ANALYTIC RESEARCH ASSOCIATES

406 8th Street, NE♦ CHARLOTTESVILLE, VIRGINIA 22902

PHONE 540-942-9143 ♦ FAX 540-942-1563

NURSE MANAGER SPAN OF CONTROL AND EFFECTIVENESS STUDY

Chris Meade, Ph.D.

NURSE MANAGER SPAN OF CONTROL AND EFFECTIVENESS STUDY

STUDY RESULTS

NURSE MANAGER EFFECTIVESS: A STUDY OF VARIOUS FACTORS IN HOSPITAL OPERATIONS AND THEIR OVERALL EFFECT ON PATIENT SAFETY, PATIENT SATISFACTION, AND STAFF TURNOVER

This study was launched on October 1, 2007 and ended on December 31, 2007 for data collection purposes. It was funded by the Studer Group and its purpose was to provide information on the management and training practices of hospitals, the span of control of first-line nurse managers as well as to correlate the effect these variables have on patient safety, quality outcomes, employee turnover and patient satisfaction. A detailed literature review is available.

There were **three** separate data collection tasks for this study. **One** survey gathered extensive data about the hospitals; a **second** survey was filled out by each nurse manager of the units in the study; the **third** survey gathered quality and outcomes data. The data gathered will enable the Studer Alliance for Healthcare Research to:

- Classify the hospital participants and understand specific aspects of their operations;
- Understand the training opportunities offered first-line nurse managers, the amount of interaction they have with their direct supervisors and the availability of mentorship programs.
- Develop a model of the 'optimal' span of control given a variety of organizational factors;
- Evaluate patient safety data on units being studied against national benchmarks;
- Measure patient satisfaction;
- Ultimately correlate and analyze all the data and develop a matrix that outlines the positive management practices of organizations correlated to a span of control 'optimal' range that produces high patient safety, low nursing staff turnover, and high patient satisfaction levels on specific types of units.

SAMPLE INFORMATION

A total of 85 hospitals and 430 units initially registered for the study and were assigned unit codes. However, as the study progressed they realized they could not submit all of the unit-specific quality data required for the study. Consequently, the final sample of hospitals submitting **all** of the data required for this study (i.e., quality, nurse manager and hospital information as of 4/16/2008) **was 36 hospitals and 190 units.**

Those leaving the study did so because they were having difficulty collecting the data, did not have unit-specific data, or did not realize the level of work involved to participate. The first deadline for data submission was extended to 2/15/08. Subsequent extensions were to March 24 and then April 11th to give all participants time to complete the questionnaires and data forms.

SUMMARY APPROACH

Hospitals were asked to indicate their 'hospital type based on national reimbursement guidelines' as well as to report their licensed bed size. Because of the smaller sample of respondents, **the data was summarized based on their response to the national reimbursement guidelines question rather than the bed size categories that were going to be used.** Based on that, the largest majority is of the 'community hospital type' with the next largest being the Teaching hospital type. See the tables below for the statistics by both hospital type and bed size.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	9	[illegible]	[illegible]	[illegible]
	[illegible]	4	[illegible]	[illegible]	
	[illegible]	6	0	0	

Classification into bed size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100-199	10	27.8	27.8	27.8
	300-399	8	22.2	22.2	50.0
	200-299	7	19.4	19.4	69.4
	500+	6	16.7	16.7	86.1
	400-499	4	11.1	11.1	97.2
	6-99	1	2.8	2.8	100.0
	Total	36	100.0	100.0	

All statistics for the following summaries were tested at the 95% confidence level. Therefore, any differences at .05 or smaller are statistically significant.

KEY FINDINGS SUMMARY

This study collected a large amount of data and a brief summary of the key findings is presented below. The findings are first compared against the hypotheses for the study and then general key findings are presented.

Hypotheses #1

- **H_1: There will be variations in the findings and outcomes measures based on the size of the hospital and units; however, there will be similarities when the hospitals and units are grouped using a national categorization method**.

