Report on NDNQI Certification Research Studies
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June 2015

Phase I Study: A longitudinal analysis of nursing specialty certification by Magnet® status and patient unit type.

Publication:

Presentations:

Objective: To examine nursing specialty certification trends by Magnet® status and unit type.

Take away points:
5. Across all unit types, those in Magnet hospitals had higher certification rates than those in non-Magnet hospitals.
6. Overall, for the years 2004 - 2010, unit specialty certification rates increased over time.
7. In general, unit types with the lowest average starting rates (rate in 2004) had the best rates of growth. For example, pediatric critical care and pediatric medical-surgical units had the lowest starting certification rates of all unit types (significantly lower than all except adult medical units) and demonstrated the most growth. The reverse pattern held in that psychiatric units started with the highest average certification rates among all unit types, demonstrated the least growth over time. Psychiatric unit certification rates in some Magnet groups declined.
8. In 2010 and regardless of Magnet status, pediatric units of all kinds, adult critical care, and adult rehabilitation had the highest certification rates, of those studied.
9. Medical, surgical, medical-surgical combined, and step-down units lagged behind other unit types in certification rates.
**Phase II Study:** The effect of longitudinal changes in RN specialty certification rates on total patient fall rates in acute care hospitals.

**Publication:**


http://journals.lww.com/nursingresearchonline/Abstract/publishahead/Longitudinal_Association_of_REGISTERED_NURSE.99872.aspx. doi:10.1097/NNR.0000000000000107

**Presentations:**


**Objective:** To examine the relationship over time between changes in specialty certification rates and changes in total patient fall rates at the unit and hospital level.

**Take Away Points:**

- At the unit level, we found a small, statistically significant inverse relationship: on units where specialty certification rates increased over time, unit total fall rates tended to improve over time (decrease or increase at a slower rate, if fall rates on the respective unit were increasing).

- Our findings may suggest that increases in unit specialty certification rates are associated with improvements in unit total fall rates over time and are supportive of promoting specialty certification as a means of improving patient safety.

- Higher unit RN hours per patient day (RNHPPD), a higher percent of unit RNs with a BSN or higher, and a lower percent of nursing hours supplied by agency nurses were associated significantly with higher unit specialty certification rates at baseline. Only higher RNHPPD was associated with improvements over time in specialty certification rates. Lower baseline total fall rates were significantly associated with higher RNHPPD and lower non-RNHPPD.

- Varying levels of specificity about patient safety and quality improvement methods exist in specialty certification test plans.

**New Questions Raised:**

- Is specialty certification a skill level net of education and experience or as a proxy for education & experience (they are confounded)?
  - Is there a combination of education and certification that effect processes and outcomes?
• Example: BSN + Certification

• Does certification ‘wear off’ over time?

• Is there a critical prevalence of certified nurses (unit, workgroup, hospital, clinic) needed to make an impact?

• If all inpatient specialty certifications explicitly included patient safety tenets, quality improvement, and data monitoring content in tests plans, would results have been different?

• Is the ‘invisible architecture’ (factors such as organizational leadership, culture, and climate) a mediating variable between national nursing specialty certified nurses and patient outcomes?

Notes:

• We also did the same analyses with pressure ulcer prevalence and found nothing of interest to report or publish.

• There were not enough longitudinal data on health-care acquired infections to conduct a longitudinal analysis.
Additional analyses that were exploratory: The relationship between direct care RN specialty certification and patient outcomes in surgical units.

Publication:


Presentations:


Objective: To explore the relationship between direct-care, specialty-certified nurses employed in perioperative units, surgical intensive care units (SICUs), and surgical units and nursing-sensitive patient outcomes in SICUs and surgical units.

Take Away Points:

- Lower rates of central-line associated bloodstream infections in SICUs were significantly associated with higher rates of CPAN (certified postanesthesia nurse) CNOR/CRNFA (certified nurse operating room/certified RN first assistant) certifications in perioperative units.

- Unexpectedly, higher rates of CNOR/CRNFA certification in perioperative units were associated with higher rates of hospital-acquired pressure ulcers and unit-acquired pressure ulcers.

New Questions Raised:

- Do few differences exist between the autonomy of specialty certified and non-certified nurses?
- Does autonomy mediate the relationship between specialty certification and outcomes?
- What framework and variables would allow better exploration of the relationship between CNOR/CRNFA and hospital-acquired pressure ulcers?
Additional reports produced:


