Double Down on Quality:
Understanding and Using NDNQI® Reports

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Improving the Odds on Quality

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ANA
AMERICAN NURSES ASSOCIATION

NDNQI®
NATIONAL DATABASE OF NURSING QUALITY INDICATORS

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  * Comparison data are owned by ANA and may not be published by NDNQI member hospitals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

Measurement

* 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

* 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

How Many do I Choose?

Example 1: Sampling m&m's

* 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

Example 1 (cont. 2)

Sampling m&m's

* 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

Sample Size in NDNQI

* 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.

Basic Statistics

* Measures of central tendency
* Percentiles
* Measures of dispersion
* Outliers

Good or Bad?

A statistic is neither good or bad , but
it can be dangerous if used in the wrong way

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Central Tendency

* Estimates the expected value
* Mean
  * Mathematical average
* Median (50th 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

Employee Salaries				
$20,000	$20,000	$20,000	$20,000	$20,000
$20,000	$20,000	$20,000	$20,000	$20,000
$20,000	$20,000	$30,000	$37,000	$37,000
$37,000	$37,000	$50,000	$50,000	$50,000
$50,000	$77,000	$100,000	$130,000	$1,000,000

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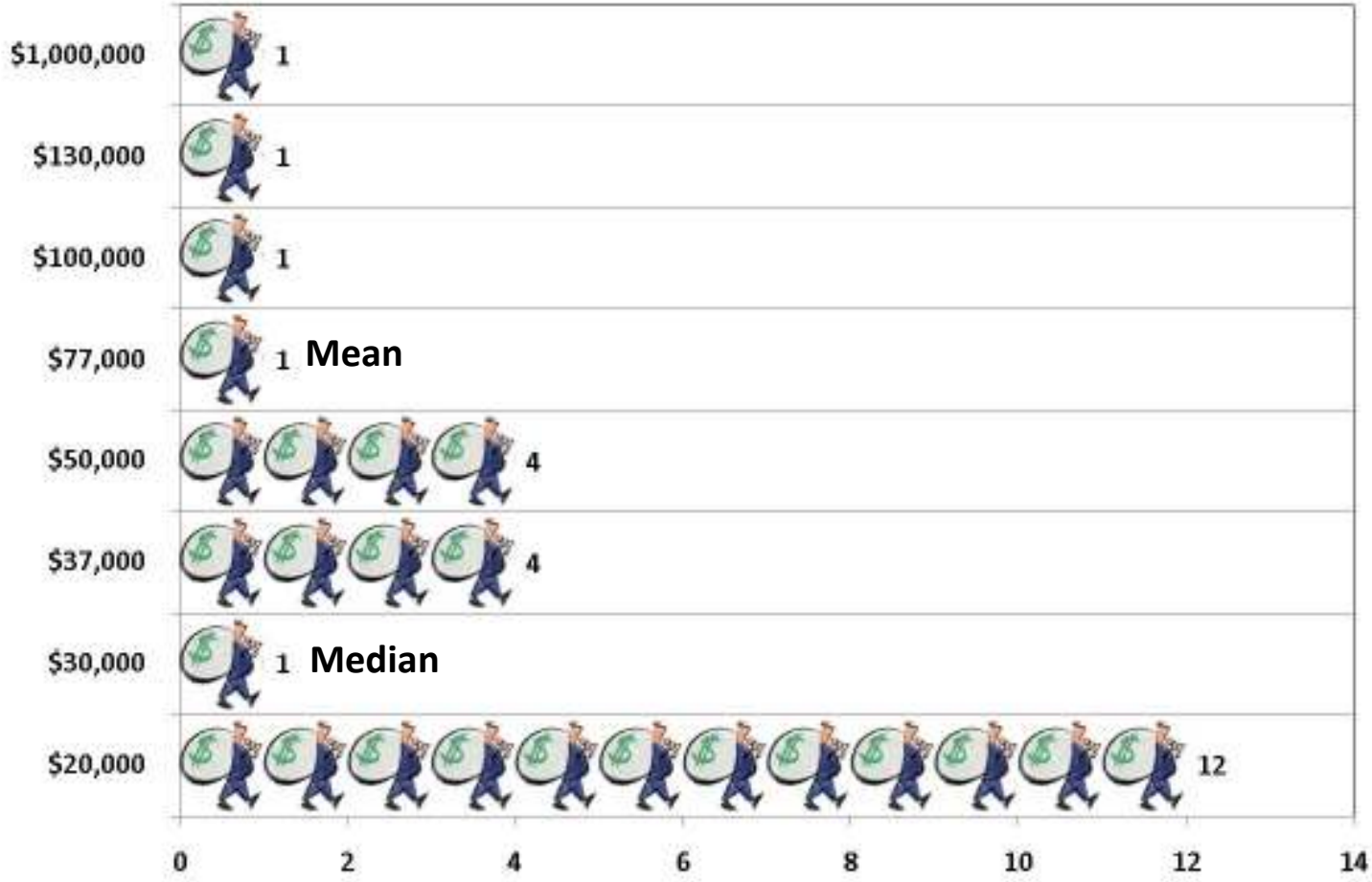
NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Example 2 (cont. 1)

Annual Income



Example 2 (cont. 2)

Annual Income

* 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

Mean vs. Median

ICU Falls Data

* 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

Adult Critical Care	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	Avg
National Comparative Information - All Hospitals									
Mean	0.29	0.29	0.28	0.32	0.28	0.28	0.29	0.28	0.29
S.D.	0.72	0.83	0.73	0.81	0.78	0.68	0.77	0.79	0.76
10th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50th Percentile (median)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90th Percentile	1.15	1.15	1.13	1.19	1.04	1.10	1.11	1.11	1.12
# of Reporting Units[1]	2,019	2,080	2,118	2,161	2,214	2,255	2,360	2,325	2,191.50

[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

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.

Where do I rank?

Example 3: National ACT Scores

* 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

ACT Score	Percentile	ACT Score	Percentile
14	8	23	70
15	13	24	76
16	18	25	82
17	28	26	86
18	33	27	90
19	41	28	93
20	49	29	95
21	56	30	97
22	64	31+	99

Example 3 (cont.)
National ACT Scores

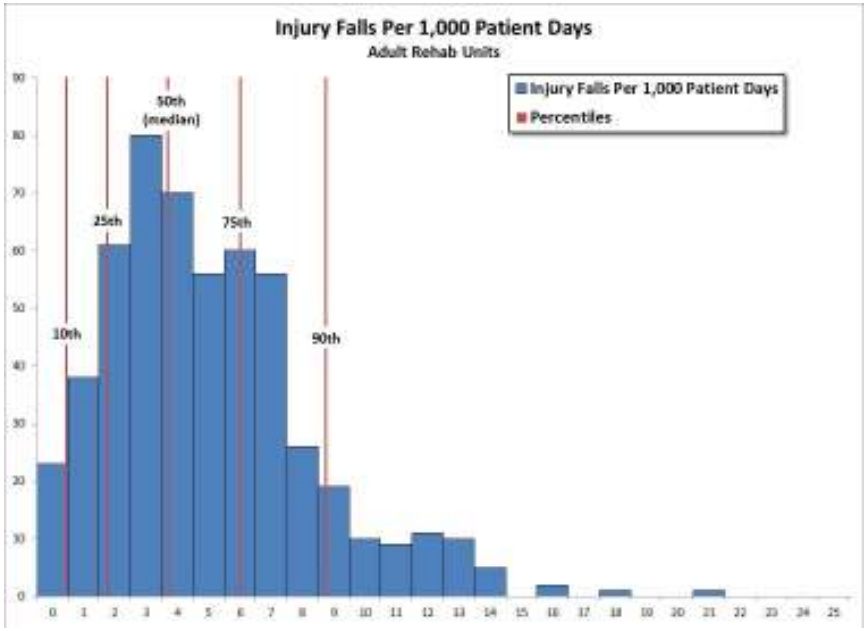
* A score of 27 on the ACT corresponds the 90th percentile
* 90% of testers scored equal to or less than 27
* 10% of testers scored higher than 27

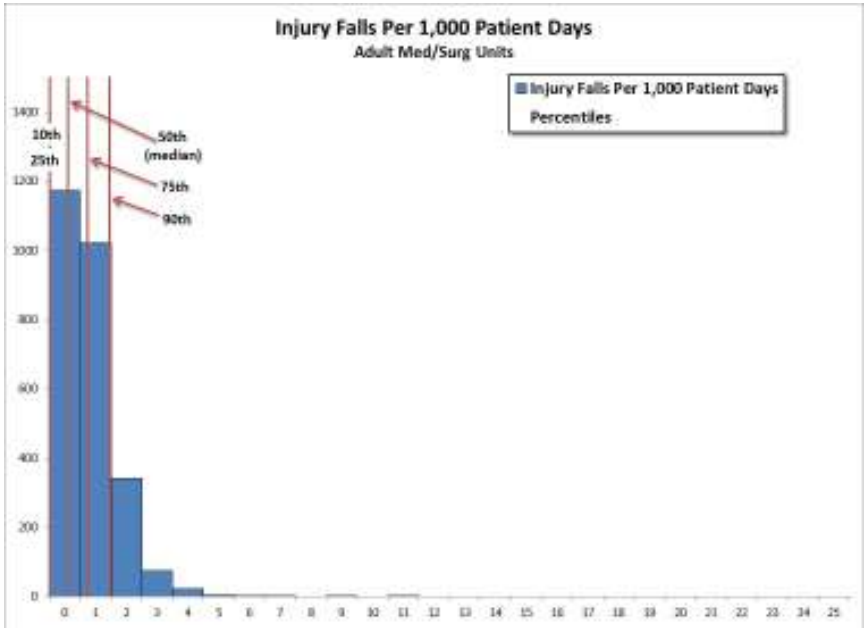
ACT Score	Percentile	ACT Score	Percentile
14	8	23	70
15	13	24	76
16	18	25	82
17	28	26	86
18	33	27	90
19	41	28	93
20	49	29	95
21	56	30	97
22	64	31+	99

Percentiles in NDNQI

Injury Fall Rates

* 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

City	Mean	Median
A	72°	72°
B	72°	72°
C	72°	72°

Example 4 (cont. 1)

City Climate

- 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

City	Mean	Median	SD
A	72°	72°	0°
B	72°	72°	10°
C	72°	72°	25°

Example 4 (cont. 2)

City Climate

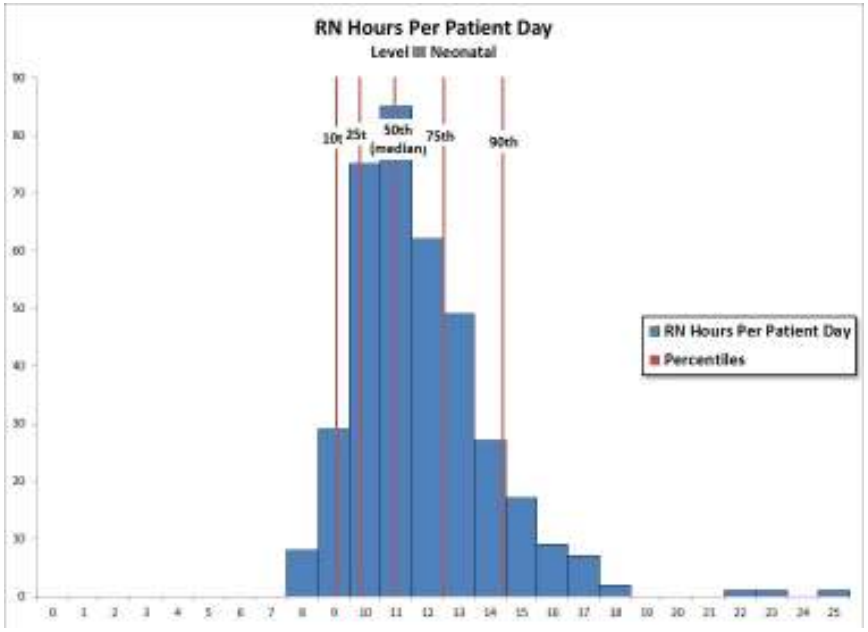
* The median temperature for all three cities is also 72°
* Which city would you choose given all the data?

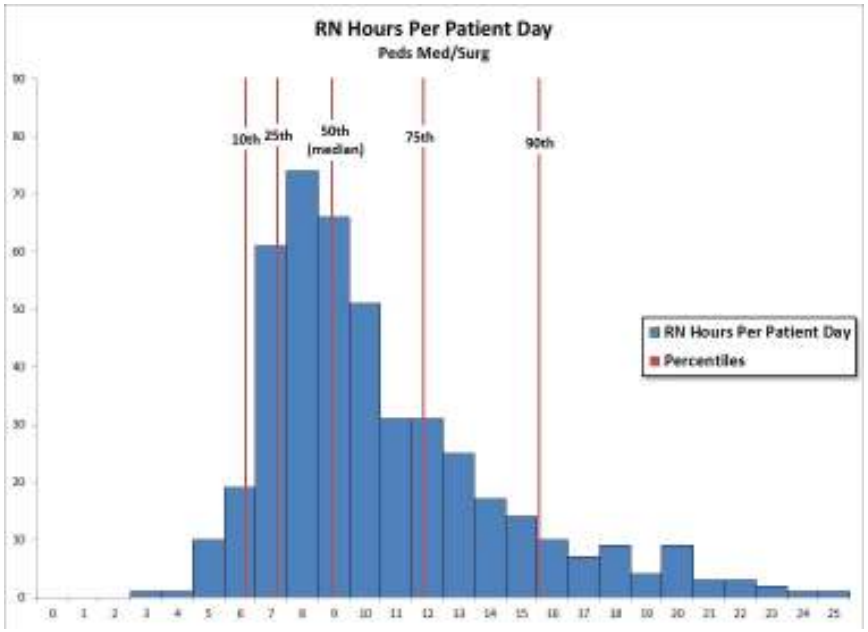
City	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Mean	Median	SD
A	72°	72°	72°	72°	72°	72°	72°	72°	72°	72°	72°	72°	72°	72°	0°
B	55°	62°	65°	72°	75°	83°	86°	86°	78°	72°	68°	62°	72°	72°	10°
C	30°	44°	67°	72°	93°	99°	101°	103°	94°	72°	53°	36°	72°	72°	25°

Dispersion in NDNQI

RN Hours Per Patient Days

* Indicator distributions with similar means or medians may look different due to differing dispersion (s.d.).





Statistical Concepts in NDNQI

Table F1

Adult Med-Surg Combined

Total Falls Per 1,000 Patient Days

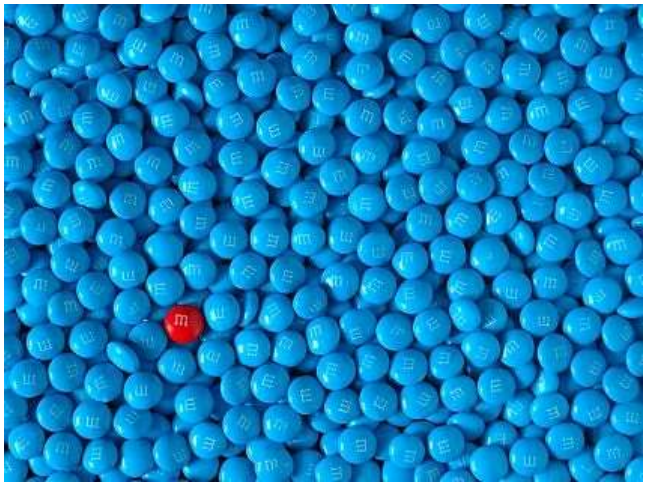
	Adult Med-Surg Combined	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	Avg
	Med-Surg A	2.34	1.63	1.14	4.53	4.01	1.14	1.86	2.98	2.45
	Med-Surg B	4.68	6.03	6.98	3.87	4.42	7.15	4.95	4.92	5.38
	Hospital Adult Med-Surg Combined Median	*3.51*	*3.83*	*4.06*	*4.20*	*4.21*	*4.15*	*3.41*	*3.95*	*3.92*
	National Comparative Information - Teaching Facilities									
	Mean	3.82	3.85	3.88	3.77	3.78	3.72	3.77	3.57	3.77
	S.D.	2.25	2.29	2.25	2.24	2.25	2.38	2.24	2.18	2.26
Percentiles	**10th Percentile**	1.24	1.23	1.27	1.31	1.31	1.28	1.32	1.13	1.26
	25th Percentile	2.22	2.27	2.33	2.24	2.19	2.13	2.20	2.02	2.20
	50th Percentile (median)	3.54	3.43	3.53	3.45	3.44	3.39	3.45	3.25	3.43
	75th Percentile	5.08	5.32	5.21	4.94	4.98	4.85	4.99	4.79	5.02
	90th Percentile	6.66	6.90	6.70	6.69	6.66	6.43	6.77	6.32	6.64
	# of Reporting Units[1]	839	843	863	886	907	916	941	933	891.00

Caution

* 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

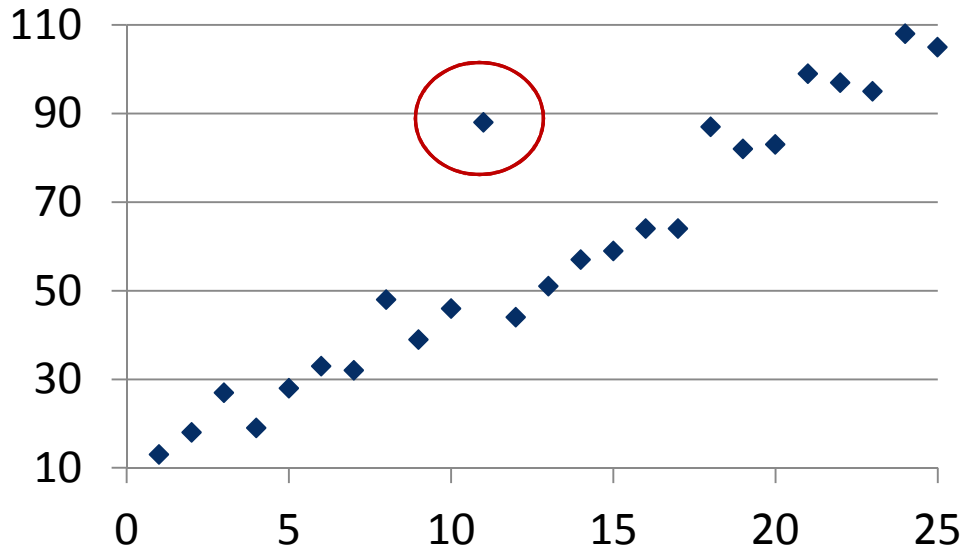
Outliers

* 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



Visually Detecting Outliers

- Do any points look "out of place"?
- Graphs can help detect outliers
- Determine type and cause of outlier



Obs.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Value	13	18	27	19	28	33	32	48	39	46	88	44	51	57	59	64	64	87	82	83	99	97	95	108	105

Questions?