  This hypothesis is confirmed for the general hospital information.

It is important to note that the decision was made to group hospitals by the category they report for national reimbursement guidelines, rather than by the American Hospital Association's bed size categories. Some sample sizes were small in particular bed size categories, and the national reimbursement guidelines classification provided good sample sizes in all three categories—Teaching, Community and Rural. **A review of the Part 1 Summary Table starting on page 9 will confirm the following variations for the General Hospital Information:**

- Magnet status is possessed by 39% of all hospitals. Teaching hospitals are ahead of community (44% to 35%), but 50% of the rural hospitals in this study have Magnet status. There are no significant differences.
- A much larger percentage of community hospitals have applied for Magnet status (26% compared to 11% of teaching and 0% for rural). This was significant at .04.
- Interestingly, Community hospital nurse managers make slightly higher salaries than Teaching hospitals ($90,016 to $89,693). However, rural hospitals are below the average in this study ($75,264 to the average of $88,149).
- The ratio of educators to nursing staff is highest in rural hospitals, when compared to the other two types. The ratio in rural hospitals is 1:184 versus the others being 1:205-212. This could be due to the smaller number of employees.
- Teaching hospitals invest a significantly larger amount of paid hours in education for **Nursing Department employees** (.001; 71,719 to 35,870 in all other hospitals).
- However, Teaching hospitals are only slightly higher to community hospitals for the **RN education** paid hours. Rural hospitals lag behind, but that is most likely due to the small sample of 4 hospitals in this study.
- Additionally, Teaching hospitals invest a significantly larger amount of paid hours in **Nursing Department orientation** (.0002; 89,924 to 44,790 in all other hospitals) as well as **RN employees' orientation** (.001; 69,764 to 32,947 in all other hospitals).
- The Teaching hospitals that had study units also invested more time in **RN** orientation hours and Nursing Department orientation hours than other hospitals.
- **Nursing Department** staff turnover rates at Teaching hospitals were closely equal to other hospitals.
- **RN** turnover rates, excluding unit erosion, were lower at Teaching hospitals when compared to all other hospitals (8.16% and 6.85% at community and

rural hospitals). Is this because working for a teaching hospital represents a challenge?

- However, **RN** turnover rates, including unit erosion, **were significantly lower at Rural hospitals** when compared to all other hospitals (.03: 4.11% to 9.37% at all others).
- A significantly larger number of teaching hospitals have policies governing mandatory overtime as well as limiting the maximum number of hours worked in a 24-hour day (.01: 63% to 46% and 50% compared to 33%).
- Rural hospitals received the highest overall score on the 'quality of nursing care' and it was significantly higher than other hospitals (.003: 91.4 compared to 65.3 for all hospitals).
- All these hospitals are profitable. Rural hospitals reported a significantly higher percentage of profit (.04: 8.0% to 6.71 of all hospitals).

The areas where differences were not noted included average RN age and employment tenure. Hospitals were almost equal on these two variables.

Hypotheses #2

H_2: Management practices that encourage adequate training and development opportunities for first-line nurse managers, provide mentors, and encourage supervisors to spend sufficient time with first-line nurse managers will result in units having lower nurse turnover and higher patient satisfaction.

This hypothesis is confirmed for training and development opportunities, mentors, supervisory time and nurse turnover. Patient satisfaction is not different among the hospital types. Parts 1 and 3 in the tabular information can be viewed for the details.

Turnover Data

- Turnover rates for all **Nursing Department employees**, both excluding and including unit erosion, were significantly lower at Teaching hospitals, where a significantly **more amount of money is invested in orientation and education,** when compared to all other hospitals. Hospitals (.001).
- However, it is important to note that Rural hospitals have a significantly lower turnover rate for **RNs** when unit erosion is **included** (.03: 4.1% compared to 9.37%). Understand that turnover rates were calculated both for inclusion and exclusion of unit erosion.

