

Pre-Implementation Evaluation of Nursing Patient Acuity Tools (PAT)

Authors: Todd A. Horstman, MD & Marcos A. Teran, MD

Introduction

Studies report improvement of hospital measured nurse satisfaction, employee turnover, and patient-centered outcomes with use of patient acuity tools (PAT) to evenly distribute patients.^{1,11,21,41} Currently there is no standardized method for measuring patient acuity across hospitals which range in patient factors included for case mix index to nursing tasks to written and electronic versions. Fig. 1 is an example of a paper PAT previously used on the med-surg floor at South Campus (SC). The goals of this study are to first evaluate nursing use, perception, and satisfaction after implementation of an electronic PAT linked with Cerner EHR.

Methods

A six item standardized questionnaire was used to evaluate the SC Nursing Staff's experience with patient acuity tools (Fig 2). Subjects were selected only if they were registered nurses (RN) working on the med surg floors at Banner South Campus Hospital. In total 30 RNs were surveyed. They were observed while filling out the survey, prior to or just after a shift.

Figure 1. Previous PAT

Nursing Survey on Patient Acuity Tool - Pre-Cerner

1. Have you ever used a patient acuity tool?
Yes No

2. If not using a patient acuity tool, what most closely represents the reason(s):
Time-consuming Not helpful Busy with other work
Difficult to use No tool available
Other: _____

3. How was the patient acuity tool performed?
Written Verbal Electronic

4. If you are currently using a patient acuity tool, how useful is it to you in providing patient care?
(not useful) 1 2 3 4 5 (very useful) OR: not applicable

5. In the last 1 month, how often have you used a patient acuity tool?
Never Rarely Half the Time Most the Time Always

6. In the last 1 month, do you feel patient assignments are equally distributed for your shift?
Never Rarely Half the Time Most the Time Always

Figure 2. Survey used

Results

83% of the South Campus RN staff report ever using a PAT. 27% report using one in the last 30 days. Table 1 represents the most common barriers reported by the RN staff to using a PAT.

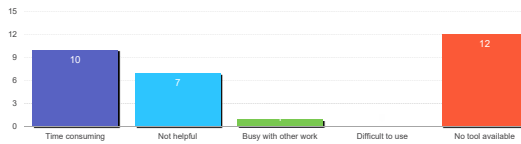


Table 1. Barriers

Table 2 shows the most common PAT formats reported. The Usefulness of PATs was given an overall grade by the RN staff and is represented in table 3.

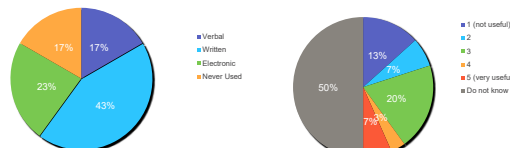


Table 2. Format

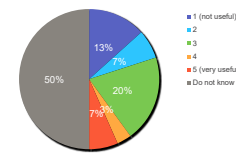


Table 3. Usefulness

Table 4 represents how often in the last 30 days the SC RN staff feels the patient assignments were equally distributed.

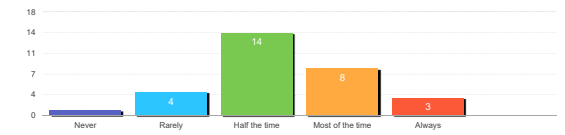


Table 4. Patient assignments

Conclusions

Currently, the majority of RNs surveyed have used a PAT, but in the last month only 27% report using in the last month. The degree of use may be associated with the barriers reported in Table 1 and the precepted usefulness of the tool (Table 3). Once the electronic PAT is implemented, the use and perceptions will be remeasured after 30 days of use. We anticipate higher degree of use with electronic input of PAT data and higher satisfaction base on previous studies with ease-of-use of PAT software.³ Further studies should include correlation with Medicare case-mix index, length of stay, patient outcomes and satisfaction compared to published PATs.

Limitations in this study include unanticipated delay of implementation of the PAT, ongoing improvement of new EHR, nurse turnover.

References

1. Firestone-Howard, B. *The Effects of Implementing a Patient Acuity Tool on Nurse Satisfaction in a Pulmonary Medicine Unit.* *Nursing Administration Quarterly* 41(4), pg 65, (Oct 2017).
2. Dalton, M et al. *Factors that influence nurses' assessment of patient acuity and response to acute deterioration.* *British Journal of Nursing.* 27(4), 212-218. (Feb 2018).
3. Kordio, E, et al. *Predicting patient acuity from electronic patient records.* *Journal of Biomedical Informatics.* 51, 35-40 (April 2014)
4. Sir, M, et al. *Nurse-patient assignment models considering patient acuity metrics and nurses' perceived workload.* *Journal of Biomedical Informatics.* 55, 237-248. (April 2015)

Acknowledgments

This project was mentored by V. McCurry and S. Gephart, whose help is acknowledged with great appreciation. Nurses of Banner South Campus for their participation and commitment to patient care.