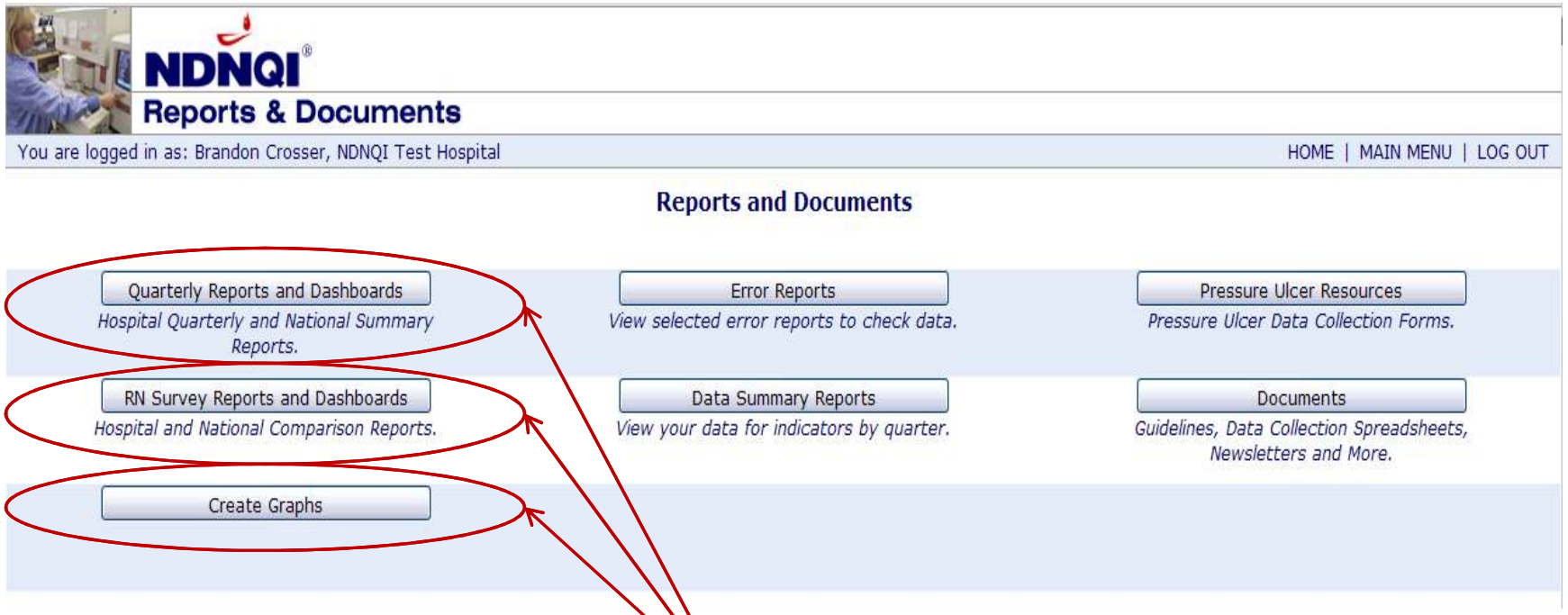
* Measurement
* Sampling
* Basic Statistics

NDNQI Reports

* Downloading Reports
* Dashboards
* Web Charts
* Comparison Groups
* Reading Reports
* Table Relationships

Downloading Reports

You've got options



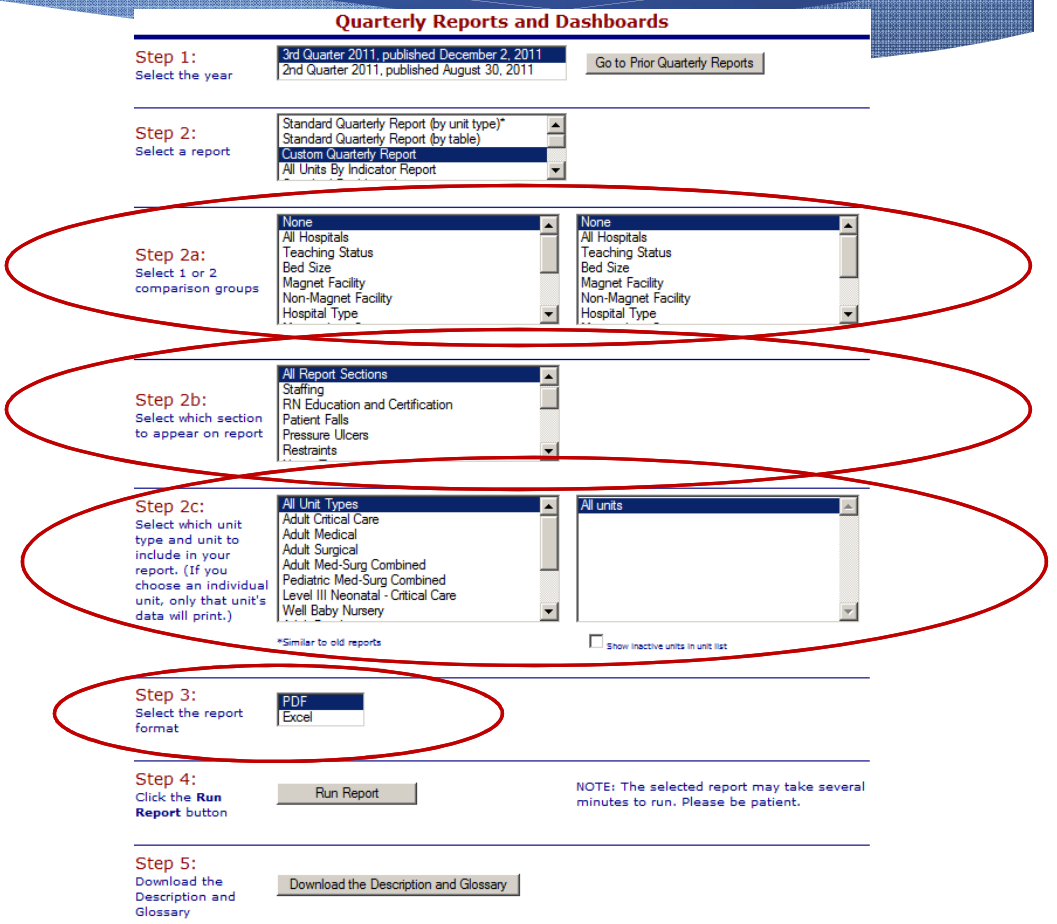
Report Features

Standard Reports

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

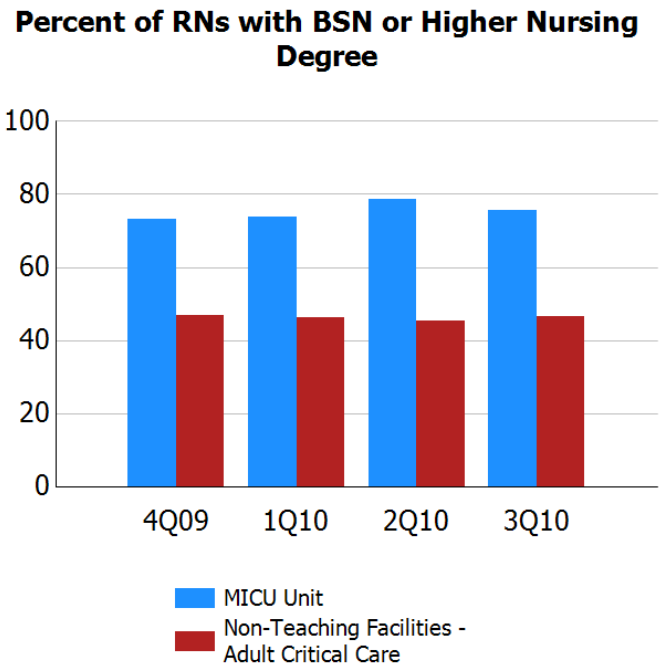
Custom Reports

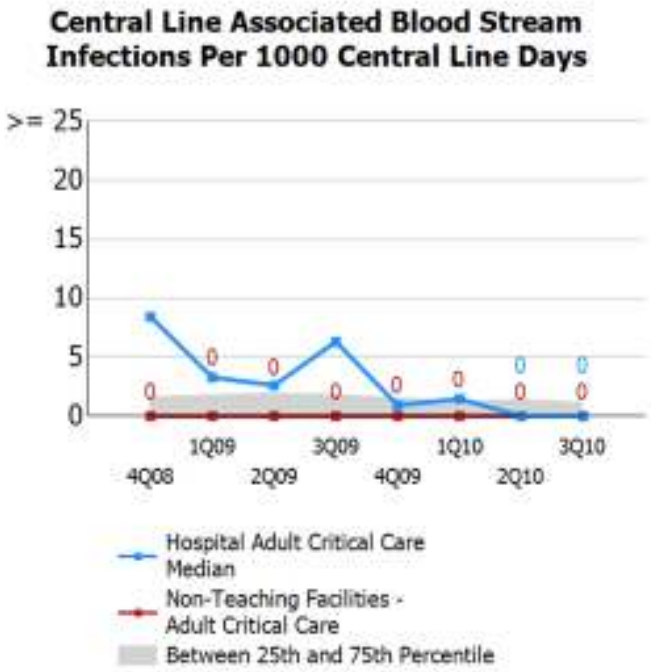
* Different comparison groups
* Indicator specific
* Unit specific
* PDF or Excel format



Dashboards

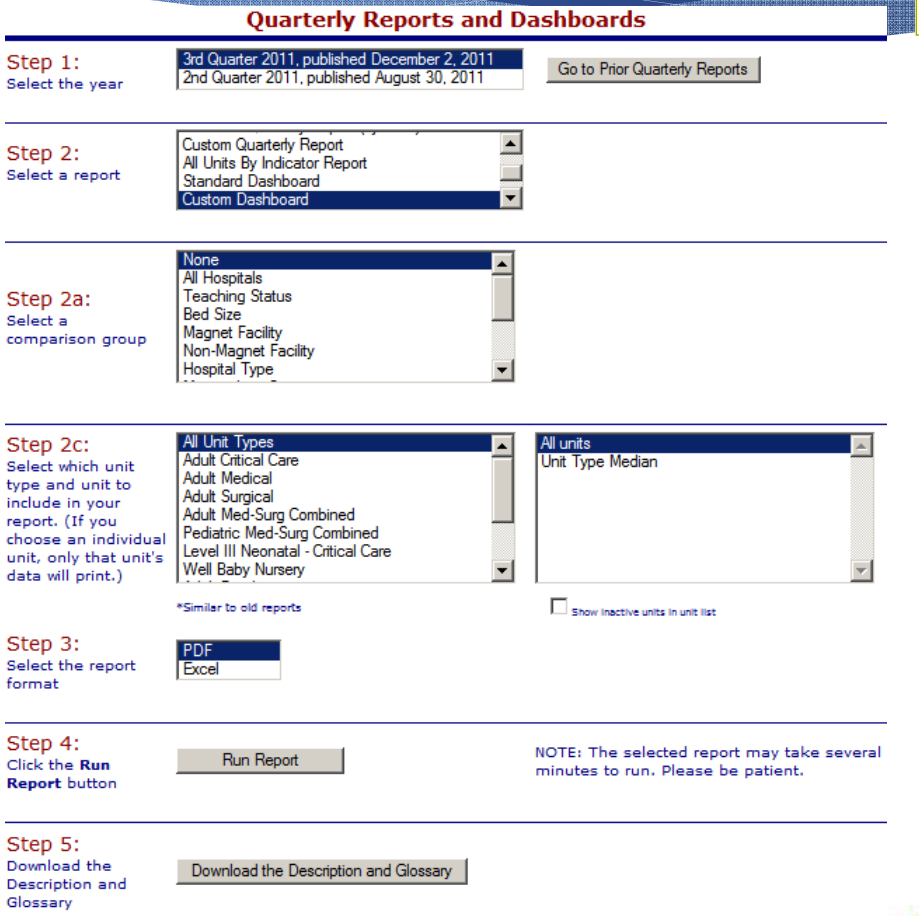
* Easy, visual data for a unit or unit type





Downloading Dashboards

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

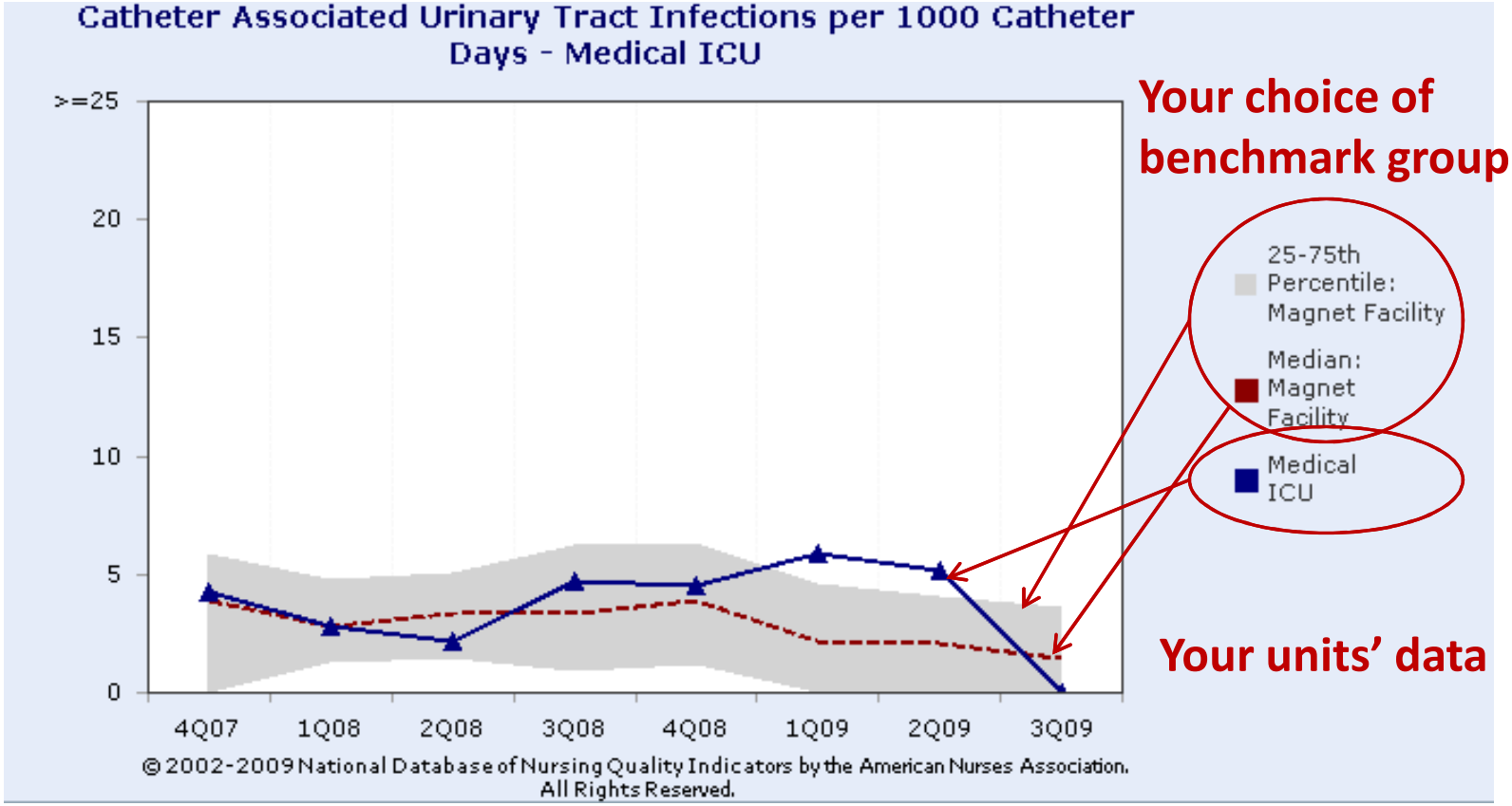


LG4 non-magnet in 2a

Lili Garrard, 12/19/2011

Web Charts

User Specified Graphics

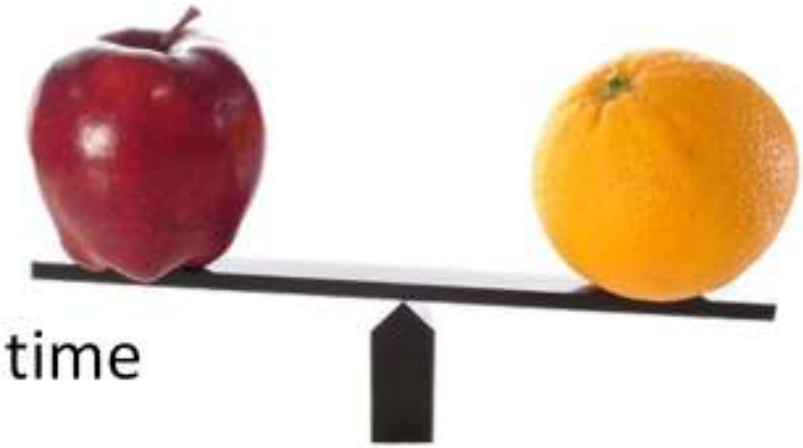


Comparison groups

* Staffed Bed Size
* Teaching Status
* Census Division
* Metropolitan Status
* Case Mix Index
* Selected Adult Specialty
* Hospital Type
* Magnet Status
* All hospitals

