Project Title: The Acuity Tool

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Purpose and rationale of project: The purpose of the project was to find the most effective method for making patient assignments according to patient acuity. EBP recognized that the majority of inpatient units at Shadyside Hospital do not currently use a Patient Acuity Tool. Many nurses expressed concerns that patient assignments on inpatient units were made without rationales behind decision making. The majority of units at Shadyside Hospital are set up in a pod style or with long hallways which limit a nurse to one section of patients.

Synthesis of Evidence:

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<th>Author, date, citation</th>
<th>Design/ Method</th>
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<td>Fasoli, Fincke, &amp; Haddock. (2011). Going beyond patient classification systems to create an evidence-based staffing methodology.</td>
<td>Systematic review of the literature</td>
<td>English-language articles published between 1983 and July 2010, applicable to general med/surg settings.</td>
<td>The review focused on patient classification systems, which were defined as staffing tools used to determine, validate, and monitor individual patient care requirements over time.</td>
<td>A panel of interdisciplinary experts evaluated the variables discovered in the literature, using strategy planning meetings and a brainstorming workshop to share expert opinions. A draft staffing methodology and tools for use was then developed and pilot tested at 37 VA medical centers and all inpatient units.</td>
<td>N/A</td>
<td>Full evaluation is planned after full implementation is achieved in October 2011. A web-based survey revealed that current staffing methods pre-implementation were “outdated, inaccurate, and unreliable.”</td>
<td>This literature review was designed to help the VA medical system find a practical method of classifying patients to reduce burden on nurses on inpatient units. The results suggest possible elements for a successful classification tool based upon those reviewed in the current literature. According to this study, more rigorous research must be conducted on patient classification systems in order to define the most effective, evidence-based tool.</td>
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<td>Hall, Doran, &amp; Pink (2004). Nurse staffing models, nursing hours, and patient safety outcomes.</td>
<td>Descriptive correlational study</td>
<td>19 teaching hospitals in Ontario, Canada – adult medical, surgical, and obstetric inpatients</td>
<td>Evaluate the effect of different nurse staffing models on costs and patient outcomes including falls, medication errors, wound infections, and UTIs. Preventable conditions (decubitus ulcers, pneumonia, post-op infections, UTIs, &amp; falls) were inversely related to nurse staffing per acuity-adjusted day. Descriptive correlational design to determine the association between nurse staffing models, costs, and patient safety outcomes. Multilevel hierarchical linear modeling (HLM) to assess different staff mix models. Questionnaires to unit managers and outcome data through administrative records. The lower the proportion of professional nursing staff employed on a unit, the higher the number of medication errors and wound infections. Higher patient complexity is associated with greater patient use of nursing care resources. Nurse staffing was related to patient safety outcomes for a sample of med-surgical patients. The lower the proportion of professional nursing staff employed, the higher the number of medication errors and wound infections. More staffing contributes to improved patient safety outcomes, specifically medication errors rates, falls, wound infections, UTIs, pressure ulcers, and pneumonia.</td>
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<td>Harper, K., McCully, C. (2007). Acuity Systems Dialogue and Patient Classification System Essentials.</td>
<td>Systematic review of the literature</td>
<td>A literature search of Medline, CINAHL®, and PubMed using the search terms acuity tools, acuity scales, patient classification systems, and staffing tool</td>
<td>This paper focuses on the development, background, flaws, and components of patient acuity systems – defined as the categorization of patients according to an assessment of their nursing care requirements. Four concepts crucial in validating acuity tools as they relate to patient and hospital management: (1) Improvement of patient care outcomes, (2) proper staffing, (3) budgeting/cost containment, and (4) nurse retention. Although patient classification/acuity tools are widely used by hospital management, only modest research exists on these tools. Few studies have been dedicated to establishing reliability and validity. Furthermore, researchers have failed to determine what makes a quality Patient Classification Tool. Patient classification systems allow nurses to state the acuity of their patient load, advocating for their patients’ needs and determining the requirements for quality Bed-side care. This involvement of nurses in determining acuity and staffing can appeal to nursing satisfaction and retention. Patient classification systems (PCS) and acuity tools allow managers and administrators to predict staffing needs and more accurately control nurse-to-patient ratios.</td>
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<td>Jennings, B.M. (2008). Patient Acuity, Patient Safety and Quality: An Evidence-Based Handbook for Nurses</td>
<td>Systematic review of literature</td>
<td>Research based articles published in the English-Language from 1995-2005 from MEDLINE®. Patient Classification Systems – defined as staffing methodologies to accurately indicate the Requirements of patient acuity used to manage Patient classification systems used to predict patient requirements for nursing care. Requirements of patient acuity were used to manage Patient acuity is a concept that is very important to patient safety. Presumably, as acuity rises, more nursing resources are needed to provide safe care. Very little research PCSs have numerous limitations; among these are validity and reliability which are infrequently monitored; the tools are often complex and require considerable time to complete; they lack credibility among staff nurses and administrators; they are not designed</td>
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Needleman, J., Buerhaus, P., Pankratz, S., Leibson, C., Stevens, S., Harris, M. (2011). Nurse staffing and inpatient hospital mortality. Data from 2003 through 2006 from electronic data systems of the medical center including 197,961 admissions and 176,696 nursing shifts of 8 hours each in 43 hospital units. The association between mortality and patient exposure to high-workload shifts during which staffing by RNs was 8 hours or more below the staffing target. Also examined the association between mortality and high patient turnover owing to admissions, transfers, and discharges. To measure patients' exposure to high-workload shifts, they constructed measures of below-target staffing and high turnover, each of which increases the workload for nurses. RN staffing was normalized to 8-hour blocks of time that correspond to common notions of shifts. They obtained target RN hours for each unit and shift, which were generated by a well-calibrated and audited commercial patient-classification system. They used Cox proportional-hazards models in the analyses with adjustment for characteristics of patients and hospital units. The risk of death increased with increasing exposure to shifts in which RN hours were 8 hours or more below target staffing levels or there was high turnover. The estimated risk of death increased by 2% for each below-target shift and 4% for each high-turnover shift to which a patient was exposed. It was also found that the risk of death among patients increased with increasing exposure to shifts with high turnover of patients.

