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Deborah Swavely

Erin Marinchak

Kimberly Eckenroth

Amy Tartaglia

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The Impact of the Clinical Nurse Specialist Role on Key Quality Indicators

Reading Hospital - Tower Health, West Reading PA

Deborah Swavely DNP, RN; Erin Marinchak MSN, RN, ACNS-BC, CPHQ; Carol Foltz, PhD;
Kim Eckenroth, MSN, RNC-OC, AGCNS-BC, Amy Tartaglia, MSN, RN

PROBLEM STATEMENT

Though the role of the Clinical Nurse Specialist (CNS) has long been established and valued by many organizations, there is a lack of studies examining the direct impact of the CNS role on quality of care. The Reading Hospital CNS Program was implemented in 2014. The purpose of this study was to correlate nurse-sensitive indicators and event rates to the presence of a unit-based CNS and to investigate whether level of experience and tenure at the organization impacts the effectiveness of the CNS to improve unit-level quality outcomes.

SPECIFIC AIMS

Aim 1: Test the impact of the presence or absence of a unit-based CNS on hospital-level injury falls (Primary Outcome), catheter-associated urinary tract infections (CAUTI) and central-line associated blood stream infection (CLABSI) rates prior to and after the organization implemented the Clinical Nurse Specialist role.

Aim 2: Assess the extent to which certification as a CNS, years of nursing experience, and years employed at Reading hospital moderate the effects of the CNS role.

Aim 3: Calculate cost avoidance of quality indicators listed above in relation to implementation of the CNS role at Reading Hospital.

OUTCOME MEASURES

Outcome measures were defined as follows:

- Unit and hospital-level injury fall rate per 1000 patient days
- CLABSI rate (per 1000 central-line days)
- CAUTI rate (per 1000 catheter days)
- CNS years of experience, certification, and years employed at Reading Hospital
- Cost avoidance impacted by the CNS role in the key quality indicators listed above.

RESULTS

Injury Fall Rate

- Using Fisher's exact test, data demonstrates injury falls (n=353) were significantly lower when CNS role present (n=298), $p=0.045$.
- Repeated Measures ANOVA via Linear Mixed Model, there were fewer falls with a CNS ($F=8.741$ [df=1], $p=0.003$); but the model did not converge.

RESULTS

CLABSI Rate

Using Fisher's Exact Test, no significant differences were identified between the two groups for ($p=0.45$)

CAUTI Rate

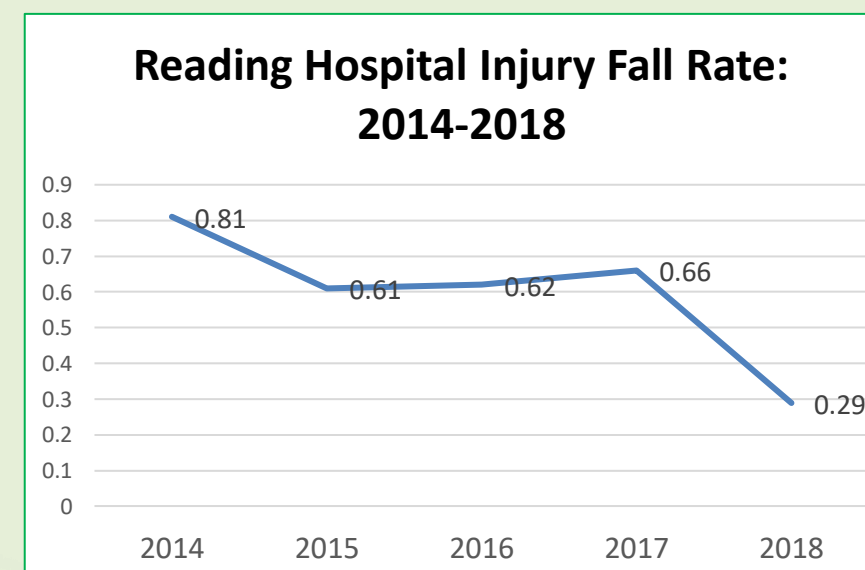
Using Fisher's Exact test, a trending difference was identified ($p=0.09$) between two groups.

Moderating Effects

The length of time a CNS was assigned to a unit showed a positive impact on quality indicators. Other moderating effects could not be evaluated due to multicollinearity.

Cost Avoidance

After implementation of the CNS role at Reading Hospital, the estimated cost avoidance for injury falls was \$2,273,839.



DISCUSSION

The unit-based injury fall rates on units with an assigned Clinical Nurse Specialist were significantly lower than units without a CNS.

The overall cost avoidance for hospital-level injury falls associated with the implementation of the CNS role was \$2,273,839.

Data also revealed that the length of time the CNS was assigned to the unit had a positive impact on quality metrics. The impact of years worked at Reading Hospital was unable to be evaluated due to multicollinearity.

This study was limited by its retrospective design; a prospective approach may yield additional meaningful data. A qualitative study further investigating the impact of the Clinical Nurse Specialist role through interviews of both clinical staff and leadership is currently underway.

