

# Implementing a Patient Acuity Tool to Address Fair Nursing Assignments

Tonny Mao

Baylor St. Luke's Medical Center, Houston, Texas, USA

Email: maotonny13@gmail.com

**How to cite this paper:** Mao, T. (2025) Implementing a Patient Acuity Tool to Address Fair Nursing Assignments. *Open Journal of Nursing*, 15, 592-600.

<https://doi.org/10.4236/ojn.2025.158043>

**Received:** June 24, 2025

**Accepted:** August 11, 2025

**Published:** August 14, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

**Aim:** Creating a fair nursing assignment by utilizing a patient acuity tool.

**Background:** Creating a nursing assignment by patient-nurse ratios oftentimes leads to dissatisfaction of assignment and unfair workloads. Barriers in creating a fair nursing assignment are ineffective distribution of patients and patient acuity. After a comprehensive literature review and a unit-based needs assessment, a 30-bed unit will create fair nursing assignments by implementing a patient acuity tool. **Methods:** A modified unit-specific patient acuity tool. Nurses' self-surveys pre-and post-implementation of the patient acuity tool over a 6-month period. **Results:** Surveys reveal nurses are satisfied with their nursing assignment post-implementation over a 6-month period. The tool captured a good representation of the patients' acuity with 67% of charge nurse respondents say they utilize the tool when making nursing assignments. **Conclusion:** Staff were satisfied with their nursing assignment by utilizing a unit-specific patient acuity tool.

## Keywords

Patient Acuity Tool, Nursing Assignment

## 1. Introduction

The nursing assignment, a task that requires optimizing between unique patient needs and routine complex tasks, is a challenging nurse management skill at the end of the shift that often does not get distributed amongst nurses well [1]. So, balancing this workload mitigates unfair assignment distributions [1]. Typically, the nursing assignment is created by counting how many patients in a unit divided by how many nurses are available, for instance, 30 patients with 6 available nurses will equal to 5 patients per nurse; however, this nurse-to-patient ratio fails to balance between patients' acuity and complexity of nursing tasks that oftentimes re-

sult in dissatisfaction with nursing assignments [2]. Furthermore, this dissatisfaction often leads to high workloads [3]. These high nursing workloads are a significant contributing factor to detrimental patient outcomes [4]. By balancing nursing workloads through patients' acuity rather than nurse-to-patient ratios, it mitigates unfair nursing assignments and subsequently detrimental patient outcomes; it also improves quality of patient care [5] [6]. A patient acuity tool was developed to categorize and score various nursing tasks for each patient and to help establish a way to create fair nursing assignments [7].

Electronic databases CINAHL, PubMed, and Ovid were utilized with keywords: patient acuity tool and nursing assignment. Inclusion criteria applied to studies published in the last 5 years. CINAHL resulted in 28 studies, Ovid resulted in 304 studies, and PubMed resulted in 2680 studies. After appraising multiple studies, 8 studies selected came from various nursing journals with 1 study, Ingram & Powel, from the website myamericannurse.com due to its relevancy. 8 articles were implementation projects with one study by Ko *et al.* utilized a Delphi technique on content validity of various nursing tasks.

## 2. Method

**Table 1** shows a pre-intervention quick survey of 3 questions utilized to identify and assess what should be considered in the acuity tool. 90% of respondents are unhappy with their current assignment and are not created fair or equal and would want a method on creating a fair nursing assignment. Answers for question 3 detailed multiple reasons are unfair includes: "heavy patient workload", "intensive tasks", "having two patients that both have IV heparin", "I have patients that require a lot of routine tasks like toileting and pain medication every 3 to 4 hours".

**Table 1.** Pre-intervention survey responses: 22 surveys.

	Yes	No	% of No/number of surveys (22)
Question 1—Are you happy with your assignment?			
Question 2—Assignments are created fair and equitable			
Question 3—If you feel that the assignment is not equitable, please describe why?			
Question 1	2	20	90%
Question 2	2	20	90%

### 2.1. Setting

A 30-bed medical/surgical unit primarily cardiovascular was selected for this project by modifying "Firestone-Howard *et al.*" and "Ingram & Powell" patient acuity tool.

### 2.2. Tool

The tool consists of 5 broad care item areas: routine care procedures, educational

teaching, psychosocial, IV medications, and pain schedule. The nurses will check a box specific to each patient with higher scores indicating higher acuity tasks. Unit specific tasks such as TPW (temporary pacing wires) wires are incorporated compared to the referenced patient acuity tool [8] [9]. Also, some items have different scores, such as high fall risk being scored a 2 rather than a 4 [9]. Each nurse will tally up all pertinent boxes relevant to the patient to give a score for each patient at the end of the shift. Scores that are between 1 - 7 are considered low acuity, 8 - 15 are considered medium acuity, and anything 15+ is considered high acuity. **Figure 1** details a modified patient acuity tool with unit specific tasks. Nurses are encouraged to add any additional comments, and unique patient needs when necessary; for example, IV medications that require special attention need to be addressed, whether its frequency, strength, etc. should be written and explained. After all scores are tallied up, the charge nurse will assign patients equitably for all nurses; for example, nurse A cannot take a 4-patient assignment with scores: 15, 20, 11, and 8 and nurse B takes an assignment with scores: 3, 4, 8, and 9. The total score for nurse A will be 54 versus the total score for nurse B is 24. A disproportionate score disparity of 20 will be considered too much, which will result in nurse dissatisfaction with assignment. This distribution of patient acuity scores that affects creating fair nursing assignments.