Time Spent with Supervisors

- Relative to time spent with supervisors: Rural nurse managers have a significantly higher percentage of mentors (60% to 30% and 31% for teaching and community hospitals. **Perhaps this is why they have a significantly lower turnover rate for RNs?**. Or perhaps, the job market is not as lucrative in rural areas and there is no where to go?
- Additionally, Community and Rural hospital nurse managers spend a significantly larger amount of time with their supervisors, when compared to teaching hospitals (.01: Teaching=49.7 hrs per yr; Community 75.8 hrs per yr.; Rural 74.2 hrs per year**). So perhaps this suggests that Teaching hospitals have an appeal of their own and those who work in them do not require or desire the 'mentoring time of a supervisor'. They are there to learn.**

Patient Satisfaction

- There was no significant difference among 'overall quality of nursing scores' among the three types of facilities. Although it is important to mention Rural hospitals scored higher (91.4 to 71.4 and 57.2 for teaching and community).

H_3: Smaller spans of control will result in higher patient safety levels, higher patient satisfaction levels, and lower nursing staff turnover.

It is important to note that the span of control was separated into three categories based on a 'natural; break' of the data for the study. The groups that evolved were: 1-45 staff; 46-71 staff and 72-152 staff.

Higher Patient Safety Levels

Understand that staffing levels were broken into 3 categories based upon the 'natural flow' of the data submitted for the study. The findings are based on these categorizations and can be viewed in Appendix 2.

- There were not a lot of significant findings based on span on control. But there were differences that might have been significant had the sample sizes been larger. So this summary will focus on the significant findings that were tested at .05 or close to it. This implies 95% confidence in the findings.
    - The number of medically unnecessary days is much higher for spans of control that range from 46-71. This was close to being significant at .06.
    - Decubitus ulcers were significantly higher for spans of control at 45-71 (.06).
    - Nosocomial or HAI infections were close to being significant at .06 for spans of 1-45 and 72-152.
    - Immunizations for influenza were close to being significant at .07 for spans of control from 72-152.
    - Additionally, Immunizations for influenza were close to being significant at .07 for spans of control from 46-71.
    - Smoking cessation for AMI patients was **significantly** higher (.05) for spans from 46-71 and 72-152.
    - Aspirin given at arrival was significantly lower for spans of 1-45 (.03). Does this imply the nursing staff is 'short' and does not have time or the manager does not enforce it?.
    - Aspirin given at discharge was significantly lower for spans of 1-45 (.03). Does this imply the nursing staff is 'short' and does not have time or the manager does not enforce it?.
    - Beta blockers given at arrival for AMIs are significantly higher for 46-71 and 72-152 spans (.05).
    - Deaths per 1,000 in low mortality DRGs are significantly (.02) higher for spans of 72-152.

H_4: Hospital profitability (i.e., the percent of net profit) will be directly correlated to span of control.

This hypothesis cannot be confirmed at the current time. A majority (86%) of the hospitals were unable to report profitability by unit.

The remainder of the general hospital information is presented in tabular form and is separated into the three hospital types. The statistics are reported for the total sample and then broken into the three hospital classifications.

PART 1-HOSPITAL PARTICIPANT INFORMATION (n=36)