Rauhala, A., Kivimaki, M., Fagerstrom, L., (2007). What degree of work overload is likely to cause increase sickness absenteeism among nurses? Evidence from 877 nurses from five different Finnish hospitals, including 31 different wards. Patient-associated workload scores from the RAFAELA system were based on a 6-month monitoring period in 2004. Records of patient-associated workload scores were used to develop measures of below-target staffing and high turnover. They measured patient-associated workload scores from the RAFAELA system were used to develop measures of below-target staffing and high turnover. They measured patient-associated workload scores and high turnover. RAFAELA patient-classification system indicates nursing care intensity in relation to an optimum and is one of the few validated. The RAFAELA patient classification system indicates nursing care intensity in relation to an optimum and is one of the few validated. This paper reports a study examining whether nurses’ work overload is associated with increased sick leave and quantifying the loss of working days from work overload. The mean workload was 9% (sd = 8%) above the optimum. There was a linear trend between increasing workload and increasing sick leave (P ≤ 0.006). Among nurses with workload ≥30% above the optimum the rate of self-certified periods of sick leave was 1.44 (95% CI 1.13–1.82). These excess rates of sickness absence resulted in 12 extra sick leave days per person-year. Measuring nurses’ workload and aiming to prepare fair assignments that do not overwork nurses may be an important part of strategic human resource management of nurses to reduce sick leave among nurses.
the RAFAELA patient classification system.

monitoring instruments of patient-associated workload among nurses.

of 12-month self-certified (1-3 days) and medically certified (>3 days) periods of sick leave in the same year were obtained from employers' registers.

1.83) times higher than among those with an optimum workload. The corresponding rate ratio for medically certified sick leave was 1.49 (1.10–2.03).

Translation:

Traditional patient classification systems (PCS) have been in use since the early 1930s. These systems were designed to reflect timed nursing activities and tasks. They were perceived to be insensitive to the role of the professional nurse and the nursing process. The original intention to use the PCS was for daily staffing and/or unit budgeting. Many important variables, such as length of stay, staff competencies, skill mix, etc., were missed in determining staffing levels based on a time-task PCS model. As a result, there was dissatisfaction with using such models and eventually these systems were abandoned by many hospitals.

Current literature reviews acknowledge that PCS are not effective solely for the purpose of guaranteeing adequate staffing. It is shown through the literature that there is incomplete research regarding which Patient Classification System is the most effective. There is an adequate amount of research that shows an increase in patient outcomes when nurses are provided with the sufficient amount of time needed to provide appropriate care. Increased patient outcomes can include a decrease in decubiti ulcers, medication errors, and inpatient mortality. Studies have also shown an increase in nursing satisfaction and retention when nurses are given a patient assignment that is considered manageable and not overloaded.

Implementation Strategies:

Due to the lack of research regarding the most effective Patient Classification System, the EBP council will aim to develop an original tool, that can be modified and individualized for each unit’s needs. The goal will be to develop a simple tool that can be utilized by the charge nurse to support decision making while assigning patients for the next shift. EBP will aim to develop a tool that does not minimize the importance of the nurse’s judgments.
References listed.


