Tracking Nurse Practitioner Outcomes: A Quality Improvement Project

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Purpose

The purpose of this scholarly project was to develop and implement a Microsoft Access database to track nurse practitioner outcomes in the hospitalist program at a community hospital in the Southeastern United States as part of a quality improvement initiative.

Evidence

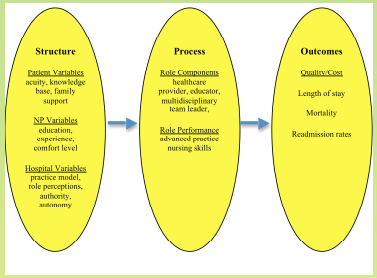
In 1999 the Institute of Medicine (IOM) issued a report entitled "To Err is Human" outlining the issues surrounding healthcare errors in hospitals and supporting the institution of quality improvement practices.

Tracking patient outcomes related to NP care is critical to offer value to the services provided, allow for quality assurance, and promote evidence-based practice. Kleinpell (2003)

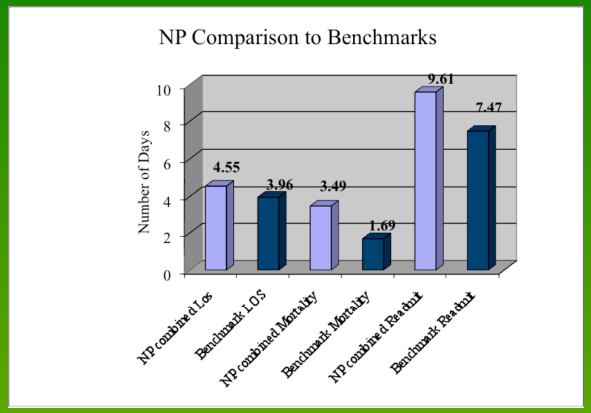
NPs are integrally involved in direct care delivery and are well positioned to influence outcomes and directly influence quality improvement strategies (Price, Fitzgerald, & Kinsman, 2007).

Quality improvement programs have been shown to improve patient outcomes and decrease the incidence of complications in the hospital setting (Chelluri, 2008).

Theoretical Framework



The Nursing Role Effectiveness Model



Discussion

While the nurse practitioners' outcome data was not statistically different than the national benchmarks there remains room for clinical improvement. A reduction in length of stay may result in a reduction in cost, hospice utilization impacts inpatient mortality, and lack of reimbursement for readmissions prompts providers to constantly strive for continuous quality improvement.

The overall findings for each outcome were similar to the hospitalist group data indicating that the nurse practitioners have the same level of practice standards as the physicians in the group. These results are consistent with the literature that nurse practitioners provide comparable care with other healthcare providers.

As the use of information technology continues to expand in healthcare, nurse practitioners need to be aware of its value in their clinical practice.

Development and implementation of an outcome tracking database can assist nurse practitioners in promoting value for the services they provide by showing what impact they have on patient outcomes.

Methods

A Microsoft Access database was developed in third normal form to prevent inconsistency and redundancy of data as well as ensure flexibility in the design.

The outcomes chosen are related to quality patient care indicators and included: length of stay, inpatient mortality, and 30-day readmission rates.

This database will be used to track outcomes annually for the hospitalist nurse practitioners for quality improvement purposes

Chart reviews for the nurse practitioners' patients were performed to extract the data, and de-identified information was provided to the primary investigator.

This de-identified outcome data was categorized by month and quarter for each provider including the nurse practitioners and physicians in the hospitalist group.

National benchmarking data was included to serve as reference points for the measured outcomes.

Evaluation

Two-tailed t-tests assuming unequal variance were performed to compare the three outcomes for the hospitalist nurse practitioners to the benchmark outcomes. There was no mathematically significant difference between the groups at a 95% confidence interval with a calculated t-statistic of 2.64 for length of stay (p=.11), t-statistic of 1.47 for inpatient mortality (p=.27), and t-statistic of 1.66 for 30-day readmission rate (p=.23). The outcome data for the hospitalist group was compared to the nurse practitioner outcome data to ensure similar practice standards, but was not statistically analyzed.

Table 1 Comparison Outcome data

	NP outcomes	Benchmarks	T statistic	P Value
Length of Stay	4.55	3.96	2.64	.11
Inpatient Mortality Rate	3.49%	1.69%	1.47	.27
Readmission Rate	9.61%	7.47%	1.66	.23