	ALL HOSPITALS n=36	TEACHING n=9	COMMUNITY n=23	RURAL n=4
Magnet Status-Yes	38.9%	44%	34.8%	50%
Magnet Status-No	41.7%	44%	39.1%	50%
Magnet Status-Applied	19%	11%	26.1%	0%
Licensed Beds	327	530	285	109
Staffed Beds	279	478	247	66
Average Annual Salary-All Nursing Managers	$88,149	$89,693	$90,016	$75,264
Average Age-All RNs	43 years	41 years	44 years	44 years
Average Employment Tenure-All RNs	8 years	9 years	8 years	9 years
Total Hours Worked-all Nursing Department Employees	879,337	1,657,351	745,294	82,887
Total Absentee hours-all Nursing Department Employees	37,344	55,950	32,905	9,950
Ratio of Institution-wide Educators to Nursing Dept. employees	1 to 207	1 to 205	1 to 212	1 to 184
Total Nursing Dept. paid education hours-most current fiscal year	35,870	71,719	31,308	5,015
Total paid RN education hours-most current fiscal year	26,414	31,432	29,105	4,480
Total Nursing Dept. paid education hours-most current fiscal year-STUDY UNITS ONLY	13,817	20,675	14,309	1,721
Total RN paid education hours-most current fiscal year-STUDY UNITS ONLY	10,355	11,329	11,858	1,041

	ALL HOSPITALS n=36	TEACHING n=9	COMMUNITY n=23	RURAL n=4
Total Nursing Dept. paid orientation hours-most current fiscal year	44,790	89,924	34,927	1,944
Total RN paid orientation hours-most current fiscal year	32,947	69,764	25,916	1,502
Total Nursing Dept. paid orientation hours-most current fiscal year-STUDY UNITS ONLY	17,732	31,379	14,529	560
Total RN paid orientation hours-most current fiscal year-STUDY UNITS ONLY	14,036	25,078	10,470	182
Total hospital employees (all services, all depts.)-AVERAGE	2,181	3,890	1,807	821
Total hospital FTEs (all depts., all services)	1,725	3,219	1,400	526
RN turnover rate-excluding unit erosion	7.42%	6.05%	8.16%	6.85%
RN turnover rate-including unit erosion	9.37%	8.67%	10.8%	4.11%
Nursing Department turnover rate-excluding unit erosion	10.38%	7.02%	11.05%	13.21%
Nursing Department turnover rate-including unit erosion	13.14%	13.77%	13.27%	12.01%
Does hospital have policies governing mandatory overtime for Nursing Dept?	46% Yes	63% Yes	44% Yes	25% Yes
Does hospital have policies limiting the maximum number of hours worked per week for Nursing Dept?	26% Yes	25% Yes	26% Yes	25% Yes

	ALL HOSPITALS n=36	TEACHING n=9	COMMUNITY n=23	RURAL n=4
Does hospital have policies limiting the maximum number of hours worked in a 24-hour day for Nursing Dept?	33% Yes	50% Yes	26% Yes	50% Yes
Patient Satisfaction Vendor	47% Press Ganey 17% PRC (see page 7)	44% Press Ganey 22% PRC (see page 7)	44% Press Ganey 17% PRC (see page 7)	75% Press Ganey 25% PRC (see page 7)
Score on 'Overall Quality' of Nursing Care for entire hospital (mean-average)	65.37	71.46	57.21	91.4
Hospital's net profit percentage	6.71%	4.18%	4.97%	8.0%
Trauma Level designation	22% Level 1 30% Level 2 37% Level 3 11% Level 4	43% Level 1 29% Level 2 28% Level 3 None- Level 4	17% Level 1 22% Level 2 44% Level 3 17% Level 4	100% Level 2
Is hospital unionized?	6% Yes	13% Yes	6% Yes	None are unionized

Note: Only 4 of the hospitals report unit-specific profitability. Therefore the sample was too small for comparative purposes.

PAYOR MIX PERCENTAGES

	ALL HOSPITALS	TEACHING	COMMUNITY	RURAL
Insurance paid (all types, all policies)	41	34	44	37
Medicare	38	33	39	42
Medicaid	10	16	8	11
Government	2	4	1	1
Self Pay	6	8	5	6
Unpaid-Bad Debt	3	2	3	2
Other	2	3	1	2

