2004.
Work Process

"You’re in a hospital, Nurse Hill. If you collapse from exhaustion, the emergency room is just down the hall."
Work Process

- Work hours
  - % of unit RNs working >12 hours last shift
- Meal breaks
  - RNs working => 8 hours last shift
    - Minutes of meal break
    - Sit down free of patient responsibilities
### Table 3.8
Adult Medical
Hours Worked by Unit RNs Last Shift

<table>
<thead>
<tr>
<th></th>
<th>% of Unit RNs Reporting Hours Worked</th>
<th>&lt;8 hours</th>
<th>8 hours</th>
<th>9 hours</th>
<th>10-11 hours</th>
<th>12 hours</th>
<th>13 hours</th>
<th>&gt;13 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Medical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Med 1</td>
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<td>0</td>
<td>43</td>
<td>0</td>
<td>0</td>
<td>57</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Med 2</td>
<td></td>
<td>0</td>
<td>19</td>
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<td>0</td>
<td>52</td>
<td>10</td>
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<tr>
<td>Med 3</td>
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<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Hospital Adult Medical Median</td>
<td></td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>57</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>% of Unit RNs Reporting Hours Worked</th>
<th>&lt;8 hours</th>
<th>8 hours</th>
<th>9 hours</th>
<th>10-11 hours</th>
<th>12 hours</th>
<th>13 hours</th>
<th>&gt;13 hours</th>
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<tbody>
<tr>
<td>National Comparative Information - Academic Medical Centers</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mean</td>
<td></td>
<td>1</td>
<td>20</td>
<td>4</td>
<td>2</td>
<td>54</td>
<td>15</td>
<td>3</td>
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<tr>
<td>S.D.</td>
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<td>3.33</td>
<td>24.93</td>
<td>7.53</td>
<td>7.33</td>
<td>25.47</td>
<td>14.50</td>
<td>4.89</td>
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<tr>
<td>10th Percentile</td>
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<td>14</td>
<td>0</td>
<td>0</td>
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<tr>
<td>25th Percentile</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td></td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
<td>31</td>
<td>6</td>
<td>3</td>
<td>72</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>90th Percentile</td>
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<td>5</td>
<td>58</td>
<td>13</td>
<td>7</td>
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<td>35</td>
<td>11</td>
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<td>169</td>
<td>169</td>
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<td>169</td>
<td>169</td>
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</tbody>
</table>

¹ No data: No RN responses or < 5 responses and unit data was suppressed to maintain confidentiality.
² If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
Work Process
Meal Breaks

Meal Break Minutes on Unit Last Shift
% of Unit RNs Working ≥ 8 Hours - 2009

Meal Break Experience on Unit Last Shift
% of Unit RNs Working ≥ 8 Hours - 2009

Unable to sit down for meal
Able to sit down, not free of patients
Able to sit down, free of patients

ED
Academic Medical Centers
Emergency
Work Process Action Plans

- Maximum shift length of 12 hours in any 24-hour period
  - Reverse unit culture on working overtime
- Flexible shifts
- Change staffing procedures to reflect the actual # of patients a nurse interacts and cares for within a day
- Use nurses to regulate the patient traffic on the unit
- Adopt new information technology to enhance work

Hinshaw, 2006.
Institute of Medicine, 2004.
Organizational Culture
Organizational Culture
Culture of Safety

* Culture of safety
  * Team interactions
    * Practice Environment Scales
    * Collegial RN-MD relations
  * Job Satisfaction Scales
    * RN-RN Interactions
    * RN-MD Interactions
### Table 2.1
**Adult Medical-Surgical**

**Practice Environment Scale Mean Scores**

<table>
<thead>
<tr>
<th></th>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adult Medical-Surgical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M/S</td>
<td>2.06</td>
<td>2.23</td>
<td>2.14</td>
<td>1.99</td>
<td>2.02</td>
<td>2.09</td>
</tr>
<tr>
<td>PCU</td>
<td>2.96</td>
<td>3.02</td>
<td>2.88</td>
<td>2.74</td>
<td>2.92</td>
<td>2.84</td>
</tr>
<tr>
<td><strong>Hospital Adult Medical-Surgical Median</strong></td>
<td>2.36</td>
<td>2.62</td>
<td>2.51</td>
<td>2.37</td>
<td>2.47</td>
<td>2.47</td>
</tr>
</tbody>
</table>