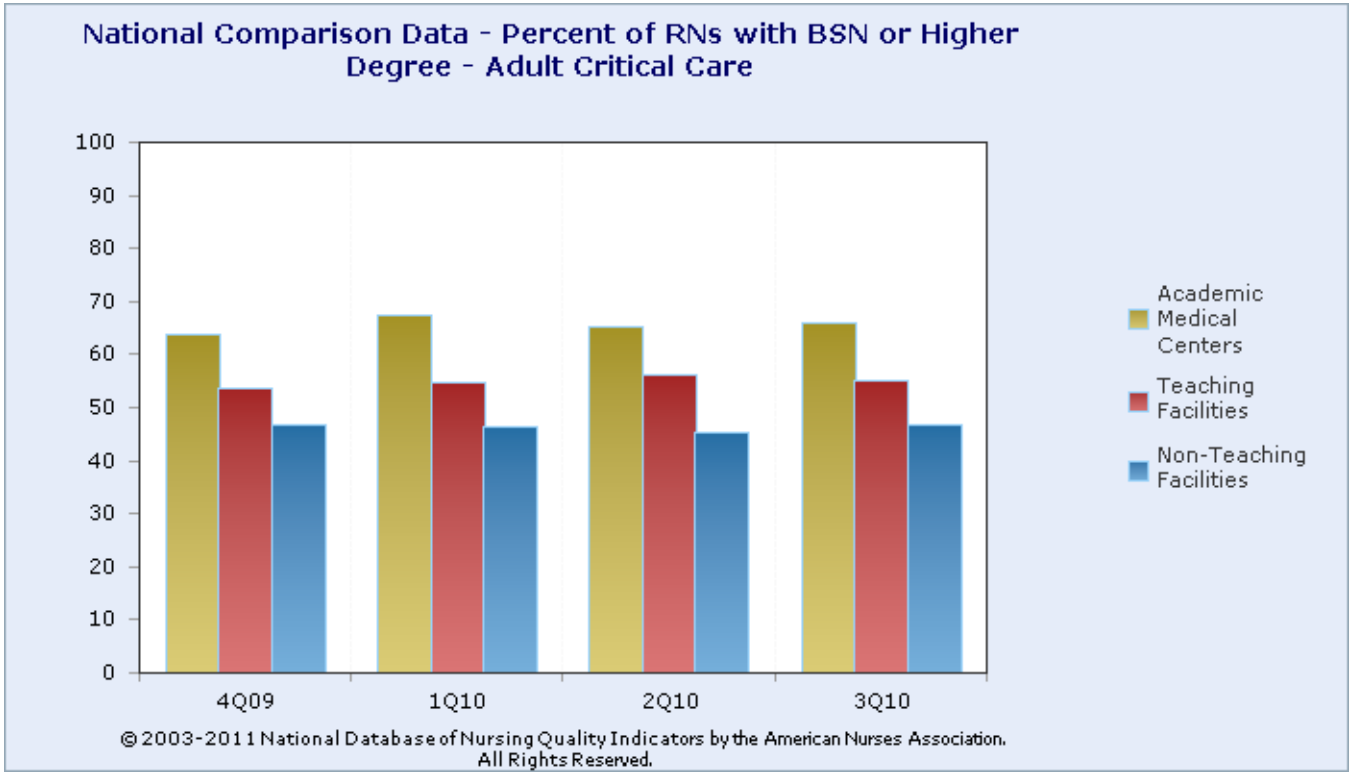
Selecting Comparison Group

* Need a conceptual rationale
  * Specific similarities
  * Sample size
* Leadership agreement
* Consistent comparison over time



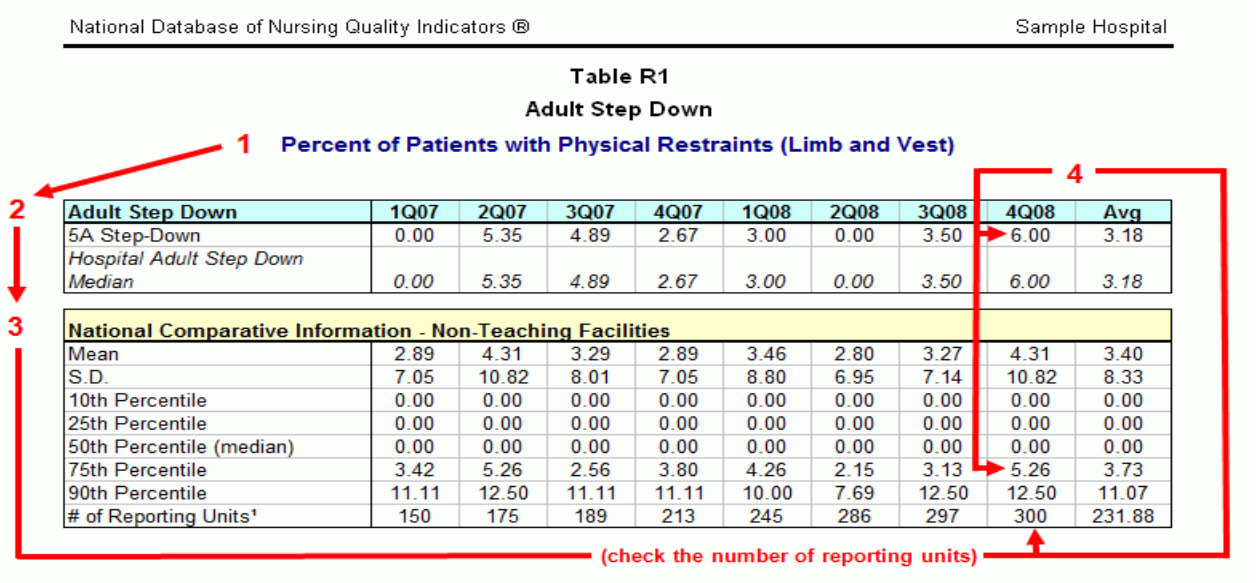
Web Charts

* National benchmark data within comparison groups



Reading Reports

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.



National Database of Nursing Quality Indicators ® Sample Hospital

Table R1

Adult Step Down

1 Percent of Patients with Physical Restraints (Limb and Vest)

Adult Step Down	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Avg
5A Step-Down	0.00	5.35	4.89	2.67	3.00	0.00	3.50	6.00	3.18
Hospital Adult Step Down Median	*0.00*	*5.35*	*4.89*	*2.67*	*3.00*	*0.00*	*3.50*	*6.00*	*3.18*

National Comparative Information - Non-Teaching Facilities									
Mean	2.89	4.31	3.29	2.89	3.46	2.80	3.27	4.31	3.40
S.D.	7.05	10.82	8.01	7.05	8.80	6.95	7.14	10.82	8.33
10th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50th Percentile (median)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75th Percentile	3.42	5.26	2.56	3.80	4.26	2.15	3.13	5.26	3.73
90th Percentile	11.11	12.50	11.11	11.11	10.00	7.69	12.50	12.50	11.07
# of Reporting Units[1]	150	175	189	213	245	286	297	300	231.88

2

3

4

(check the number of reporting units)

Table Relationships

* Related tables
* Contingent tables
* Trend vs. current tables

Related 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

Related Tables

Table E1

Adult Step Down

RN Education - Current Quarter Summary

3rd Quarter 2009

Adult Step Down	Total RNs	% Diploma	% ADN	% BSN	% MSN & PhD	% Unspecified
IMCU	31	0.00	51.61	45.16	3.23	0.00
Hospital Adult Step Down Median	*31.00*	*0.00*	*51.61*	*45.16*	*3.23*	*0.00*

Table E2

Adult Step Down

RN Education - Percent with BSN or Higher Nursing Degree

Adult Step Down	4Q08	1Q09	2Q09	3Q09	Avg
IMCU	44.44	44.44	42.86	48.39	45.03
Hospital Adult Step Down Median	*44.44*	*44.44*	*42.86*	*48.39*	*45.03*

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			n	% Unassisted Falls		
			Minor Injury	Moderate Injury	Major Injury /Death		Minor Injury	Moderate Injury	Major Injury /Death
Critical Care-Adult	0	0	n.d.	n.d.	n.d.	0	n.d.	n.d.	n.d.

Contingent Tables

Five units in Table R1

Table R1
Adult Step Down
Percent of Patients with Physical Restraints (Limb and Vest)

Adult Step Down	4Q07	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	Avg
Cardiac	n.d.	n.d.	n.d.	n.d.	n.d.	0.00	0.00	0.00	0.00
CV Surgery / Medical Cardiology	n.d.	n.d.	n.d.	n.d.	n.d.	4.35	2.94	4.00	3.76
NeuroScience	n.d.	n.d.	n.d.	n.d.	n.d.	8.57	9.09	9.30	8.99
Trauma	n.d.	n.d.	n.d.	n.d.	n.d.	0.00	8.33	5.56	5.56
Respiratory Unit	n.d.	n.d.	n.d.	n.d.	n.d.	0.00	7.14	0.00	2.38
Hospital Adult Step Down Median	*n.d.*	*n.d.*	*n.d.*	*n.d.*	*n.d.*	*0.00*	*7.14*	*4.00*	*3.71*

Cardiac and Respiratory Units had no restraints and therefore have no characteristics to report in table R2

Three units in Table R2

Table R2
Adult Step Down
Restraint Characteristics

3rd Quarter 2009

Adult Step Down	Type			Category		Clinical Justification for Restraint				
	Limb	Vest	Limb & Vest	Med/ Surg	Behavior-al	Prevent Getting Out of Bed	Prevent Equip. Removal	Reduce Harm to Self	Reduce Harm to Others	Other/ Unknown
CV Surgery / Medical Cardiology	100.00	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00
NeuroScience	100.00	0.00	0.00	100.00	0.00	14.29	57.14	14.29	14.29	0.00
Trauma	100.00	0.00	0.00	100.00	0.00	33.33	33.33	33.33	0.00	0.00
Hospital Adult Step Down Median	*100.00*	*0.00*	*0.00*	*100.00*	*0.00*	*14.29*	*57.14*	*14.29*	*0.00*	*0.00*

Trend vs. Current

* 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 vs. Current

* Trend tables show one variable over time

Table E2
Adult Critical Care
RN Education - Percent with BSN or Higher Nursing Degree

Adult Critical Care	4Q09	1Q10	2Q10	3Q10	Avg
ICU	45.00	45.00	50.00	50.00	50.00
Hospital Adult Critical Care Median	*45.00*	*45.00*	*50.00*	*50.00*	*50.00*

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

Table E1
Adult Critical Care
RN Education - Current Quarter Summary
3rd Quarter 2010

Adult Critical Care	Total RNs	% Diploma	% ADN	% BSN	% MSN & PhD	% Unspecified
ICU	20	10.00	40.00	50.00	0.00	0.00
Hospital Adult Critical Care Median	*20.00*	*10.00*	*40.00*	*50.00*	*0.00*	*0.00*

Questions?

* Downloading Reports
* Dashboards
* Web Charts
* Comparison Groups
* Reading Reports
* Table Relationships

Interpreting Reports

* 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

Staffing

Example 5: Table IN5

* Title is “Catheter Associated Urinary Tract Infections per 1000 Catheter Days”
* # of UTIS / (Catheter Days/1000)
* 1Q10 rate is 6.00

Table IN5

Adult Critical Care

Catheter Associated Urinary Tract Infections per 1000 Catheter Days

Adult Critical Care	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11	3Q11	Avg
ICU	0.00	6.00	7.83	2.44	0.00	1.96	0.00	0.00	2.28
Hospital Adult Critical Care Median	*0.00*	*6.00*	*7.83*	*2.44*	*0.00*	*1.96*	*0.00*	*0.00*	*2.28*

Example 5 (cont. 1)

Table IN5

* 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 device days exceed the number of patient days submitted for the unit each month.

Example 5 (cont. 2)

Table IN5

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

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

	CAUTIs	Catheter Days
Month 1	1	175
Month 2	0	125
Month 3	2	200
Quarter Totals	3	500
Catheter Associated Urinary Tract Infections Per 1,000 Patient Days	6.00	

Example 5 (cont. 4)

Table IN5

* 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

Adult Critical Care	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11	3Q11	Avg
ICU	0.00	6.00	7.83	2.44	0.00	1.96	0.00	0.00	2.28
Hospital Adult Critical Care Median	*0.00*	*6.00*	*7.83*	*2.44*	*0.00*	*1.96*	*0.00*	*0.00*	*2.28*

Turnover

Example 6: Table T1

* Title is “Total Nursing Unit Turnover as % of Employed FTEs”
* 2Q09 rate is 62.79

Table T1

Adult Med-Surg Combined

Total Nursing Unit Turnover Rate as % of Employed FTEs

Adult Med-Surg Combined	% Separated Number of RN and APRN Staff					% Separated Number of LPN/LVN and UAP Staff				
	4Q08	1Q09	2Q09	3Q09	Four Quarter Rate	4Q08	1Q09	2Q09	3Q09	Four Quarter Rate
3 West	8.46	18.87	0.80	21.62	47.93	0.00	0.00	0.00	2.88	4.03
4 North - Oncology	5.79	9.68	10.59	15.69	41.90	15.79	18.75	62.79	0.00	97.30
Hospital Adult Med-Surg Combined Median	*7.13*	*14.28*	*5.70*	*18.66*	*44.91*	*7.89*	*9.38*	*31.40*	*1.44*	*50.66*

Example 6 (cont. 1)

Table T1

* Unit Turnover Rate definition
  * From the Data Collection Guidelines:

Definitions	**Total Turnover Rate**
Unit Turnover Rate	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).

Example 6 (cont. 2)
Table T1

* 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.