[illegible]	[illegible]	7		
	[illegible]	6		
	[illegible]	3	8	8
	[illegible]	2	6	6
	[illegible]	2	6	6
	[illegible]	2	6	6
	[illegible]	1	2	2
	[illegible]	1	2	2
	[illegible]	1	2	2
	[illegible]	1	2	2
	[illegible]	6		

a

[illegible]	[illegible]	4	4	4
	[illegible]	2		
	[illegible]	1	1	1
	[illegible]	1	1	1
	[illegible]	1	1	1
	[illegible]	9		

a [illegible]

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UNIT SPECIFIC SALARY DATA-Nurse Manager abbreviated as NM

	ALL HOSPITALS	TEACHING	COMMUNITY	RURAL
Annual Salary-NM-Medical/Surgical	$86,526	$89,724	$87,539	$71,442
Annual Salary-NM-Surgical	$86,970	$83,531	$89,316	$72,000
Annual Salary-NM-Cardiac/Coronary	$89,514	$88,016	$89,034	None in study
Annual Salary-NM-ICU	$91,566	$91,937	$92,750	$81,166
Annual Salary-NM-Step Down Unit	$87,313	$98,387	$85,432	$75,000
Annual Salary-NM-Medical	$89,303	$87,754	$90,208	$79,000
Annual Salary-NM-Oncology	$92,362	$86,023	$91,886	None in study
Annual Salary-NM-Surgical ICU	$96,199	$97,571	$86,599	None in study
Annual Salary-NM-Cardiac ICU	$95,603	None in study	$95,603	None in study

UNIT SPECIFIC AGE DATA-IN YEARS

	ALL HOSPITALS	TEACHING	COMMUNITY	RURAL
Average Age-RNs-Medical/Surgical	40.1	38.8	40.0	43.5
Average Age-RNs-Surgical	40.3	39.8	40.5	41.7
Average Age-RNs-Cardiac/Coronary	40.2	38.7	41.6	None
Average Age-RNs-ICU	40.2	38.7	40.2	44.7
Average Age-RNs-Step Down Unit	37.4	36.1	37.6	40.0
Average Age-RNs-Medical	39.6	40.3	39.0	42.0
Average Age-RNs-Oncology	41.5	43.3	41.0	None
Average Age-RNs-Surgical ICU	38.1	38.6	38.9	None
Average Age-RNs-Cardiac ICU	38.0	38.0	None in study	None

UNIT SPECIFIC TENURE OF EMPLOYMENT DATA-IN YEARS

	ALL HOSPITALS	TEACHING	COMMUNITY	RURAL
Employment Tenure-RNs-Medical/Surgical	6.6	7.06	6.26	8.58
Employment Tenure-RNs-Surgical	7.5	8.3	7.18	6.00
Employment Tenure-RNs-Cardiac/Coronary	3.1	6.37	8.92	None in study
Employment Tenure-RNs-ICU	3.0	8.36	7.97	9.2
Employment Tenure-RNs-Step Down Unit	2.4	4.7	5.86	6.75
Employment Tenure-RNs-Medical	6.17	7.46	5.16	7.1
Employment Tenure-RNs-Oncology	9.6	12.5	8.75	None in study
Employment Tenure-RNs-Surgical ICU	6.17	6.08	6.87	None in study
Employment Tenure-RNs-Cardiac ICU	12.7	12.7	None in study	None in study

PART 2- QUALITY DATA SUMMARY

The quality data was requested using specific definitions that were all referenced from a variety of healthcare data sources (AHRQ, IHI, JCAHO, CMS etc). A listing of the quality definitions is provided in the Appendix. Hospitals were asked to provide unit-specific data so comparisons could be made among the quality findings and other variables in the study. They were allowed to 'opt out' of providing data on six measures, because it was assumed they would not be able to report on all the measures.