Room #:		Total Score:		
Acuity Category	1	2	3	4
Routine Care procedures	<input type="checkbox"/> TPW wrapped <input type="checkbox"/> JP Drain <input type="checkbox"/> Wound vac <input type="checkbox"/> Foley <input type="checkbox"/> CVC line (dialysis &/or PICC) <input type="checkbox"/> Isolation	<input type="checkbox"/> NG tube/Tube feeding <input type="checkbox"/> Incontinent <input type="checkbox"/> Frequent I/O due to diuresis <input type="checkbox"/> Intermittent Straight Cath <input type="checkbox"/> Recent Fall <input type="checkbox"/> Dialysis next day	<input type="checkbox"/> Chest Tubes <input type="checkbox"/> TPW connected to external pacing box <input type="checkbox"/> Total feeds <input type="checkbox"/> x2 assist <input type="checkbox"/> Recent rapid response (within last shift)	<input type="checkbox"/> Restraints <input type="checkbox"/> Trach care <input type="checkbox"/> Wound care (not incisional maintenance)
Educational Teaching	<input type="checkbox"/> Patient on Tele	<input type="checkbox"/> Communication Barrier (language) <input type="checkbox"/> ED/Direct Admission <input type="checkbox"/> Recent Rhythm Change	<input type="checkbox"/> Discharge today (night shift to report) <input type="checkbox"/> Pre-Op, NPO at night	
Psychosocial		<input type="checkbox"/> High fall risk <input type="checkbox"/> Challenging discharge	<input type="checkbox"/> Confused/Sundowning <input type="checkbox"/> Demanding pt/family (routine self-care) <input type="checkbox"/> Frequent call light	<input type="checkbox"/> Sitter need <input type="checkbox"/> Non-compliant
IV medications	<input type="checkbox"/> IV Dobutamine <input type="checkbox"/> IV Milrinone <input type="checkbox"/> TPN <input type="checkbox"/> IV Bumex/Lasix push	<input type="checkbox"/> IV antibiotics push or daily <input type="checkbox"/> IV Heparin (fixed rate) <input type="checkbox"/> Difficult IV insertion/blood draw/cultures	<input type="checkbox"/> IV Heparin/Argatroban (titration rate) <input type="checkbox"/> IV Amiodarone <input type="checkbox"/> IV Bumex/Lasix continuous <input type="checkbox"/> Multiple IV antibiotics q6 &/or q8 <input type="checkbox"/> Misc. IV medications	<input type="checkbox"/> Blood/blood products
Pain schedule	<input type="checkbox"/> Scheduled q6 & q8 or less	<input type="checkbox"/> Infrequent PRN q6 & q4	<input type="checkbox"/> Frequent PRN q6 & q8 <input type="checkbox"/> PCA pump	<input type="checkbox"/> Demanding PRN q3 & q4 (strict)

**Figure 1.** Patient acuity tool.

### 3. 6 Month Tracking of Patient Acuity Tool

**Figures 2-7** are graphs of acuity tools gather each day for 6 months. All acuity tools at the end of the shift, both day and night, are collected and are tallied up to capture how many low, medium, and high acuity patients at a given day. Some days are missing due to staff forgetting to complete the acuity tool, not having enough time, or indifference towards filling out the tool.