- ((Separations for: month 1 + month 2 + …. month 12)/ (Actual employees for: month 1 + month 2 + …. 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)

Table T1

* 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

	A	B	C	D	F	I	J
1	**NDNQI Hospital**						
2	**Nurse Turnover Summary for Year 2009, Quarter 2**						
3	**(page 1 of 2)**						
4	**Unit ID**	**Unit Name**	**Month**	**Category of Nursing Staff**	**Total Actual Employed FTE's**	**Number of Separations**	**Separation FTE**
19	4	4 North - Oncology	4	LPN/LVN	0	0	
20	4	4 North - Oncology	4	UAP	4.3	0	
23	4	4 North - Oncology	5	LPN/LVN	0	0	
24	4	4 North - Oncology	5	UAP	4.3	1	0.9
27	4	4 North - Oncology	6	LPN/LVN	0	0	
28	4	4 North - Oncology	6	UAP	4.3	2	0.9 x 2 = 1.8

$$\frac{\text{Sum of all Separations (FTEs or people) in Quarter}}{\text{Quarter Average Actual (FTEs or people)}} \times 100 = \frac{2.7}{4.3} \times 100 = 62.79$$

Example 6 (cont. 5)

Table T1

Table T1

Adult Med-Surg Combined

Total Nursing Unit Turnover Rate as % of Employed FTEs

Adult Med-Surg Combined	% Separated Number of RN and APRN Staff					% Separated Number of LPN/LVN and UAP Staff				
	4Q08	1Q09	2Q09	3Q09	Four Quarter Rate	4Q08	1Q09	2Q09	3Q09	Four Quarter Rate
3 West	8.46	18.87	0.80	21.62	47.93	0.00	0.00	0.00	2.88	4.03
4 North - Oncology	5.79	9.68	10.59	15.69	41.90	15.79	18.75	62.79	0.00	97.30
Hospital Adult Med-Surg Combined Median	*7.13*	*14.28*	*5.70*	*18.66*	*44.91*	*7.89*	*9.38*	*31.40*	*1.44*	*50.66*
National Comparative Information - Non-Teaching Facilities										
Mean	5.57	6.14	4.83	6.90	23.49	6.42	8.47	7.37	9.95	32.93
S.D.	7.78	10.64	6.49	14.90	20.75	9.44	11.75	13.20	18.41	28.43
10th Percentile	0.00	0.00	0.00	0.00	4.63	0.00	0.00	0.00	0.00	5.77
25th Percentile	0.00	0.00	0.00	0.00	9.45	0.00	0.00	0.00	0.00	14.50
50th Percentile (median)	3.15	2.63	3.54	4.48	17.81	0.00	4.81	3.86	5.60	25.08
75th Percentile	7.99	8.80	7.27	8.82	30.73	10.34	12.50	10.38	13.04	41.02
90th Percentile	16.36	15.93	13.16	15.03	50.14	18.75	23.24	18.75	23.26	71.47
# of Reporting Units[1]	245	242	262	279	137.00	243	239	259	278	137.00

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 S1

Adult Med-Surg Combined

Total Nursing Hours Per Patient Day

Adult Med-Surg Combined	4Q07	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	Avg
Medical/Surgical A	8.31	7.56	8.28	8.34	8.21	7.89	8.07	8.33	8.12
Medical/Surgical B	7.75	7.43	8.37	8.00	7.99	7.49	8.48	8.95	8.06
Medical/Surgical C	8.49	8.53	9.01	9.06	9.31	8.46	8.80	9.86	8.94
Medical/Surgical D	8.40	8.02	9.40	9.04	8.63	8.57	8.28	8.43	8.60
Medical/Surgical E	7.99	6.89	7.75	8.07	8.41	8.33	8.99	9.34	8.22
Medical/Surgical F	n.d.	n.d.	21.95	21.59	19.39	17.44	22.24	37.89	23.42
Medical/Surgical G	9.01	8.04	8.34	8.11	8.93	8.83	8.58	8.50	8.54
Hospital Adult Med-Surg Combined Median	*8.35*	*7.79*	*8.37*	*8.34*	*8.63*	*8.46*	*8.58*	*8.95*	*8.43*

National Comparative Information - Teaching Facilities									
Mean	8.55	8.27	8.68	8.77	8.76	8.44	8.62	8.77	8.61
S.D.	1.91	1.86	2.07	2.03	2.07	1.93	1.87	2.30	2.01
10th Percentile	6.42	6.31	6.71	6.66	6.62	6.41	6.66	6.66	6.56
25th Percentile	7.38	7.07	7.37	7.53	7.45	7.25	7.49	7.60	7.39
50th Percentile (median)	8.29	8.03	8.35	8.49	8.41	8.15	8.33	8.47	8.31
75th Percentile	9.41	9.07	9.53	9.56	9.62	9.24	9.46	9.55	9.43
90th Percentile	10.87	10.48	11.04	11.24	11.21	10.81	11.00	11.11	10.97
# of Reporting Units[1]	749	779	806	813	810	830	825	807	802.38

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Recall: Reading Reports

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.

National Database of Nursing Quality Indicators ® Sample Hospital

Table R1

Adult Step Down

1 **Percent of Patients with Physical Restraints (Limb and Vest)**

2

3

4

Adult Step Down	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Avg
5A Step-Down	0.00	5.35	4.89	2.67	3.00	0.00	3.50	6.00	3.18
Hospital Adult Step Down Median	*0.00*	*5.35*	*4.89*	*2.67*	*3.00*	*0.00*	*3.50*	*6.00*	*3.18*
National Comparative Information - Non-Teaching Facilities									
Mean	2.89	4.31	3.29	2.89	3.46	2.80	3.27	4.31	3.40
S.D.	7.05	10.82	8.01	7.05	8.80	6.95	7.14	10.82	8.33
10th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25th Percentile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50th Percentile (median)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75th Percentile	3.42	5.26	2.56	3.80	4.26	2.15	3.13	5.26	3.73
90th Percentile	11.11	12.50	11.11	11.11	10.00	7.69	12.50	12.50	11.07
# of Reporting Units[1]	150	175	189	213	245	286	297	300	231.88

(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

Adult Critical Care	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11	3Q11	Avg
Brandon's Unit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n.d.	0.00
Hospital Adult Critical Care Median	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	n.d.	*0.00*

Example 8 (cont. 1)

"n.d." fall rates

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

NDNQI Test Hospital
Falls Data Summary for Year 2011, Quarter 3
(page 1 of 2)

Unit ID	Unit Name	Unit Type Desc	Month	Falls Count	Risk Assmnt Scale	Last User	Updated
41091	Brandon's Unit	Critical Care-Adult	August	0	Other	Brandon Crosser	12/28/2011 1:22:03 PM
41091	Brandon's Unit	Critical Care-Adult	July	3	Other	Brandon Crosser	12/28/2011 1:21:24 PM
41091	Brandon's Unit	Critical Care-Adult	June	2	Other	Brandon Crosser	12/28/2011 1:21:52 PM

Example 8 (cont. 2)

"n.d." fall rates

* 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

BC13

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

Unit ID	Unit Name	Unit Type Desc	Month	Method	Inpatient Days	Short Stay Days from Actual Hours	Days from Average Hours	Last User
41091	Brandon's Unit	Critical Care-Adult	6					Brandon Crosser
41091	Brandon's Unit	Critical Care-Adult	7					Brandon Crosser
41091	Brandon's Unit	Critical Care-Adult	8					Brandon Crosser

Slide 76

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.

Unit ID	Unit Name	Month
41091	Brandon's Unit	June
41091	Brandon's Unit	July
41091	Brandon's Unit	August

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

Adult Psychiatric	Percent Use of Restraint Types			Median Duration in Hours	
	Holds	Pharma-cological	Devices	Restraint Devices	Seclusion
BH	0.00	100.00	100.00	0.00	n.d.
Hospital Adult Psychiatric Median	*0.00*	*100.00*	*100.00*	*0.08*	*n.d.*

* Intervention of Seclusion not used

Table A8

Adult Psychiatric

Post Assault Interventions

3rd Quarter 2009

Adult Psychiatric	None	Calmly Talk to Patient	Instruct: Leave Area	Escort Patient from Area	1:1 Obsrv.	Called Security	Re-strained	Seclusion	Other
BH	0.00	12.50	12.50	12.50	12.50	12.50	12.50	0.00	25.00
Hospital Adult Psychiatric Median	*0.00*	*12.50*	*12.50*	*12.50*	*12.50*	*12.50*	*12.50*	*0.00*	*25.00*

SUP

* For confidentiality, the comparison data may be suppressed.

Pediatric Step Down	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	Avg
National Comparative Information - East North Central Division									
Mean	SUP[2]	SUP[2]	13.56	15.66	14.87	13.53	13.78	13.26	14.11
S.D.	SUP[2]	SUP[2]	3.77	2.61	3.00	2.48	1.99	3.49	2.89
10th Percentile	SUP[2]	SUP[2]	8.34	12.19	12.41	10.61	11.78	9.63	10.83
25th Percentile	SUP[2]	SUP[2]	11.07	13.79	12.63	10.63	11.93	10.32	11.73
50th Percentile (median)	SUP[2]	SUP[2]	13.63	16.73	14.14	13.73	13.00	12.91	14.02
75th Percentile	SUP[2]	SUP[2]	16.59	16.92	15.58	16.39	16.34	14.40	16.04
90th Percentile	SUP[2]	SUP[2]	18.08	18.66	20.31	16.83	16.45	19.39	18.29
# of Reporting Units[1]	2	4	6	5	6	7	7	6	5.38

[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"

National Database of Nursing Quality Indicators ® Sample Hospital

Table F1

Adult Med-Surg Combined

Total Falls Per 1,000 Patient Days

Adult Med-Surg Combined	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Avg
Med-Surg A	5.12	7.48	4.87	2.88	2.44	2.45	2.29	1.98	3.69
Med-Surg B	5.31	4.01	3.30	4.35	4.79	3.61	3.99	5.45	4.35
Med-Surg C	8.46	4.78	6.01	3.45	3.72	8.21	7.63	8.66	6.37
Hospital Adult Med-Surg Combined Median	*5.31*	*4.78*	*4.87*	*3.45*	*3.72*	*3.61*	*3.99*	*5.45*	*4.40*

National Comparative Information - Teaching Facilities									
Mean	4.03	3.84	3.99	3.82	3.94	3.99	4.01	3.87	3.94
S.D.	2.30	2.28	2.31	2.26	2.16	2.33	2.64	2.28	2.32
10th Percentile	1.44	1.36	1.22	1.28	1.31	1.34	1.25	1.40	1.33
25th Percentile	2.32	2.41	2.36	2.39	2.42	2.40	2.37	2.34	2.38
50th Percentile (median)	3.76	3.89	3.78	3.67	3.71	3.79	3.70	3.66	3.75
75th Percentile	5.20	5.23	5.18	5.29	5.21	5.30	5.27	5.32	5.25
90th Percentile	7.03	6.90	6.79	7.00	6.81	6.93	7.11	6.94	6.94
# of Reporting Units[1]	681	691	716	725	766	798	803	800	747.50

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Example 9 (cont. 1)

Patient Falls

* 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!)

Example 9 (cont. 2)

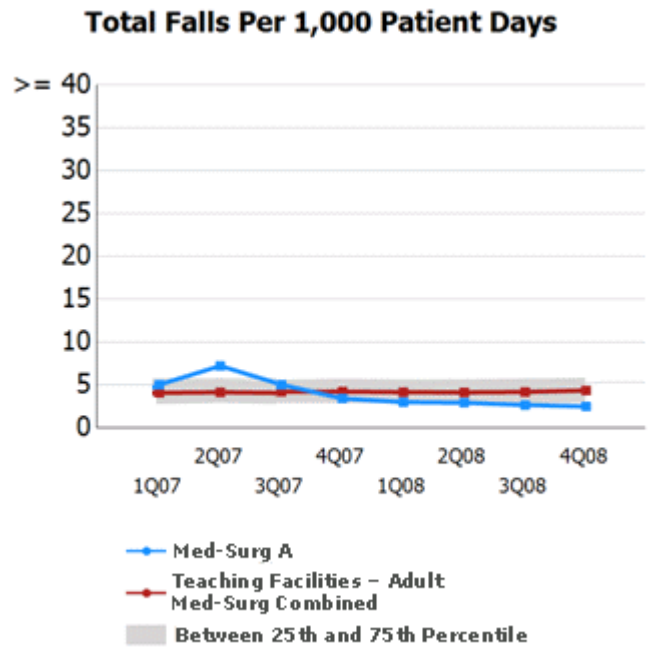
Patient Falls

* 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.

Example 9 (cont. 3)

Patient Falls

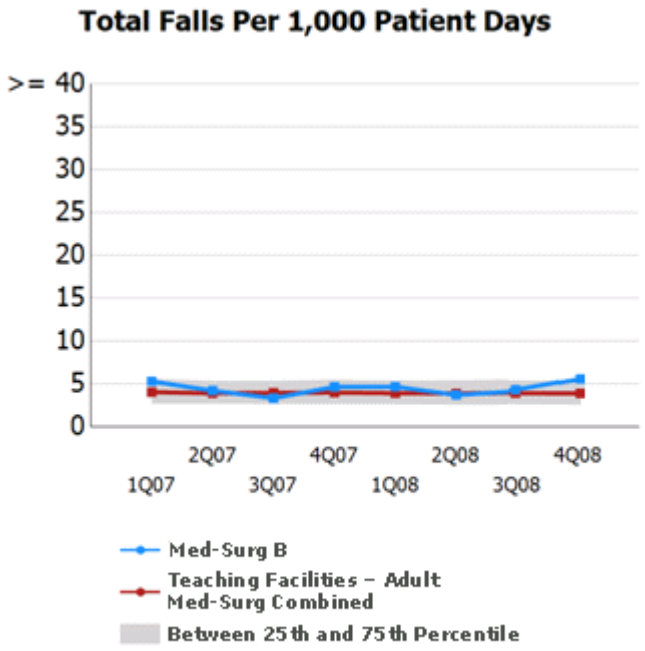
* Dashboards visually confirm the trends in Med-Surg A:
  * Med-Surg A's rates showed sustained improvement



Example 9 (cont. 4)

Patient Falls

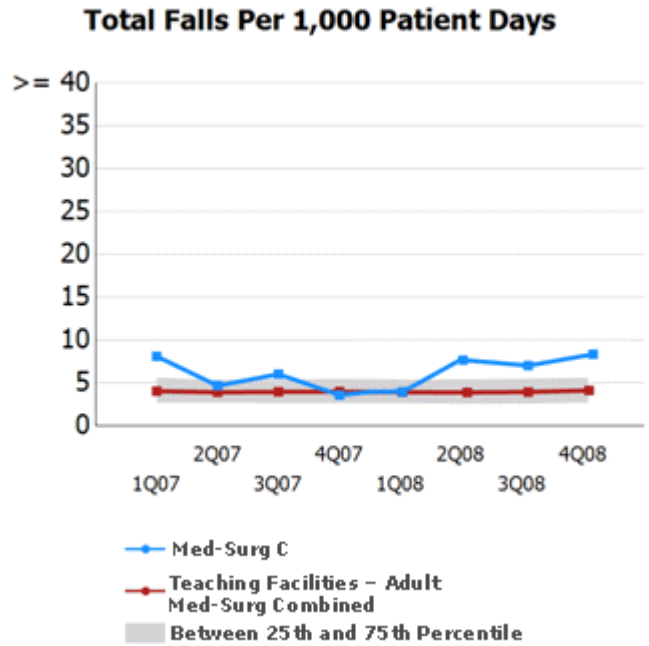
* Dashboards visually confirm the trends in Med-Surg B:
  * Med-Surg B's rates were generally stable



Example 9 (cont. 5)

Patient Falls

* Dashboards visually confirm the trends in Med-Surg C:
  * Med-Surg C's rates improved briefly, but then worsened



Example 9 (cont. 6)

Patient Falls

- 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

Report Uses

* 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

Impact of an Intervention

* Interventions could include
  * Staffing levels
  * Training
  * Change of policy
  * Change of personnel
* Did the intervention have an affect?
  * Were there additional factors involved?

Impact of an Intervention

Example 10: CAUTI Training

* 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

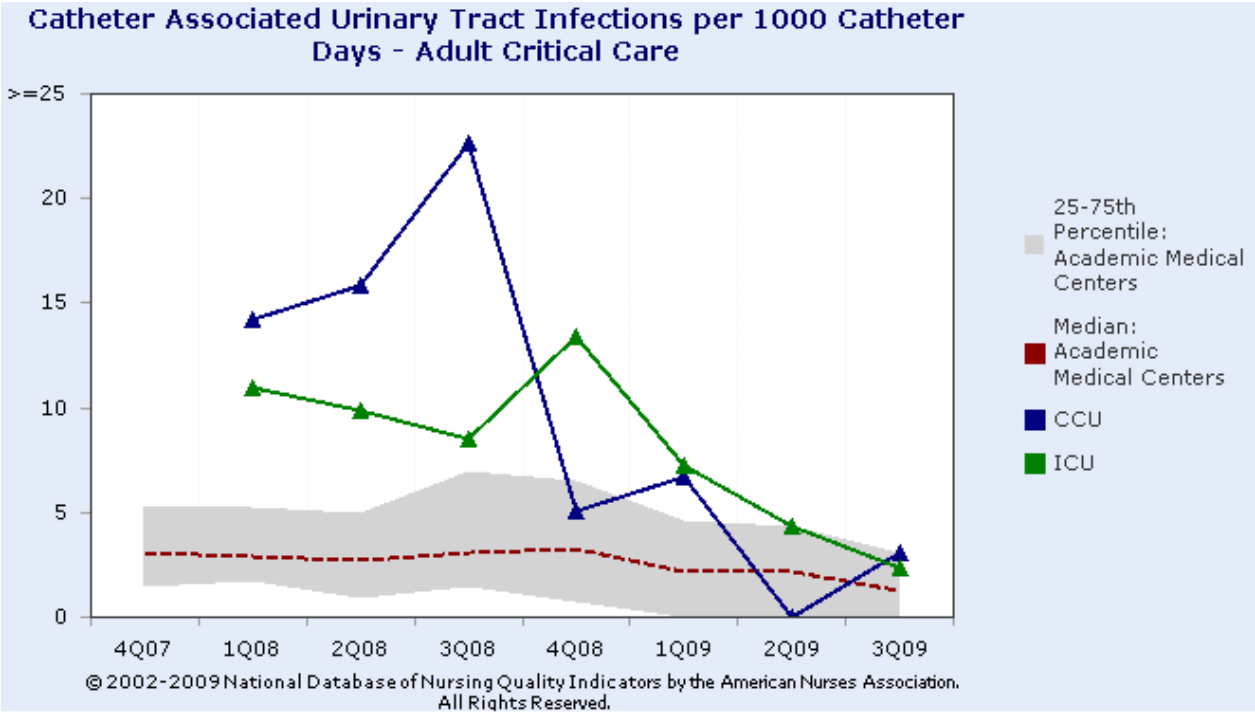
Catheter Associated Urinary Tract Infections per 1000 Catheter Days