An overall summary is provided for the collective data findings in the Key Summary Section and an Excel spreadsheet provides the measures based on all the units in the study and nurse manager span of control. **SEE EXCEL SPREADSHEET.**

PART 3-NURSE MANAGER SURVEY INFORMATION (n=158)

A total of 158 nurse managers completed surveys for the 190 units in the study. A percentage of them manage multiple units in the study and only filled out one questionnaire. The findings are reported for the hospital classifications and provide a **broad overview** of the data obtained on the nurse manager survey. These findings will be matched with the general hospital information and the quality data, after it is verified and it will then be analyzed by unit type and span of control. The answers refer solely to the units in this study. They represent an **average** of all the answers for the three different hospital types.

	ALL Units	TEACHING Hospital Units	COMMUNITY Hospital Units	RURAL Hospital Units
Total Units Managed	1.45	1.4	1.4	3.0
Combined number of staff on all units managed	63.2	60.6	65.4	75
Units you manage that are in the study	1.1	1.2	1.2	1.0
Percentage of full time staff on these units	72.5	75.4	69.6	73
Percentage of part time staff	25.7	23.1	28.4	27
Number of beds	27	26	29	18
Average LOS on study units	6.05	8.0	4.4	3.0
CMI-Case Mix Index	2.02	2.4	1.8	1.3
Worked HPPD	8.74	8.28	9.5	9.2
Average RN to patient ratio	1 to 4.2	1 to 4.1	1 to 4.4	1 to 5.5
Agency Hours	2,106	1,157.7	2,988	None
Total Staffing Hours	51,468	19, 030.6	50,121	10,863
Access to in-house agency or central pool-% = YES	80% Yes	100%	96%	100%
12-hour shifts	63%	78%	62%	None

	ALL Units	TEACHING Hospital Units	COMMUNITY Hospital Units	RURAL Hospital Units
Mix of 12 & 8 hour shifts	25%	39%	29%	93%
Other shifts	12%	13%	8%	7%
RN turnover rate, excluding erosion	6.2	3.8%	7.2%	2.0
RN turnover rate, including erosion	5.4	2.0%	6.9%	2.0
Current RN vacancy rate	5.1%	3.9%	7.4%	No vacancies
Average days to fill an RN position	68.7 days	71.0 days	67.0 days	42 days
Staffing coverage-Agency	13%	14.8%	13.5	None
Staffing coverage-own staff	77%	80.6%	73.8	65%
Staffing coverage-staff plus overtime	10%	4.6%	12.7	35%
Patient educator dedicated to your unit	54%	20% Yes	42% Yes	100% Yes
Patient educator specifically for smoking cessation	53%	23% Yes	37% Yes	100% Yes
Have a formal preceptor program for new RNs	94%	88% Yes	93% Yes	100% Yes
Similarity of tasks performed by the nurses-scale of 1-5	4.51	4.37	4.62	5.00
Similarity of tasks performed by non-RNs-scale of 1.5	4.37	4.27	4.44	4.38
Interdependence of tasks performed-scale of 1-5	3.21	3.21	3.13	5.00
Absentee hours	1,741	1,559.0	1,893	24
Total Staffing Hours	36,550	20,165	48,572	10,463
Hours manager works weekly	37%-40-50 45%-51-60 14%- 61-70 4%- 70+	17%-40-50 51%-51-60 26%- 61-70 6%- 70+	56%-40-50 40%-51-60	100%-40-50
Educational level	28% MSN 48% BSN 19% RN	43% MSN 39% BSN 11% RN	18% MSN 54% BSN 28% RN	100% BSN
Years they have been a nurse	20.9	19.9	21.7	33
Years they have been a nurse manager	7.7	8.5	7.1	8.0
Hospitals worked for in career	4.2	5	3.2	1
Hours of formal manager training-yr	48.0	49.3	47.3	48.0

