

A Retrospective Study Exploring Nursing Sensitive Interventions for Patients on a Skilled Nursing Unit in a Rural Midwest Hospital

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Purpose of the Study

- The purpose of this research was to assess the impact of nurse sensitive interventions on patient outcomes on a skilled nursing unit (SNU).
- Patient characteristics were correlated with specific variables (such as patient condition tracking score [PCTS] and 30-day readmit) that could assist nurses to improve patient outcomes through implementation of specific individualized nursing interventions.

Research Design

- ***Retrospective study***
- Medical records of patients who were on SNU during calendar year 2013 were used to extract data
- All patients were included except those under age 18
- N= **532**
- Data were analyzed with the statistical program SPSS v22

Variables Assessed

- ***Readmitted to hospital within 30-days of discharge from SNU***
- Ages were converted to age groups
- Gender
- Race and ethnicity
- Education
- Primary language
- Marital status

Variables Assessed *(continued)*

- **Do-not-resuscitate (DNR) status (Yes/No)**
- **Hospice (listed as admission status) (Yes/No)**
- Comfort care order set (Yes/No)
- ***Activities of daily living (ADL hours)***
- ***Day & Night Cognitive Status***
- Disease diagnoses (all listed)
- Length of stay
- **Discharge disposition**

Variables Assessed *(continued)*

- **Hospitalists/nurse practitioners vs non-hospitalists:**
 - Group 1 included hospitalists/nurse practitioners
 - Group 2 included all primary care providers other than hospitalists
- **Patient Condition Tracking Score (PCTS)**
 - Last PCTS from Hospital
 - First PCTS on SNU
 - Last PCTS on SNU

Patient Condition Tracking Tool (PCTT)

- Bradley et al. (2013) found in the SNU population that a PCTT score of less than 70 was indicative of a 20% risk of readmission within 30-days
- In contrast, the researchers found that when the PCTT score was 70 or greater, there was a 10% risk of readmission within 30-days
- The Bradley et al. (2013) used the same PCTT as our facility

Patient Condition Tracking Tool

- 4 Categories of clinical measurements
 - Nursing assessments
 - Vital signs
 - **Laboratory results**
 - Cardiac rhythms
- Helps caregivers to detect and respond to changing needs in a timely manner

Research Question #1

- Research Question 1
- Are there any differences in patient descriptors found in patients from our hospital SNU than patient descriptors found in the Li et al. (2012) study for variables selected for the study?

Comparison of SNU Study Participants vs Li et al. (2012) Study

Age Groups	SNU Study	Li et al. (2012) Study
<65	18.3 %	11.2%
65-74	22.2%	17.3%
75-84	33.3%	34.3%
≥ 85	26.1%	37.2%

Comparison of Patient Characteristics

	Categories	SNU Study	Li et al. (2012) Study
Gender	Male	39.8%	38.3%
	Female	60.2%	61.7%
Race/ Ethnicity	White	97.7%	83.4%
	Black	1.7%	10.7%
English as primary language		100%	96.6%
DNR		29.3%	38.1%
Marital Status		45%	28.4%

Comparison of Educational Status

Groups	SNU Study	Li et al. (2012) Study
< HS	12.6%	33.0%
HS	55.3%	40.0%
Some College or Trade	5.1%	15.9%
Bachelor or Higher	4.1%	9.0%
Missing	2.4%	2.4%

ADL Results

Hours	#	%	# Readmits
0 – 1	12	2.3%	2
2 – 5	106	19.9%	33
6 – 10	179	33.6%	50
11 – 14	5	0.9%	10
15 – 16	192	36.1%	56
Missing	38	7.1%	5
TOTAL	532	100%	156

- 30-day readmit 29.3% (156 of 532)

Research Questions #2 and #3

- Research Question 2

How does the *last* patient condition tracking score (PCTS) at the hospital correlate with the *first* PCTS on admission to SNU?

- Research Question 3

How does the *first* PCTS on admission to SNU correlate with the *last* PCTS prior to discharge from SNU?

- Additional Research Question

How does the *last* PCTS at the hospital correlate with the *last* PCTS prior to discharge from SNU?