Adult Critical Care	4Q07	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	Avg
CCU	n.d.	14.25	15.82	22.63	5.09	6.74	0.00	3.09	9.66
ICU	n.d.	10.92	9.89	8.51	13.37	7.26	4.31	2.34	8.08
Hospital Adult Critical Care Median	*n.d.*	*12.58*	*12.86*	*15.57*	*9.23*	*7.00*	*2.16*	*2.71*	*8.87*

Example 10 (cont. 1)

CAUTI Training

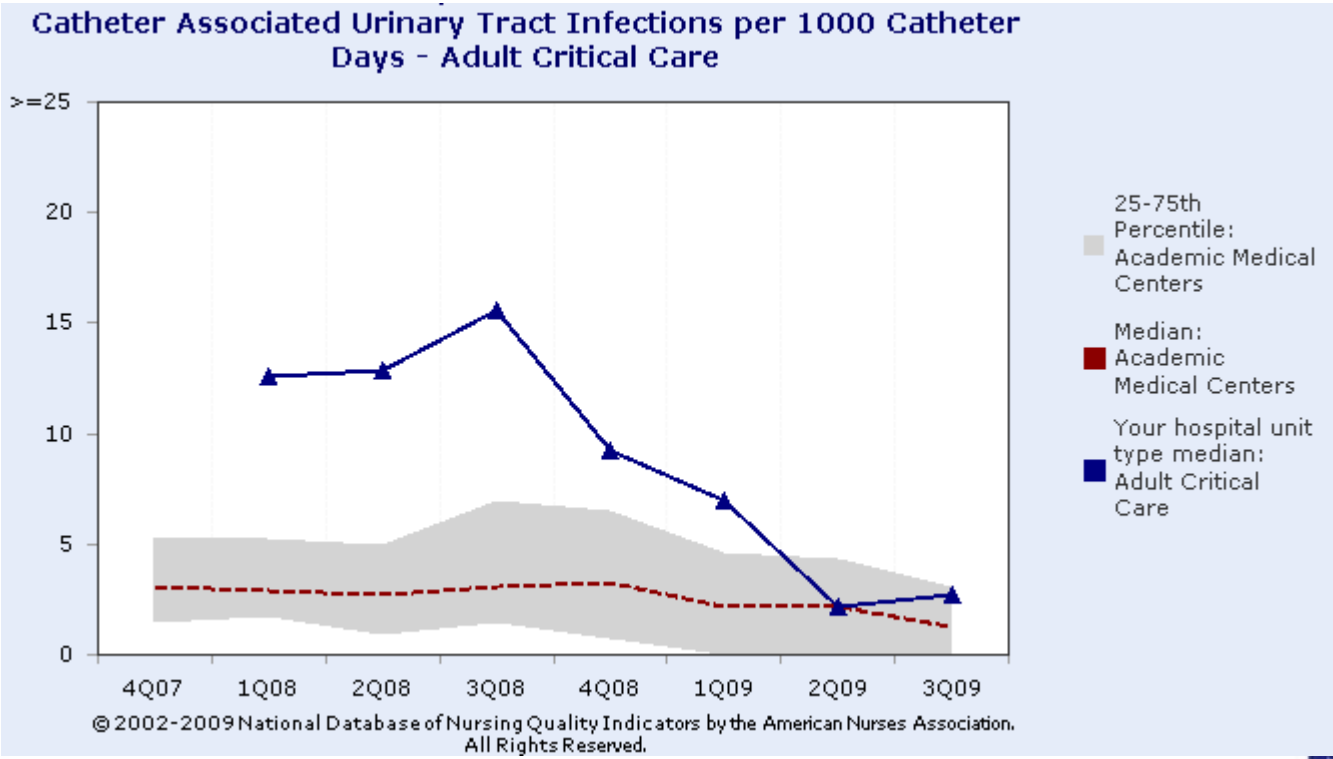
* Use a Web Chart to see the trend in CAUTI rates in critical care units



Example 10 (cont. 2)

CAUTI Training

* Does the training appear to have affected outcomes for the critical care units?



Example 10 (cont. 3)

CAUTI Training

* 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

Reporting Requirements

* 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

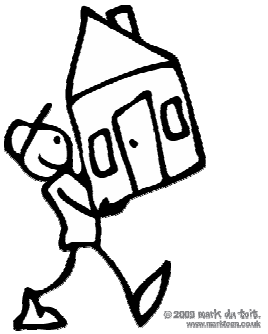
Overview

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

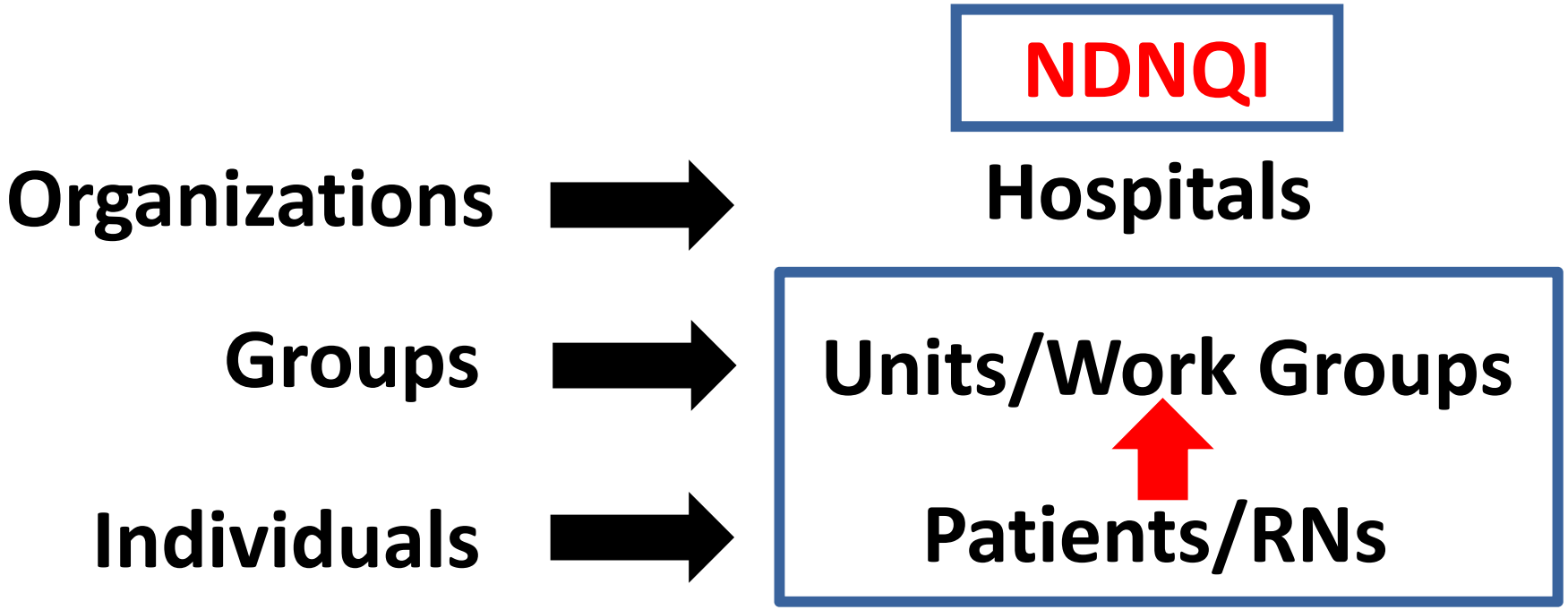
RN Survey Report Fundamentals

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



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:

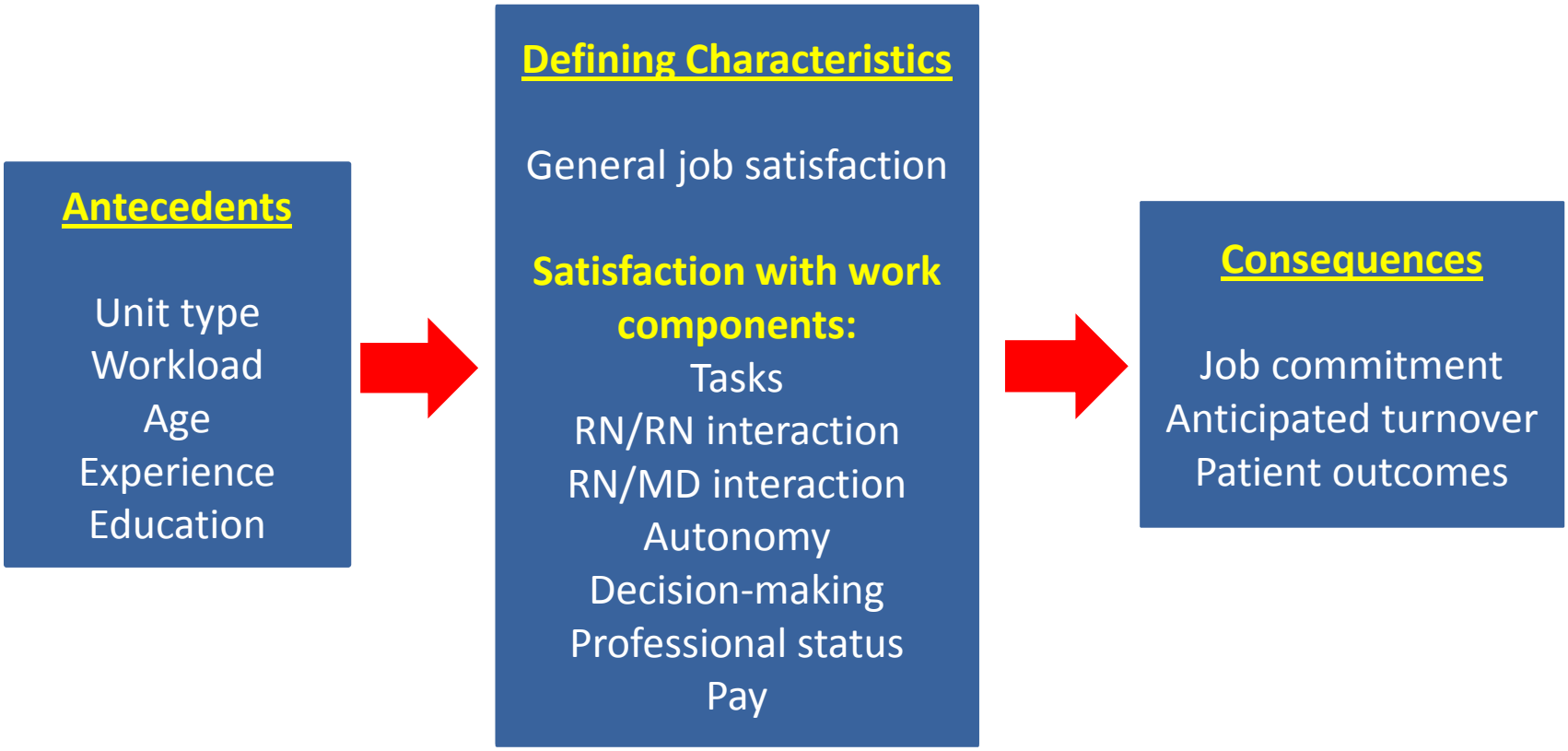
selection & attrition

interaction & shared experiences

Perceptions of Individual RNs

Klein & Kozlowski, 2000

Original Conceptual Framework



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

ANA AMERICAN NURSES ASSOCIATION

NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

The National Database of Nursing Quality Indicators®

RN Survey and Scoring Guide©

Companion document to
RN Survey Report

Contents

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NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Item Wording Supports Unit level data

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

	Individual Level	Unit/Work Group Level
Reliability	Cronbach's Alpha	Cronbach's Alpha & ICC(2)
Validity	Factor Analysis	ICC(1) & F ratios

Boyle et al, 2006
Lake, 2002
Taunton et al., 2004
Gajewski et al, 2010

Comparison Data Reliability & Validity

- 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 1.1
All Participating Hospitals and Comparison Hospitals
Number of Hospitals, Units, and Responses

	Number of			Unit Response Rate (%)
	Hospitals	Units	Responses	
All Participating Units in All Participating Hospitals	849	17,714	303,221	71
Characteristics of Comparison Hospitals Units with ≥5 responses and ≥50% response rate.				
All Comparison Units in All Comparison Hospitals	817	12,686	265,471	82
Magnet Hospitals	216	5,128	119,579	84
Hospital Type				
General Hospitals	689	11,624	243,460	83
Pediatric Hospitals	49	529	13,357	79
Other Specialty Hospitals	79	533	8,654	86
Teaching Status				
Academic Medical Centers	82	2,506	59,805	84
Teaching Hospitals	306	5,092	108,295	82
Non-teaching Hospitals	429	5,088	97,370	83
Hospital Bedsize				
<100	213	1,100	15,620	83
100-199	242	2,757	48,939	82
200-299	135	2,237	45,782	83
300-399	107	2,245	48,698	80
400-499	58	1,662	39,431	83
>=500	62	2,685	67,001	84
RN Survey Instrument Option				
Job Satisfaction Scales	234	3,893	78,562	82
Job Satisfaction Scales-Short Form	76	1,047	21,950	82
Practice Environment Scale	507	7,746	164,959	83

Comparison Data Reliability

Table 2.1
Adult Surgical Cardio-thoracic
Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	**Nursing Foundations for Quality of Care**	**Nurse Manager Ability, Leadership, and Support of Nurses**	**Staffing and Resource Adequacy**	**Collegial Nurse-Physician Relations**	**Mean PES Score**
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information - Adult Surgical Cardio-thoracic						
Mean	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
S.D.	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
10th Percentile	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
25th Percentile	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
50th Percentile (median)	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
75th Percentile	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
90th Percentile	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]	SUP[2]
# of Units[2]	4	4	4	4	4	4

[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

Table 2.2
Average of All Comparison Units in All Comparison Hospitals
Job Enjoyment Scale T-Score

	Job Enjoyment Scale T-Score < 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction
National Comparative Information - Academic Medical Centers	
Mean	55.69
S.D.	8.73
10th Percentile	44.00
25th Percentile	50.13
50th Percentile (median)	55.96
75th Percentile	61.37
90th Percentile	66.76
# of Units[2]	819

Comparison data are owned by ANA and may not be published by NDNQI member hospitals.

7/1/2010

Table 2.2
Average of All Comparison Units in All Comparison Hospitals
Job Enjoyment Scale T-Score

	Job Enjoyment Scale T-Score < 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction
National Comparative Information - Academic Medical Centers	
Mean	56.65
S.D.	8.84
10th Percentile	45.01
25th Percentile	51.15
50th Percentile (median)	56.94
75th Percentile	62.52
90th Percentile	67.76
# of Units[2]	1,154

Comparison data are owned by ANA and may not be published by NDNQI member hospitals.

8/25/2010

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

	Comparison Data: Units with ≥5 responses and ≥50% response rate			
	Number of			Average Unit Response Rate (%)
	Hospitals	Units	Responses	
Adult Medical-Surgical				
Unit 1			3	21
Unit 2			9	39
Unit 3			4	80
Unit 4			14	93

Table 2.1
Adult Medical-Surgical
Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
Unit 1	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]
Unit 2	2.42	2.84	2.20	1.43	2.43	2.26
Unit 3	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]
Unit 4	2.88	2.95	2.93	2.54	3.00	2.86
Hospital Adult Medical-Surgical Median	*2.69*	*2.90*	*2.78*	*2.16*	*2.73*	*2.65*

Human Subject Protection

- Data suppressed
  - Unit level
    - <5 responses
    - RN Characteristics
  - Average of all units
    - <5 responses
    - RN Characteristics
      - <5 responses
      - <2 units

Table 1.2
Adult Medical-Surgical
Comparison Data and Your Hospital Data
Number of Hospitals, Units, and Responses

	Comparison Data Units with ≥5 responses and ≥50% response rate			
	Number of			Average Unit Response Rate (%)
	Hospitals	Units	Responses	
Adult Medical-Surgical				
Unit 1			3	21
Unit 2			9	39
Unit 3			4	80
Unit 4			14	93

Table 2.1
Adult Medical-Surgical
Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
Unit 1	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]
Unit 2	2.42	2.84	2.20	1.43	2.43	2.26
Unit 3	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]	n.d.[1]
Unit 4	2.88	2.95	2.93	2.54	3.00	2.86
Hospital Adult Medical-Surgical Median	*2.69*	*2.90*	*2.78*	*2.16*	*2.73*	*2.65*

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Survey Statistics

* Individual responses are aggregated to unit level
  * Mean scores
    * Response options vary
    * Modified T-Scores
      * Job Satisfaction
      * Job Enjoyment
  * % of unit RNs

Statistics
Average of All Units

Table 2.1

Average of All Comparison Units in All Comparison Hospitals

Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	**Nursing Foundations for Quality of Care**	**Nurse Manager Ability, Leadership, and Support of Nurses**	**Staffing and Resource Adequacy**	**Collegial Nurse-Physician Relations**	**Mean PES Score**
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
Average of All Comparison Units in All Comparison Hospitals						
Average of All Units In Your Hospital	2.82	3.03	3.07	2.86	3.13	2.98

* 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.