**Practice Environment Scale Mean Scores**

<table>
<thead>
<tr>
<th></th>
<th>Nursing Participation in Hospital Affairs</th>
<th>Nursing Foundations for Quality of Care</th>
<th>Nurse Manager Ability, Leadership, and Support of Nurses</th>
<th>Staffing and Resource Adequacy</th>
<th>Collegial Nurse-Physician Relations</th>
<th>Mean PES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Comparative Information - Non-Magnet Facility</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mean</td>
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<td>2.85</td>
<td>2.48</td>
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<tr>
<td>S.D.</td>
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<td>0.18</td>
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<td>0.34</td>
<td>0.24</td>
<td>0.23</td>
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<td>2.02</td>
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<td>2.49</td>
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<tr>
<td>25th Percentile</td>
<td>2.58</td>
<td>2.89</td>
<td>2.63</td>
<td>2.23</td>
<td>2.68</td>
<td>2.62</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>2.74</td>
<td>3.00</td>
<td>2.67</td>
<td>2.50</td>
<td>2.82</td>
<td>2.79</td>
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<td>3.07</td>
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<td>280</td>
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<td>289</td>
<td>280</td>
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</tbody>
</table>

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*² If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.
### Organizational Culture

**Team Interactions**

#### Table 2.3

**Adult Critical Care**

**Adapted Index of Work Satisfaction T-Scores**

<table>
<thead>
<tr>
<th>Tasks</th>
<th>RN-RN Interactions*</th>
<th>RN-MD Interactions*</th>
<th>Decision-making</th>
<th>Autonomy*</th>
<th>Professional Status*</th>
<th>Pay*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 40 = low satisfaction, 40-60 = moderate satisfaction, &gt; 60 = high satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adult Critical Care</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MICU</td>
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<td>66.89</td>
<td>61.52</td>
<td>55.87</td>
<td>59.04</td>
<td>68.98</td>
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<td>ICU</td>
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<td>50.20</td>
<td>54.02</td>
<td>41.25</td>
<td>45.06</td>
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</tr>
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<td>45.01</td>
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<td>48.56</td>
<td>52.05</td>
<td>62.68</td>
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</tbody>
</table>

#### National Comparative Information - Magnet Facility

<table>
<thead>
<tr>
<th>Tasks</th>
<th>RN-RN Interactions*</th>
<th>RN-MD Interactions*</th>
<th>Decision-making</th>
<th>Autonomy*</th>
<th>Professional Status*</th>
<th>Pay*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 40 = low satisfaction, 40-60 = moderate satisfaction, &gt; 60 = high satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>50.38</td>
<td>69.34</td>
<td>59.04</td>
<td>47.02</td>
<td>53.55</td>
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<tr>
<td>S.D.</td>
<td>6.68</td>
<td>7.37</td>
<td>7.34</td>
<td>7.56</td>
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<td>8.21</td>
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<td>49.90</td>
<td>38.84</td>
<td>44.87</td>
<td>55.10</td>
</tr>
<tr>
<td>25th Percentile</td>
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<td>64.02</td>
<td>55.94</td>
<td>42.46</td>
<td>49.12</td>
<td>59.88</td>
</tr>
<tr>
<td>50th Percentile (median)</td>
<td>50.50</td>
<td>69.23</td>
<td>59.77</td>
<td>47.62</td>
<td>54.40</td>
<td>66.18</td>
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<tr>
<td>75th Percentile</td>
<td>55.08</td>
<td>74.38</td>
<td>63.88</td>
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<tr>
<td># of Units²</td>
<td>153</td>
<td>138</td>
<td>138</td>
<td>153</td>
<td>138</td>
<td>138</td>
</tr>
</tbody>
</table>

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Organizational Culture Action Plans

- Support interdisciplinary collaboration
  - Interdisciplinary practice mechanisms
    - Grand rounds
  - Ongoing formal training in interdisciplinary collaboration

Hinshaw, 2006.
Institute of Medicine, 2004.
Questions?

* Using RN Survey reports
  * Interpretation
    * RN work environment
  * Action plans
WRAP-UP
Conceptual Model

RN Work Environment:
- Leadership
- RN Workforce
- Work Hours
- Culture of Safety

RN Job Enjoyment

RN Outcomes:
- Job Plans
- Turnover

Patient Outcomes:
- Patient Safety
- Quality of Care

Adapted from IOM’s Keeping Patients Safe: Transforming the Work Environment of Nurses, 2004
Take Home Points

1. Unit level
   * Shapes all aspects of survey

2. Report labels
   * Not enough information

3. Rolling benchmarks
   * Units accumulate across survey year

4. Unit response rate
   * Validity of your data

5. Average of All Units
   * Limitations

6. Conceptual framework
   * Guides interpretation & action plans
Essential Survey Report Resources

* RN Survey and Scoring Guide
* Reports Tutorial: RN Survey


Contact Information

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913-588-1691
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