Correlations between PCTS

	Last Hospital PCTS	First SNU PCTS	Last SNU PCTS
Last Hospital PCTS	1	.234 **	.197**
First SNU PCTS	.234**	1	.835**
Last SNU PCTS	.197**	.835**	1

* significant at 0.05 two tail

** significant at 0.01 two tail

Patient Condition Tracking Score

T-tests

	Last Hospital PCTS Mean	First SNU PCTS Mean	Last SNU PCTS Mean	T	df	p
Last Hospital/ First SNU	65.11	85.32		21.057	531	.000
First SNU/ Last SNU		85.32	66.22	20.977	516	.000
Last Hospital/ Last SNU	65.11		66.22	.563	516	.574

Research Question #4

- Research Question 4

What is the percentage of patients readmitted to the hospital within 30-days of discharge from SNU for patients whose providers are hospitalists/nurse practitioners as compared to patients whose primary care providers are non-hospitalists?

30-Day Readmission

Provider	Readmissions	Non-readmissions	Total
Hospitalists/NP	17 (10.8%)	139 (89.1%)	156
Non-hospitalists	77 (20.5%)	299 (79.5%)	376
Total	94	438	532

- $\chi^2 = 6.958$, (df 1) $p = .008$

Research Question #5

- Research Question 5

What are the percentages of discharge disposition for patients discharged from SNU whose providers are hospitalists/nurse practitioners as compared to patients discharged from SNU whose primary care providers are non- hospitalists?

Discharge Disposition by Practitioner

Discharge disposition	Hospitalists/NP	Non-hospitalists
Home care	57 (60.6 %)	252 (57.5%)
Rehab	3 (3.2%)	5 (1.1%)
Skilled Nursing	17 (18.1%)	76 (17.4%)
Hospice	7 (7.4%)	35 (8.0 %)
Died	5 (5.3%)	29 (6.6%)
Missing	5 (5.3%)	41 (6.6 %)
Total	94 (100%)	438 (100 %)

Logistic Regression Equation

- To identify the most significant predictors of 30-day readmit, correlations were analyzed.
- Significant correlations were placed in logistic regression equation using block enter method

Logistic Regression

- Significant correlations with 30-day

	Day Cognition Score	Discharge Disposition	DNR Status	Hospice Service	Hosp./NP Hosp.	Last PCTS Score
30-Day Readmit	-.139**	-.228**	.096*	.127**	.114**	.088*

* significant at 0.05 two tail

** significant at 0.01 two tail

Logistic Regression Predicting 30-day Readmit

• Predictor	B	Wald	p	Odds ratio
• Discharge Disp	-.167	17.934	.000	.846
• DNR status	.427	5.034	.025	1.533
• NP	-.801	6.864	.009	.499
• Day Cog Score	-.438	7.430	.006	1.009

Implications for Further Research

- Secondary analysis of data
- Implement intervention research based diagnosis related protocols (i.e. CHF, COPD, ESRD) (Hain et al., 2012; Li et al., 2012)
- Conduct an outcome study post implementation of robust discharge plans for SNU patients with discharge patient condition tracking scores less than 60 (Yale-New Haven Hospital, 2013).

Implications for Nursing Practice

- Continue development of the SNU predictive model for post-discharge care needs
- Correlate the care delivered during the SNU stay with post discharge care needs.

Implications For Nursing Practice

An opportunity for nurses to help patients and families recognize:

- Benefits of hospice care
 - Opportunity for patient and family support in their final days
 - Implementation of a Do-Not-Resuscitate order
 - Dying with dignity at home or in chosen setting

(continued)

Implications for Nursing Practice

(continued)

An opportunity for nurses to help patients and families recognize:

- Patient or family limitations when considering homecare:
 - ADLs
 - Finances
 - Stress levels
 - Feelings of guilt
 - Unrealistic expectations
- Life has an ending

Implications for Nursing Practice

(continued)

- Due to a high percentage of married elderly patients in our SNU population, we hypothesize the following;
 - More SNU patients discharged to their home than to a higher level of care anticipated based on clinical indicators such as a low patient condition tracking score and high hours of ADL assistance.

Conclusion

- Use our predictive model implement the following early in the SNU stay;
 - Proactive discharge care coordination by a interdisciplinary team particularly when the RI score is 60 or less.
 - Discuss with patient and family about DNR
 - Discuss pros and cons of hospice/palliative care
- There is no one MAGIC Solution

Questions



PowerPoint available on request to
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