Statistics Comparison Data

Table 2.1

Adult Medical Cardiac

Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	**Nursing Foundations for Quality of Care**	**Nurse Manager Ability, Leadership, and Support of Nurses**	**Staffing and Resource Adequacy**	**Collegial Nurse-Physician Relations**	**Mean PES Score**
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information - Adult Medical Cardiac						
Mean	2.81	3.01	2.87	2.46	2.86	2.80
S.D.	0.27	0.21	0.36	0.38	0.29	0.26
10th Percentile	2.48	2.76	2.35	1.97	2.48	2.55
25th Percentile	2.65	2.91	2.70	2.22	2.73	2.66
50th Percentile (median)	2.78	2.99	2.92	2.41	2.86	2.77
75th Percentile	2.98	3.19	3.10	2.67	3.07	3.03
90th Percentile	3.20	3.29	3.30	3.05	3.21	3.15
# of Units[2]	36	36	36	36	36	36

Survey Reports

Formats

- **Reports**
  - ✓Data Tables
    - ○Current
    - ○No Trends
- **Graphics**
  - ✓Dashboards
    - ○Current
    - ○Trend
  - ✓Web Graphics
    - ○Current
    - ○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

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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

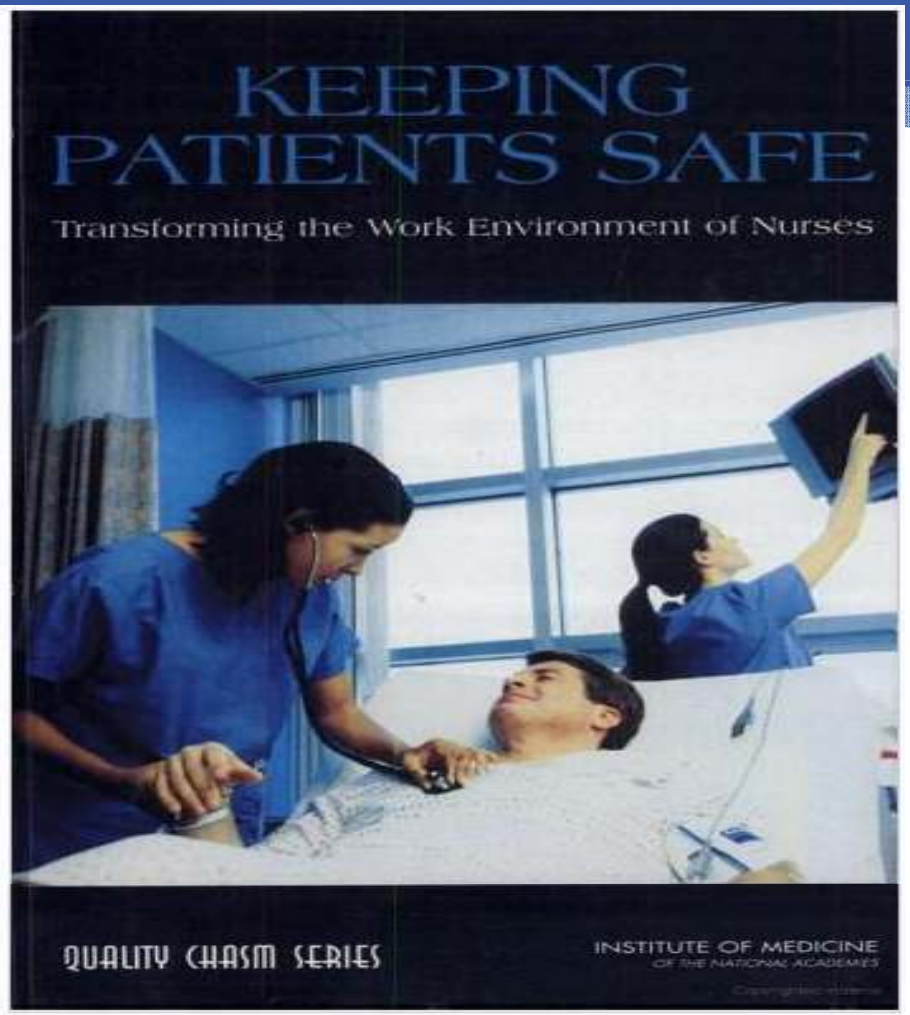
Questions?

* 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



Institute of Medicine (2004). Keeping Patients Safe: Transforming the Work Environment of Nurses. Washington, D.C: National Academies Press.

Hinshaw, A.S. (2006). Keeping patients safe: A collaboration among nurse administrators and researchers. Nurse Admin Quarterly, 30(4), 309-320.

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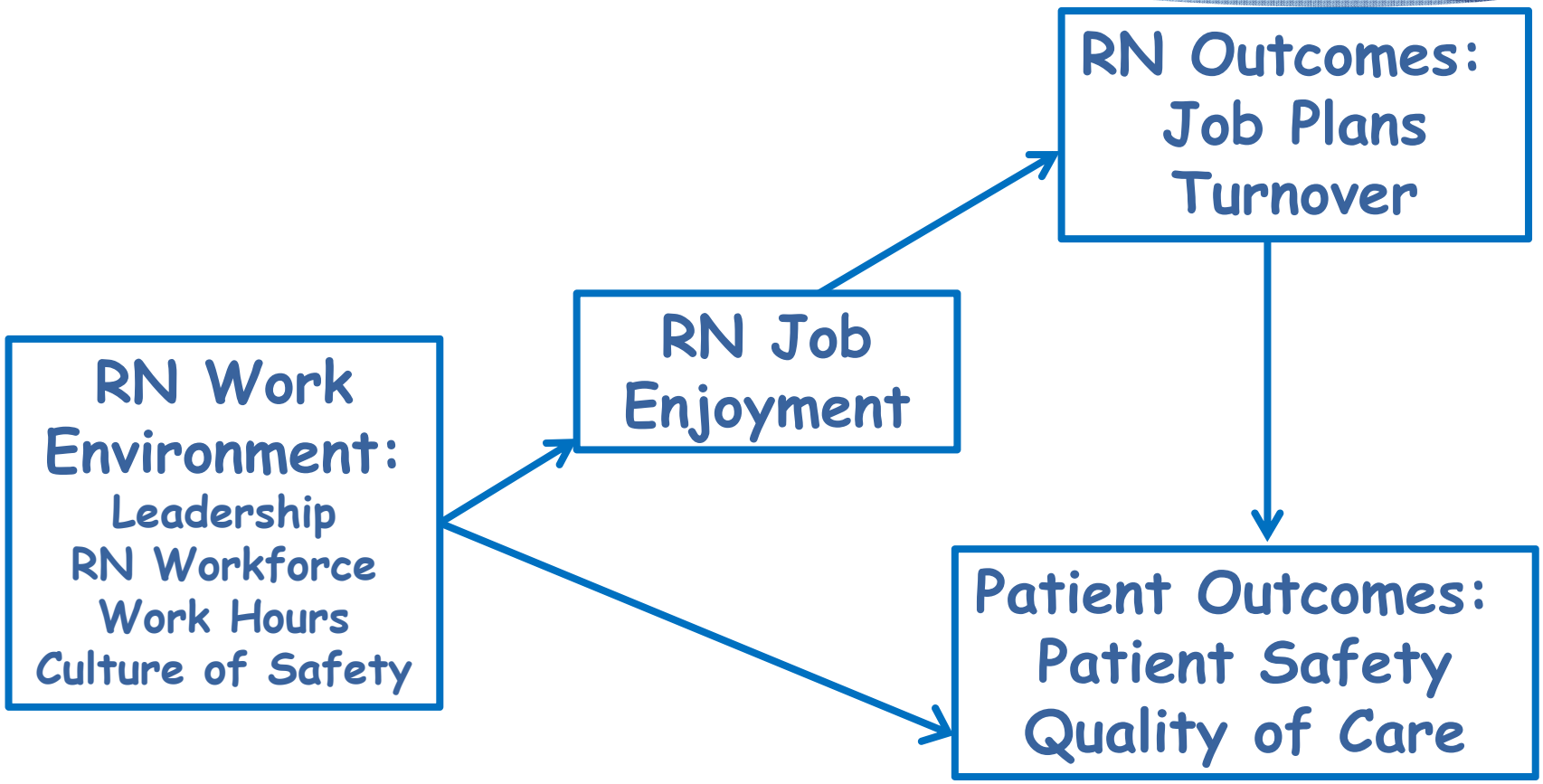
Conceptual Model

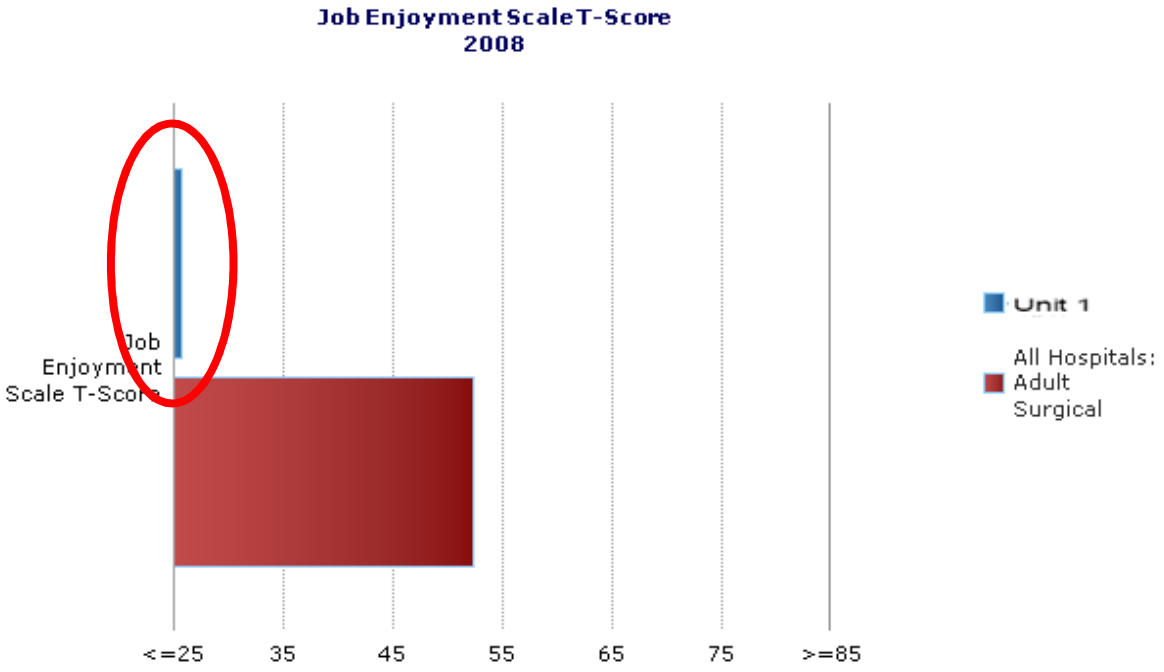


Adapted from IOM's Keeping Patients Safe: Transforming the Work Environment of Nurses, 2004

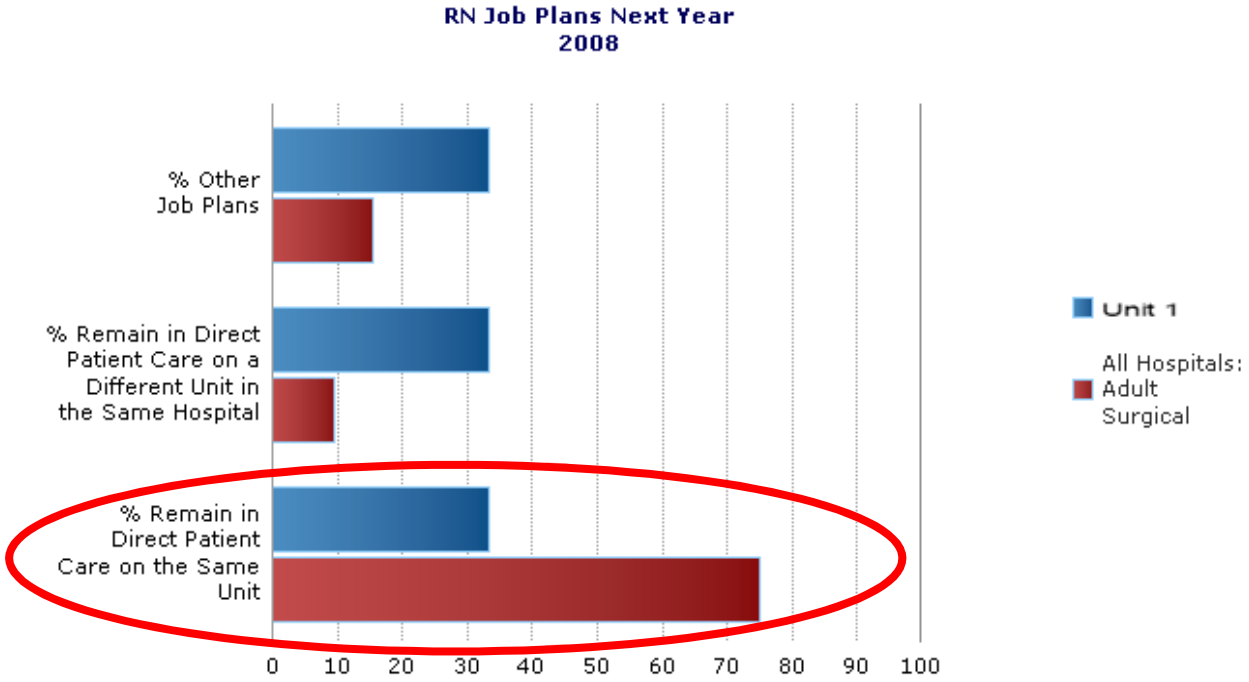
1st Interpretation Question

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

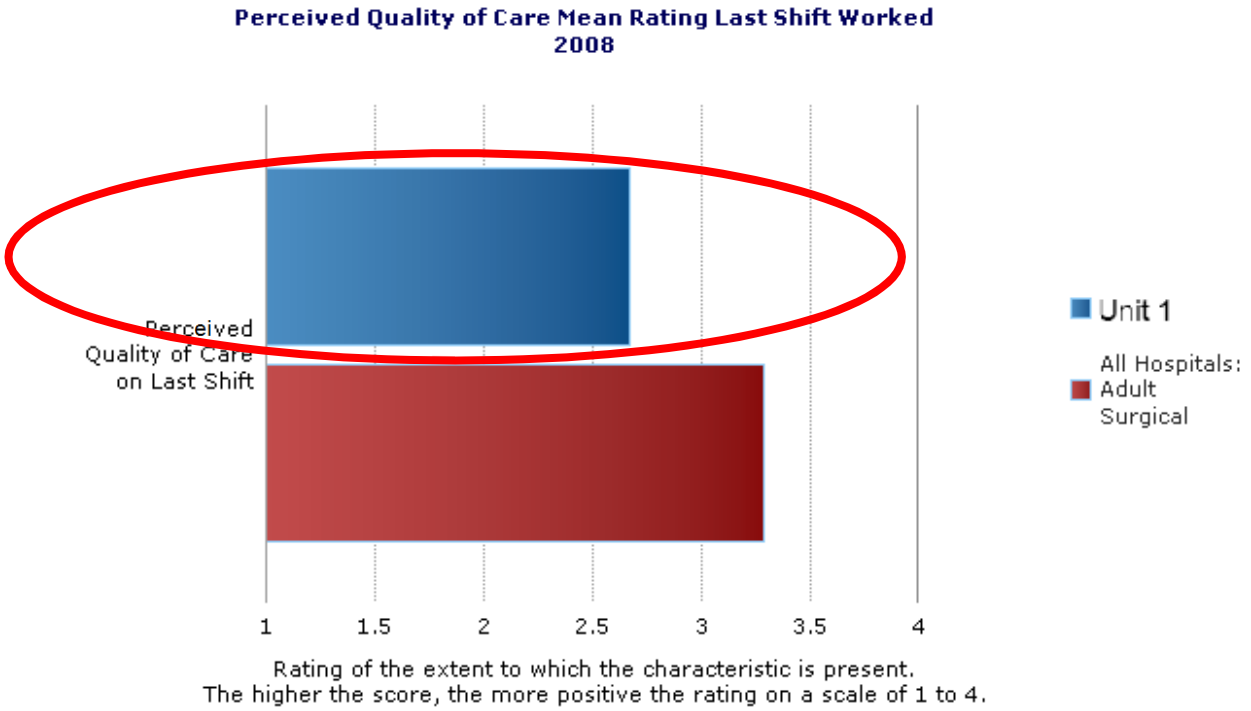
Do our units have a problem? Job Enjoyment