	ALL Units	TEACHING Hospital Units	COMMUNITY Hospital Units	RURAL Hospital Units
Hours of supervisory guidance from boss	72.3	54.7	88.8	None
Have a mentor	52%	26% Yes	32% Yes	100% Yes
Administrative assistant-Full time	45%	20% Yes	17% Yes	100% No
Administrative assistant-Part time	52%	30% Yes	28% Yes	100% No
Percentage of tasks in a day that are non-supervisory	33.5%	40%	29.2%	35%
Have an office in unit(s) you manage	92%	85% Yes	90% Yes	100% Yes
Job satisfaction 1-5 scale	3.79	3.52	4.01	4.00
Age category	30% 41-50 37% 51-60 22% 31-70	20% 41-50 42% 51-60 22% 31-40	40% 41-50 32% 51-60 22% 31-40	100% 41-50
Gender	95%	94% Female	92% Female	100% Female

APPENDIX- QUALITY DEFINITIONS

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DEFINITIONS FOR SPAN OF CONTROL STUDY-QUALITY MEASURES

All quality measures requiring detailed definitions are outlined below. **If a definition is not provided, it means the quality measure is self explanatory.** If you have questions, please contact Chris Meade (chris.meade@studergroup.com) 540-942-9143. **Both the numeric counts as well as the percentage calculations for incidence are requested.** Charts to record the data are attached or it can be done online. It is understood that since the data reflects only one quarter of a year, the percentage calculations may be quite small.

Medication errors; separate by incorrect dosage and incorrect medication. Calculate per 1,000 patients.

Medically Unnecessary Days (MUD) per 1,000 patient days. A term used to describe that part of a stay in a facility deemed to be excessive to diagnose and treat a medical condition, because the stay was either too long, or more appropriate care was available in a less costly or more efficient setting and/or for which the hospital was denied payment. A patient's admission and entire length of stay must be medically necessary and appropriate.
For Medicare patients: Days on which the hospital furnished no covered Part A services; these days cannot be charged to utilization and are not counted as Medicare patient days (CMS Manual System: DHHS, April 27, 2007).
Inpatient Mortality Rate: Number of deaths calculated per 1,000 discharges;

Deaths per 1,000 in low mortality DRGs- Deaths per 1,000 admissions in low mortality DRGs with a NIS (National Inpatient Sample-HCUP) 1997 benchmark of less than 0.5% mortality, excluding trauma, immuno-compromised, and cancer patients. **See separate list of all DRG numbers in this category**. (AHRQ National Healthcare Disparities Report-Appendix C, 2006).

Falls: A fall is a sudden, unintentional change in position causing an individual to land at a lower level (either on an object or on the floor) other than as a consequence of sudden onset of paralysis, epileptic seizure or an overwhelming external force (Feder *et al*, 2000; Tinetti *et a*l, 1997). Only count the falls reported to Risk Management. Calculate falls per 1,000 patient days.

Decubitus ulcers-A pressure sore or what is commonly called a "bed sore". It can range from a very mild pink coloration of the skin, which disappears in a few hours after pressure is relieved on the area, to a very deep wound extending to and sometimes through a bone into internal organs. **Calculation:** Per 1,000 discharges of LOS 5+ days (AHRQ National Healthcare Disparities Report-Appendix C, 2006).

Nosocomial Infections or HAI (healthcare-associated infections) per 1,000 discharges- A localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) that 1) occurs in a patient in a health

care setting (e.g., a hospital or outpatient clinic), 2) was not found to be present or incubating at the time of admission unless the infection was related to a previous admission to the same setting, and 3) if the setting is a hospital, meets the criteria for a specific infection site as defined by CDC.[1]

Central line associated bloodstream infections (CLABSI)-A primary bloodstream infection (BSI) in a patient that had a central line within the 48-hour period before the development of the BSI. Calculation is # of CLABSIs identified/# of central line days multiplied by 1,000. [2]

Nosocomial urinary tract infections-Catheter-associated urinary tract infections (CAUTI) are classified into two groups with specific sets of criteria for each: symptomatic urinary tract infections (SUTI) and asymptomatic bacteriuria (ASB). **Report only those events that are associated with the nursing care area where the patient was assigned when the infection was acquired and are catheter-associated (patient had an indwelling urinary catheter at the time of or within 7 days before the onset of the event). Calculation:** The CAUTI rate per 1000 urinary catheter-days is calculated by dividing the number of CAUTIs by the number of catheter-days and multiplying the result by 1000. [3]

