Using Workforce Management Technologies to Examine the Impact of Dynamic Patient Events on Nursing Workload and Nurse Staffing

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Background and Significance

- Research has demonstrated that an appropriate allocation of staff favorably impacts patient outcomes, patient safety, financial outcomes and staff satisfaction.
- Nurse leaders continue to be challenged by the lack of reliable, valid and practical measures to evaluate nursing workload.
- Nursing workload is conceptualized as direct patient care factors, indirect patient care factors and non-patient care factors. However, this does not reflect unplanned care circumstances in which an immediate shift in workload across the unit must occur. 1,2
- Many workforce technologies systems have the capacity to manage changing dynamic situations but are under utilized.
- Rapid shifting and realignment of patient responsibilities is associated with reduced situational awareness, cognitive overloading and increased task management. 3
- Shifting of care and responsibilities often resulted in “missed care” and potential adverse patient events.
- This study seeks to address our understanding of the impact of “dynamic patient events” on nursing work load.

Specific Aims:

1. Describe nurses’ perception of workflow disruption and its’ impact on patient care following a Dynamic Patient Event (DPE).
2. Determine the impact of dynamic patient events on nursing workload using staffing decision support technology

Operational Definitions

- Dynamic Patient Events (DPE): rapid and unanticipated changes in patient’s clinical status or nursing care needs that result in very sudden shifts in nursing workload and the need to carry out rapid staffing adjustments.
- Examples include: codes, emergency responses, bedside procedures, monitored patient travel, and patient safety attendance.

Methods

- A mixed method approach, including qualitative and quantitative research methods, was used.
- Aim 1: A series of five focus groups of RNs (n=16) was conducted. Data collection took place at three hospitals on three medical-surgical units. All shifts were approached. Using a semi-structured interview format, participants were asked about their recent experiences with DPEs, and how these events impacted patient outcomes and nursing workload.
- Data was organized into tables and analyzed with major codes. Data was then organized into major themes using consensus.
- Aim 2: A cross-sectional approach was utilized
- Interviewed 511 RNs & PCAs at the end of selected shifts which included about DPEs, workshift changes during selected shift.
- Unit environment variables were collected; unit acuity level, number of ADTs, total staffing, variance in staffing, utilization of staffing.
- DPEs were entered into the Cerner Clair-Via™ system. This staff decision support technology has the capacity to recalculate the staffing acuity target based on patient acuities.

Results:

Aim 1: Major themes:

- Types of DPEs: the most commonly identified were travel off the unit, code blues, ERT events, and request for unplanned 1-on-1 sitters. Nurses described DPEs as unanticipated, resulting in a total re-focus of workload.
- Impact on Nurses: DPEs had an emotional impact. Emotions experienced included stress, fatigue and frustration, which could lead to burnout. Nurses expressed that DPEs lead to job dissatisfaction and frustration.
- Impact on Patients: Staffing readjustment leads to unmet patient needs/decreased patient satisfaction.

Aim 2: The average number of DPE across the 3 units was 4.7 for day shift, and 2.6 for night shift. Average length in minutes per DPE was 147 on days, and 116 on nights. Unit CHURN was highly variable across units and shifts.

The most frequently reported DPEs were travel with patients, and sitters.

Conclusions

- DPEs are real, stressful and impactful on workflow.
- DPEs occur frequently and can be lengthy.
- Length of DPE may be more impactful than actual numbers of DPE across shift.
- Difference between day and nights shifts seem to matter.
- Nights more problematic than days.

References:


Funding: Michael Warner Nursing Staffing and Outcomes Research Grant, Cerner Corp and the American Organization of Nurse Executives Foundation.

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