Do our units have a problem? Job Plans



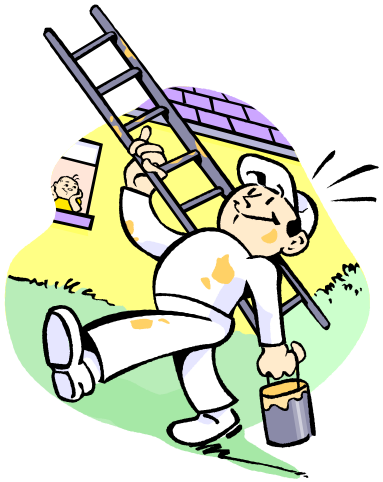
Do our units have a problem? Perceived Quality of Care



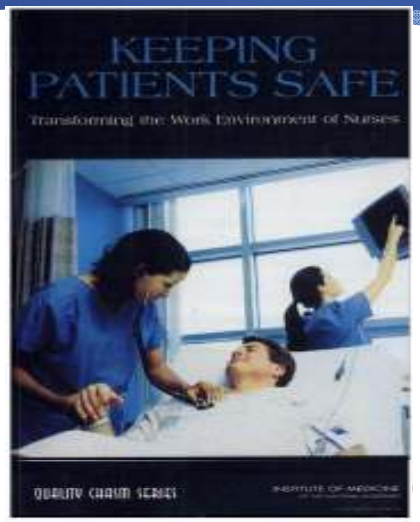
1=Poor, 2=Fair, 3=Good, 4=Excellent

2nd Interpretation Question

- **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

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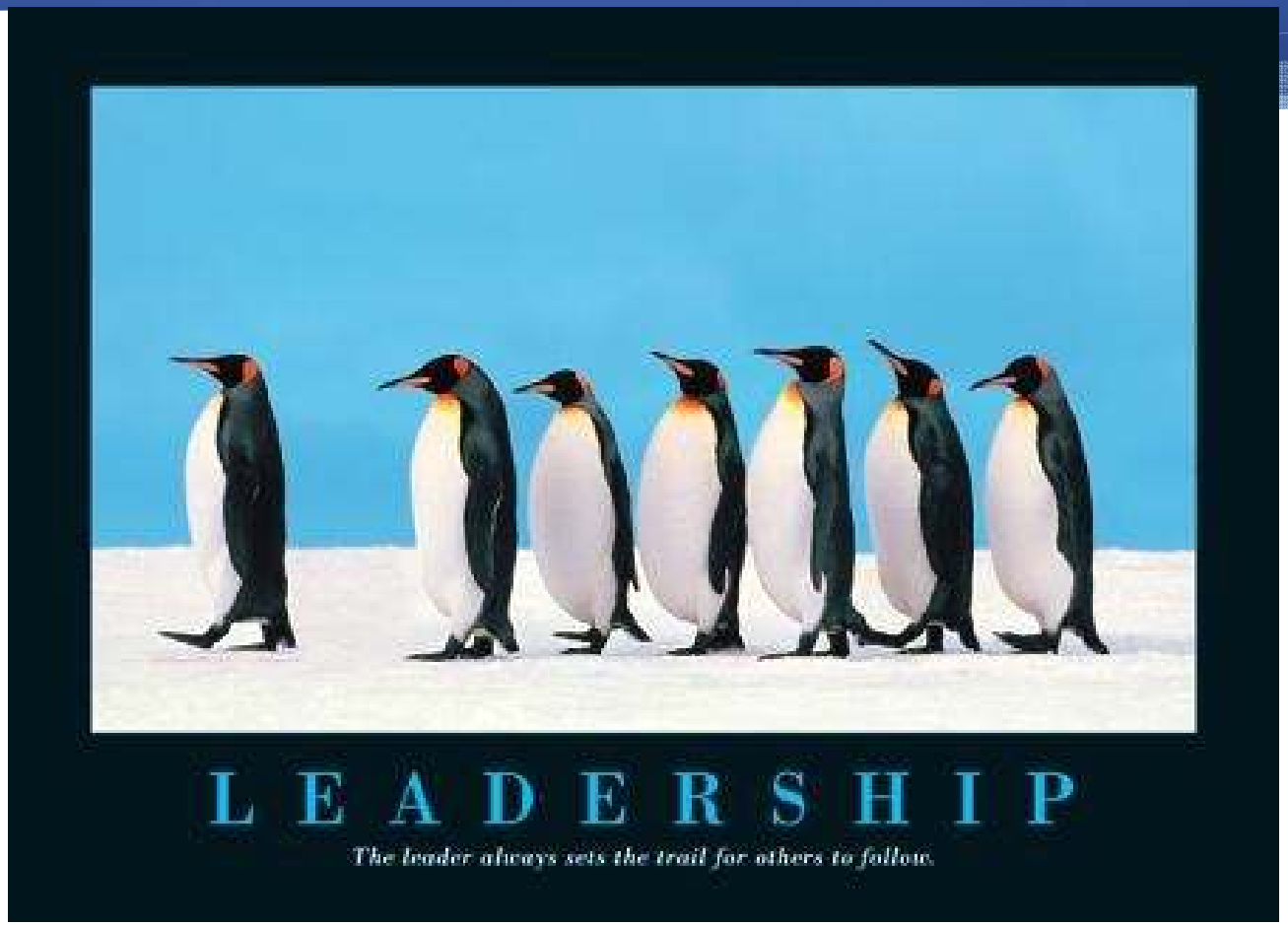
LEADERSHIP
The leader always sets the trail for others to follow.

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

Leadership Administration & Management

Table 2.1

Adult Medical-Surgical

Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
M/S	2.06	2.23	2.14	1.99	2.02	2.09
PCU	2.66	3.02	2.88	2.74	2.92	2.84
Hospital Adult Medical-Surgical Median	*2.36*	*2.63*	*2.51*	*2.37*	*2.47*	*2.47*

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information - Non-Magnet Facility						
Mean	2.74	3.00	2.85	2.48	2.83	2.78
S.D.	0.25	0.18	0.32	0.34	0.24	0.23
10th Percentile	2.44	2.76	2.44	2.02	2.54	2.49
25th Percentile	2.58	2.89	2.63	2.23	2.68	2.62
50th Percentile (median)	2.74	3.00	2.87	2.50	2.82	2.79
75th Percentile	2.90	3.12	3.07	2.71	2.99	2.92
90th Percentile	3.05	3.22	3.28	2.90	3.13	3.05
# of Units[2]	289	289	289	289	289	289

[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

ANA AMERICAN NURSES ASSOCIATION

NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Leadership Administration & Management

Table 2.4
Pediatrics
Adapted Nursing Work Index T-Scores

	NDNQI-Adapted Nursing Work Index Scale T-Score *Excluded from Short Form		
	Professional Development*	**Nursing Management***	**Nursing Administration***
	< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction		
Pediatrics			
Pediatric	69.55	64.40	60.53
PICU	62.43	46.55	35.82
Hospital Pediatrics Median	*65.99*	*55.48*	*48.18*

	NDNQI-Adapted Nursing Work Index Scale T-Score *Excluded from Short Form		
	Professional Development*	**Nursing Management***	**Nursing Administration***
	< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction		
National Comparative Information - Teaching Facilities			
Mean	65.76	58.24	55.91
S.D.	7.24	8.28	9.63
10th Percentile	55.70	47.23	42.79
25th Percentile	60.40	53.47	50.63
50th Percentile (median)	67.18	58.91	56.78
75th Percentile	71.14	64.88	62.19
90th Percentile	74.49	68.27	68.42
# of Units[2]	109	109	109

[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

ANA AMERICAN NURSES ASSOCIATION

NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Leadership
RN Involvement

Table 2.1
Adult Medical-Surgical
Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
M/S	2.06	2.23	2.14	1.99	2.02	2.09
PCU	2.66	3.02	2.88	2.74	2.92	2.84
Hospital Adult Medical-Surgical Median	*2.36*	*2.63*	*2.51*	*2.37*	*2.47*	*2.47*

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information	**Non-Magnet Facility**					
Mean	2.74	3.00	2.85	2.48	2.83	2.78
S.D.	0.25	0.18	0.32	0.34	0.24	0.23
10th Percentile	2.44	2.76	2.44	2.02	2.54	2.49
25th Percentile	2.58	2.89	2.63	2.23	2.68	2.62
50th Percentile (median)	2.74	3.00	2.87	2.50	2.82	2.79
75th Percentile	2.90	3.12	3.07	2.71	2.99	2.92
90th Percentile	3.05	3.22	3.28	2.90	3.13	3.05
# of Units[2]	289	289	289	289	289	289

[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

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NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Leadership
RN Involvement

Table 2.3
Adult Critical Care
Adapted Index of Work Satisfaction T-Scores

	NDNQI-Adapted Index of Work Satisfaction Scale T-Score *Excluded from Short Form						
	Tasks	RN-RN Interactions*	RN-MD Interactions*	Decision-making	Autonomy*	Professional Status*	Pay*
	< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction						
Adult Critical Care							
MICU	49.98	66.89	61.52	55.87	59.04	68.98	42.10
ICU	40.03	50.20	54.92	41.25	45.06	56.77	33.07
Hospital Adult Critical Care Median	*45.01*	*58.55*	*58.22*	*48.56*	*52.05*	*62.88*	*37.59*

	NDNQI-Adapted Index of Work Satisfaction Scale T-Score *Excluded from Short Form						
	Tasks	RN-RN Interactions*	RN-MD Interactions*	Decision-making	Autonomy*	Professional Status*	Pay*
	< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction						
National Comparative Information - Magnet Facility							
Mean	50.38	69.34	59.94	47.92	53.65	65.71	39.30
S.D.	6.68	7.37	7.34	7.56	6.78	8.21	8.59
10th Percentile	41.88	60.19	49.90	38.84	44.87	55.10	27.98
25th Percentile	46.28	64.02	55.94	42.46	49.12	59.88	33.52
50th Percentile (median)	50.50	69.23	59.77	47.62	54.40	66.18	39.32
75th Percentile	55.08	74.38	63.88	53.32	57.38	70.93	46.08
90th Percentile	59.23	78.68	68.89	57.48	62.20	77.41	49.55
# of Units[2]	153	138	138	153	138	138	138

[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

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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.

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NDNQI® NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Workforce

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

Workforce Staffing Levels

Table 3.4

Adult Surgical

Description of Unit Last Shift

	Mean Rating of Unit The higher the score the more positive the rating			Mean number of patients assigned to unit RNs and APRNs	
	Important things didn't get done	**Overall had a good shift**	**Patient assignment was appropriate**	**Maximum at any one time**	**Total over entire shift**
	1 = strongly agree 6 = strongly disagree	1 = strongly disagree 6 = strongly agree			
Adult Surgical					
Surgical 1	4.93	4.70	4.52	4.62	5.14
Surgical 2	3.71	3.25	3.96	6.00	7.53
Hospital Adult Surgical Median	*4.32*	*3.98*	*4.24*	*5.31*	*6.34*

	Mean Rating of Unit The higher the score the more positive the rating			Mean number of patients assigned to unit RNs and APRNs	
	Important things didn't get done	**Overall had a good day**	**Patient assignment was appropriate**	**Maximum at any one time**	**Total over entire shift**
	1 = strongly agree 6 = strongly disagree	1 = strongly disagree 6 = strongly agree			
National Comparative Information - Bed Size >= 500					
Mean	3.82	4.27	4.18	5.46	5.98
S.D.	0.48	0.48	0.52	0.91	0.95
10th Percentile	3.22	3.67	3.47	4.35	4.93
25th Percentile	3.50	3.94	3.87	4.89	5.38
50th Percentile (median)	3.84	4.31	4.24	5.44	5.88
75th Percentile	4.13	4.60	4.53	5.92	6.56
90th Percentile	4.32	4.86	4.79	6.53	7.16
# of Units[2]	151	151	151	151	151

[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 3.12
Adult Surgical
Unit RNs Working Extra Hours

	% of Unit RNs Reporting They Did Not Work Extra	% of Unit RNs Reporting Working Extra Hours, Reason Given					Mean Change in Unit Overtime During Past Year
		% Extra Money	% Unit Busy	% Unit Short-staffed	% Staff Pressure	% Required	-1=decreased 0=unchanged +1=increased
Adult Surgical							
Surgical 1	44	34	7	15	0	0	0.41
Surgical 2	20	28	5	47	0	0	0.74
Hospital Adult Surgical Median	*32*	*31*	*6*	*31*	*0*	*0*	*0.58*

	% of Unit RNs Reporting They Did Not Work Extra	% of Unit RNs Reporting Working Extra Hours, Reason Given					Mean Change in Unit Overtime During Past Year
		% Extra Money	% Unit Busy	% Unit Short-staffed	% Staff Pressure	% Required	-1=decreased 0=unchanged +1=increased
National Comparative Information - Teaching Facilities							
Mean	27	23	13	28	1	2	0.16
S.D.	15.46	14.16	9.93	14.93	2.70	6.19	0.48
10th Percentile	8	5	1	10	0	0	-0.53
25th Percentile	16	11	6	18	0	0	-0.17
50th Percentile (median)	25	21	11	27	0	0	0.14
75th Percentile	36	33	17	38	0	2	0.57
90th Percentile	48	39	25	47	4	7	0.77
# of Units[2]	234	234	234	234	234	234	234

[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

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
M/S	2.06	2.23	2.14	1.99	2.02	2.09
PCU	2.66	3.02	2.88	2.74	2.92	2.84
Hospital Adult Medical-Surgical Median	*2.36*	*2.63*	*2.51*	*2.37*	*2.47*	*2.47*

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	Nursing Foundations for Quality of Care	Nurse Manager Ability, Leadership, and Support of Nurses	Staffing and Resource Adequacy	Collegial Nurse-Physician Relations	Mean PES Score
	Rating of the extent to which characteristic is present. The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information - Non-Magnet Facility						
Mean	2.74	3.00	2.85	2.48	2.83	2.78
S.D.	0.25	0.18	0.32	0.34	0.24	0.23
10th Percentile	2.44	2.76	2.44	2.02	2.54	2.49
25th Percentile	2.58	2.89	2.63	2.23	2.68	2.62
50th Percentile (median)	2.74	3.00	2.87	2.50	2.82	2.79
75th Percentile	2.90	3.12	3.07	2.71	2.99	2.92
90th Percentile	3.05	3.22	3.28	2.90	3.13	3.05
# of Units[2]	289	289	289	289	289	289