Accidental puncture or laceration during procedures (APL)- Accidental perforation by catheter or other instrument during a procedure on: blood vessel, nerve, organ. Excludes: iatrogenic [postoperative] pneumothorax (512.1) puncture or laceration caused by implanted device intentionally left in operation wound (996.0-996.5); specified complications classified elsewhere, such as: broad ligament laceration syndrome (620.6), trauma from instruments during delivery (664.0-665.9). Per 1,000 discharges and excluding obstetric admissions. (ICD9CM Codes; AHRQ National Healthcare Disparities Report, Appendix C, 2006)

Nosocomial Pneumonia or HAP (Hospital Acquired Pneumonia): An infection of the lungs contracted during a hospital stay. **Please separate VAP (Ventilator-Associated Pneumonia) from all other types.** Calculation is rate of infections per 1,000 patients.

Number of Code IIIs: Also known as a Code Blue; it is where a unit has to call for resuscitation. Calculate per 1,000 patients.

Failures to Rescue: Deaths per 1,000 discharges. Patients having developed specified complications of care during hospitalization listed in the failure to rescue definition (i.e., pneumonia, deep vein thrombosis/pulmonary embolism, sepsis, acute renal failure, shock/cardiac arrest, or gastrointestinal hemorrhage/acute ulcer). Excludes patients transferred in or out, patients admitted from long-term care facilities, neonates, and patients over 74 years old. (AHRQ National Healthcare Disparities Report, Appendix C, 2006)

Nosocomial Postoperative sepsis-. This indicator limits the code for sepsis to secondary diagnosis codes to eliminate sepsis that was present on admission. This indicator also excludes patients who have a principal diagnosis of infection, patients with a length of stay of less than 4 days, and patients with potential immunocompromised states (e.g., AIDS, cancer, transplant). Per 1,000 patients.

Unscheduled readmissions within 30-31 days [4-7] or inpatient returns to the Emergency Department within 72 hours-An unscheduled readmission or inpatient return to the ED is defined as a patient presentation for the same chief complaint when hospitalized or a related condition. Calculate per 1,000 discharges.

Discharge instructions for heart failure patients-Patients with heart failure (HF) who are educated and helped by nurses perform everyday activities better and have fewer hospitalizations than patients who self-manage their own care, according to a study funded by the Agency for Healthcare Research and Quality (HS10402). Report the number of patients receiving education and written discharge instructions and the total number of heart failure patients on the unit.

Immunizations: Screening for and administering Influenza and Pneumonia immunizations to all patients who report not receiving these immunizations within the past 12 months, especially high risk conditions. High-risk conditions include COPD, diabetes, heart disease, lung disease, kidney disease, liver disease, and cancer. Report the number of immunizations given, those not eligible (i.e., had within the past 12 months), and the total number of patients. (Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS).

Smoking Cessation Counseling for AMI patients: Count all hospital discharges with a principal diagnosis of acute myocardial infarction (AMI) and a history of smoking cigarettes anytime during the year prior to hospital arrival. The measure specifies exclusion of patients under age 18, patients transferred to another acute care or Federal hospital, patients transferred to hospice, patients who expired, and patients who left against medical advice. Centers for Medicare and Medicaid Services (CMS), Health Care Quality Improvement Program Quality Indicator. Report the number of AMI patients counseled and the total number of AMI patients.

Aspirin and beta blockers at arrival and upon discharge for AMI patients:
Standard from Centers for Medicare and Medicaid Services (CMS) specifies the use of these two medicines upon arrival and prescribed at discharge for all AMI patients. **Report number of patients receiving medications divided by the total number of AMI patients.**

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