[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

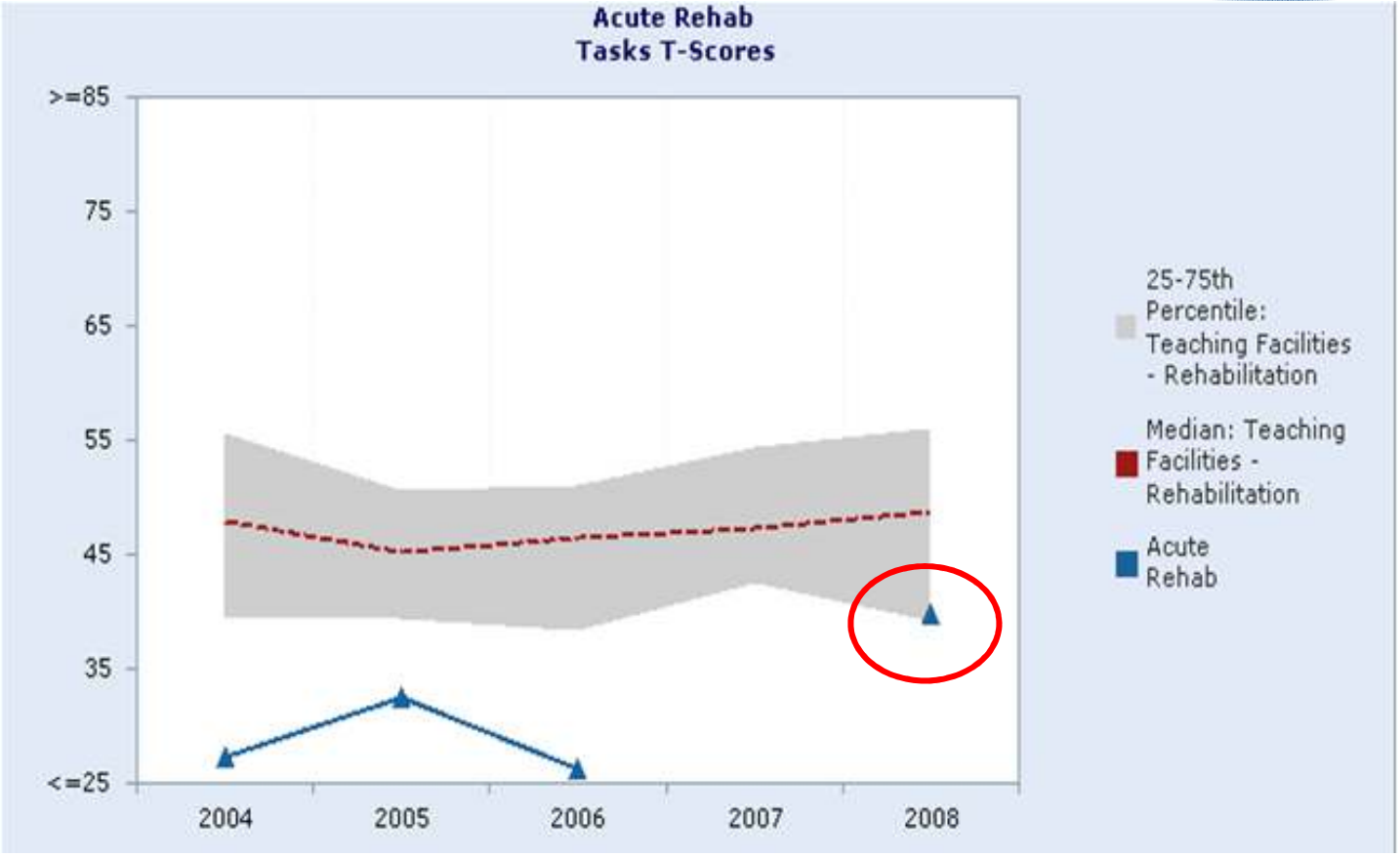
ANA AMERICAN NURSES ASSOCIATION

NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Workforce Staffing Levels

* 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 Staffing Levels



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

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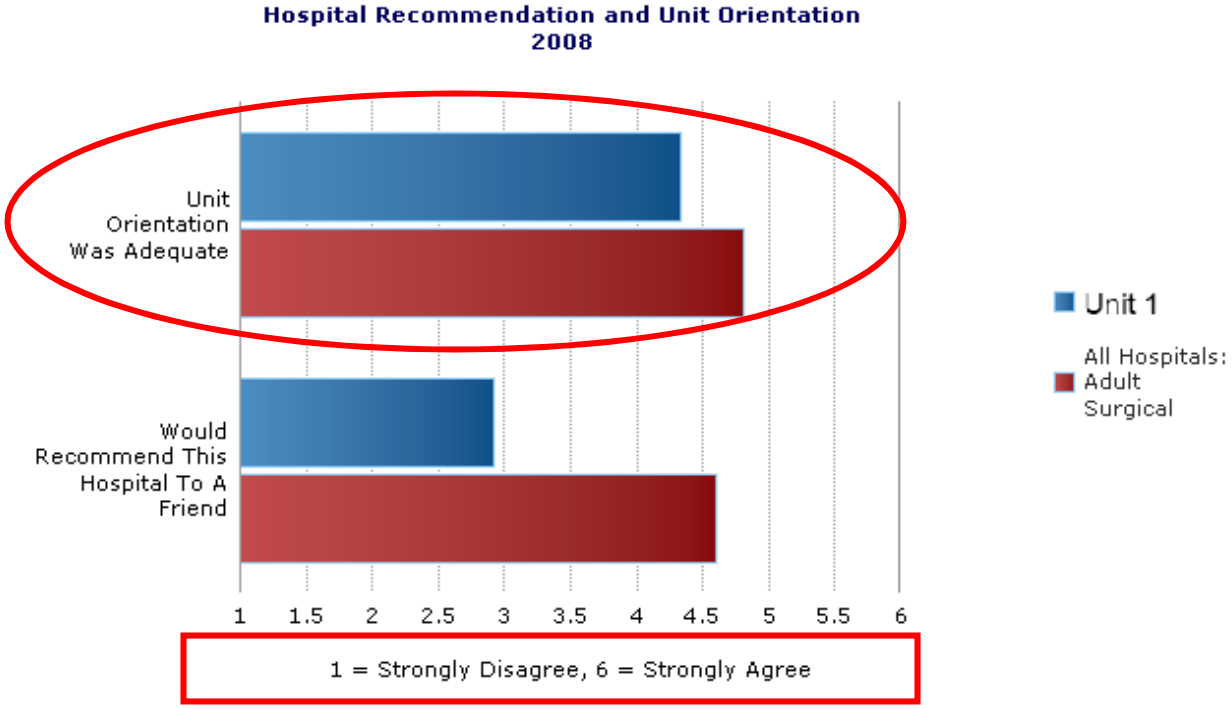
Hinshaw, 2006.
Institute of Medicine, 2004.

NDNQI NATIONAL DATABASE OF NURSING QUALITY INDICATORS

Workforce Knowledge & Skills



Workforce Knowledge & Skills

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

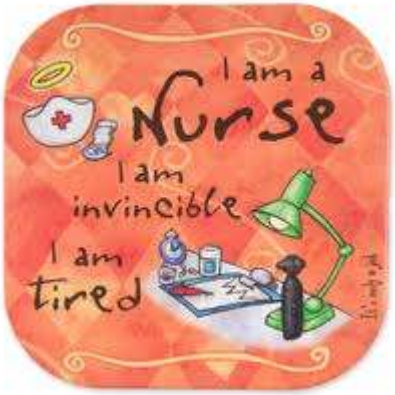
Hinshaw, 2006.
Institute of Medicine, 2004.

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



Work Process
Work Hours

Table 3.8

Adult Medical

Hours Worked by Unit RNs Last Shift

	% of Unit RNs Reporting Hours Worked						
	<8 hours	**8 hours**	**9 hours**	**10-11 hours**	**12 hours**	**13 hours**	**>13 hours**
Adult Medical							
Med 1	0	43	0	0	57	0	0
Med 2	0	19	0	0	52	19	10
Med 3	0	25	0	0	75	0	0
Hospital Adult Medical Median	*0*	*25*	*0*	*0*	*57*	*0*	*0*

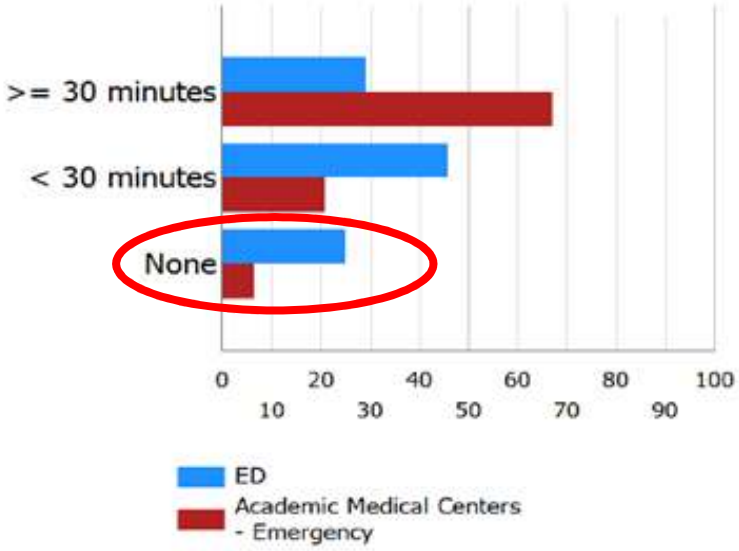
	% of Unit RNs Reporting Hours Worked						
	<8 hours	**8 hours**	**9 hours**	**10-11 hours**	**12 hours**	**13 hours**	**>13 hours**
National Comparative Information - Academic Medical Centers							
Mean	1	20	4	2	54	15	3
S.D.	3.33	24.93	7.53	7.33	25.47	14.50	4.89
10th Percentile	0	0	0	0	14	0	0
25th Percentile	0	0	0	0	42	3	0
50th Percentile (median)	0	9	0	0	57	11	0
75th Percentile	0	31	6	3	72	25	5
90th Percentile	5	58	13	7	85	35	11
# of Units[2]	169	169	169	169	169	169	169

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

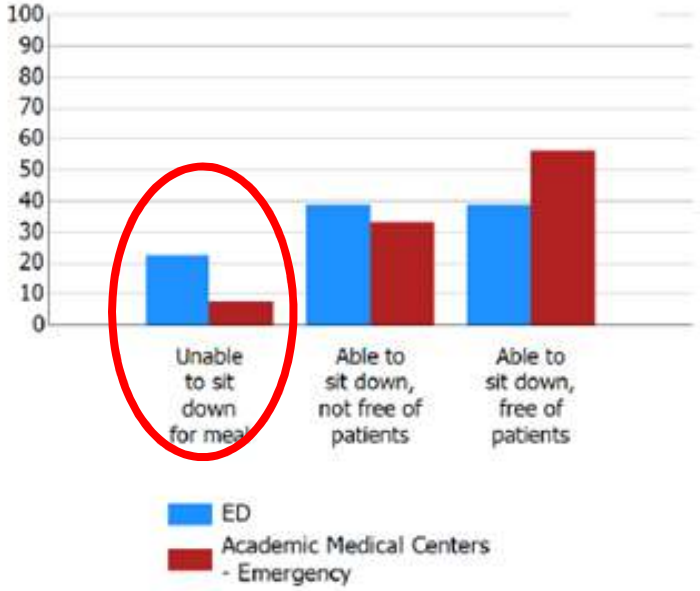
[2] If # of units is < 5, comparison data are suppressed to maintain confidentiality. If # of units is < 20, comparison data may vary substantially across monthly reports and should be used with caution.

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



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

Organizational Culture
Team Interactions

Table 2.1

Adult Medical-Surgical

Practice Environment Scale Mean Scores

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	**Nursing Foundations for Quality of Care**	**Nurse Manager Ability, Leadership, and Support of Nurses**	**Staffing and Resource Adequacy**	**Collegial Nurse-Physician Relations**	**Mean PES Score**
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
Adult Medical-Surgical						
M/S	2.06	2.23	2.14	1.99	2.02	2.09
PCU	2.66	3.02	2.88	2.74	2.92	2.84
Hospital Adult Medical-Surgical Median	*2.36*	*2.63*	*2.51*	*2.37*	*2.47*	*2.47*

	Practice Environment Scale Mean Scores					
	Nursing Participation in Hospital Affairs	**Nursing Foundations for Quality of Care**	**Nurse Manager Ability, Leadership, and Support of Nurses**	**Staffing and Resource Adequacy**	**Collegial Nurse-Physician Relations**	**Mean PES Score**
	Rating of the extent to which characteristic is present The higher the score, the more positive the rating on a scale of 1-4					
National Comparative Information - Non-Magnet Facility						
Mean	2.74	3.00	2.85	2.48	2.83	2.78
S.D.	0.25	0.18	0.32	0.34	0.24	0.23
10th Percentile	2.44	2.76	2.44	2.02	2.54	2.49
25th Percentile	2.58	2.89	2.63	2.23	2.68	2.62
50th Percentile (median)	2.74	3.00	2.87	2.50	2.82	2.79
75th Percentile	2.90	3.12	3.07	2.71	2.99	2.92
90th Percentile	3.05	3.22	3.28	2.90	3.13	3.05
# of Units[2]	289	289	289	289	289	289

[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.

Organizational Culture
Team Interactions

Table 2.3

Adult Critical Care

Adapted Index of Work Satisfaction T-Scores

	NDNQI-Adapted Index of Work Satisfaction Scale T-Score *Excluded from Short Form						
	Tasks	**RN-RN Interactions***	**RN-MD Interactions***	**Decision-making**	**Autonomy***	**Professional Status***	**Pay***
		< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction					
Adult Critical Care							
MICU	49.98	66.89	61.52	55.87	59.04	68.98	42.10
ICU	40.03	50.20	54.92	41.25	45.06	56.77	33.07
Hospital Adult Critical Care Median	*45.01*	*58.55*	*58.22*	*48.56*	*52.05*	*62.88*	*37.59*

	NDNQI-Adapted Index of Work Satisfaction Scale T-Score *Excluded from Short Form						
	Tasks	**RN-RN Interactions***	**RN-MD Interactions***	**Decision-making**	**Autonomy***	**Professional Status***	**Pay***
		< 40 = low satisfaction, 40-60 = moderate satisfaction, > 60 = high satisfaction					
National Comparative Information - Magnet Facility							
Mean	50.38	69.34	59.94	47.92	53.65	65.71	39.30
S.D.	6.68	7.37	7.34	7.56	6.78	8.21	8.59
10th Percentile	41.88	60.19	49.90	38.84	44.87	55.10	27.98
25th Percentile	46.28	64.02	55.94	42.46	49.12	59.88	33.52
50th Percentile (median)	50.50	69.23	59.77	47.62	54.40	66.18	39.32
75th Percentile	55.08	74.38	63.88	53.32	57.38	70.93	46.08
90th Percentile	59.23	78.68	68.89	57.48	62.20	77.41	49.55
# of Units[2]	153	138	138	153	138	138	138

[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.

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Organizational Culture Action Plans

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

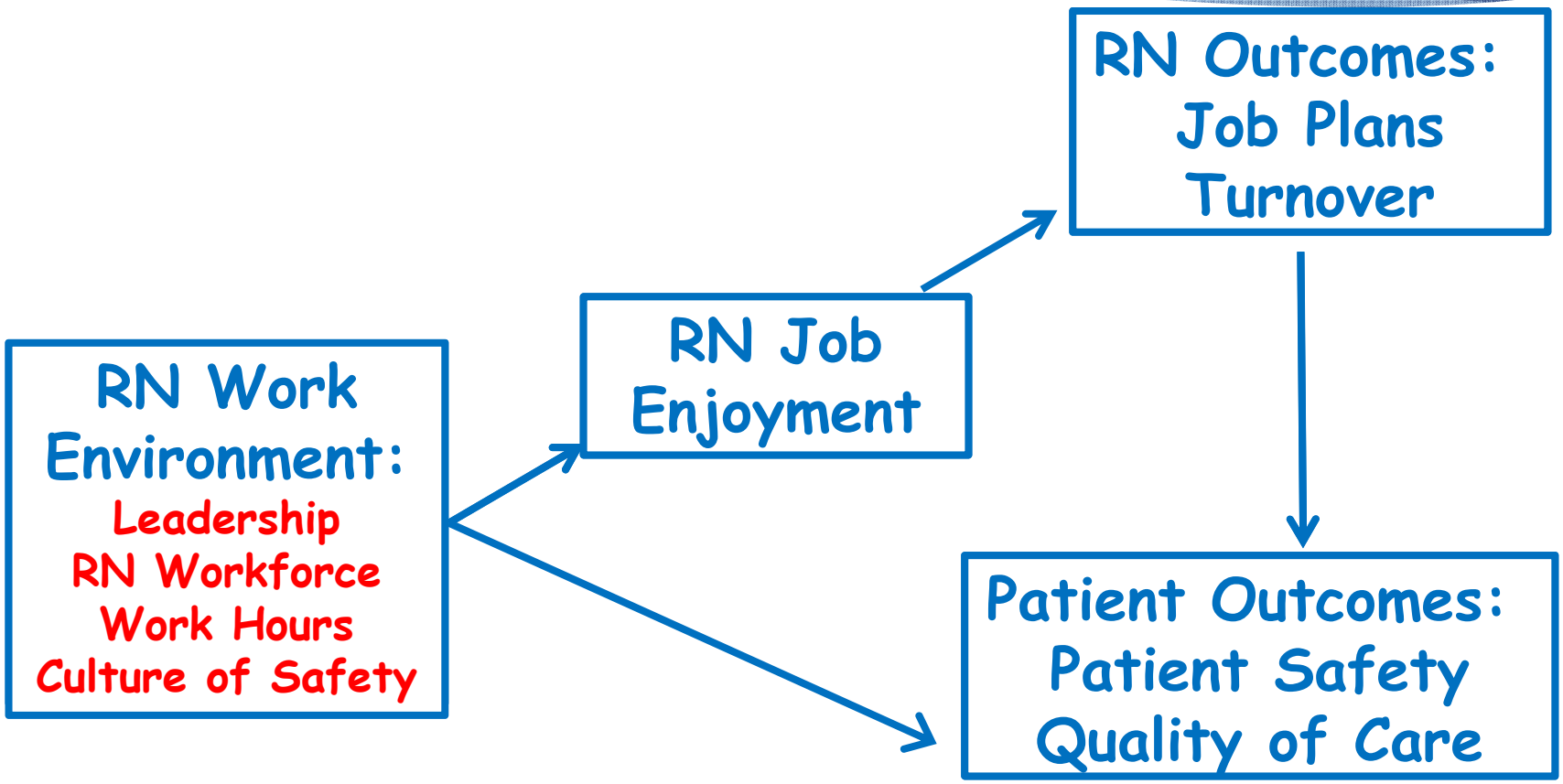
Hinshaw, 2006.
Institute of Medicine, 2004.

Questions?

* Using RN Survey reports
  * Interpretation
    * RN work environment
  * Action plans


WRAP-UP

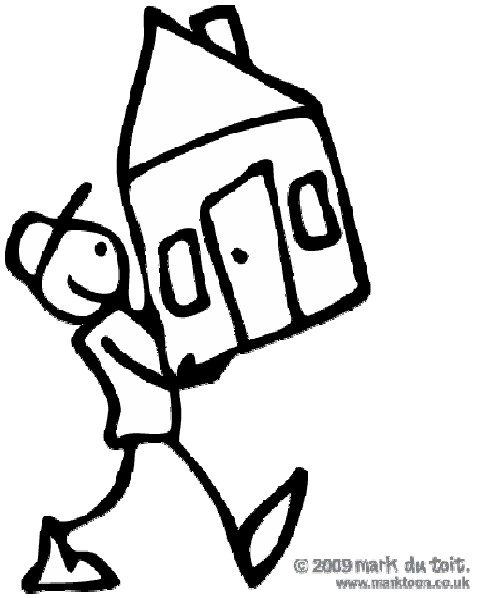
Conceptual Model



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

Survey Instrument References

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