### ACUITY OVER THE MONTH OF MARCH 2024

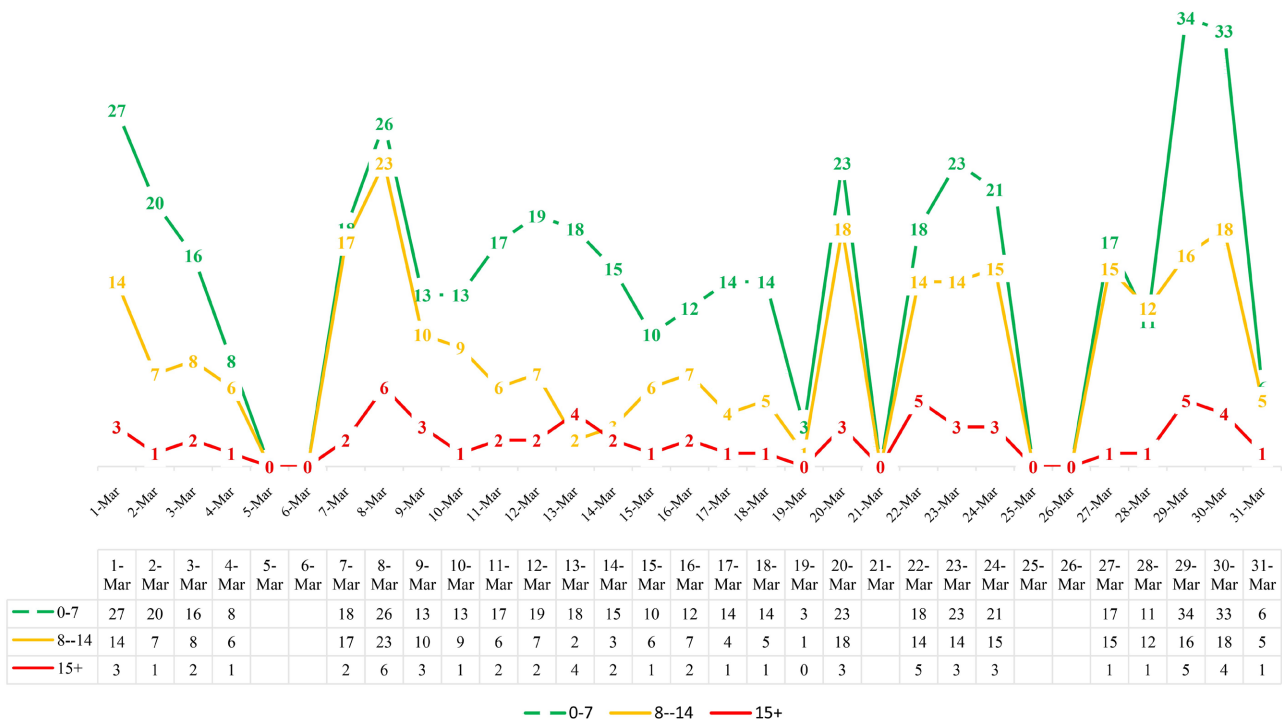


Figure 2. Acuity over the month of March 2024.

### ACUITY OVER THE MONTH OF APRIL 2024

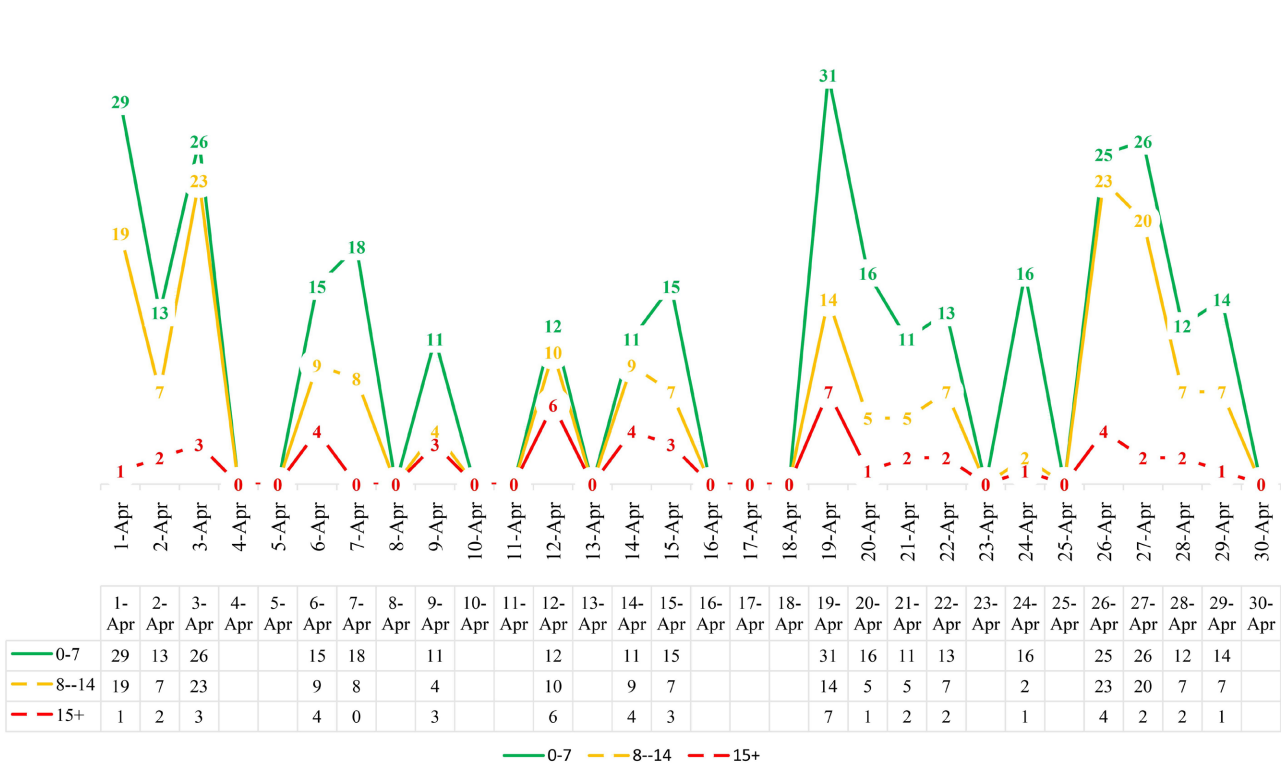


Figure 3. Acuity over the month of April 2024.

### ACUITY OVER THE MONTH OF MAY 2024

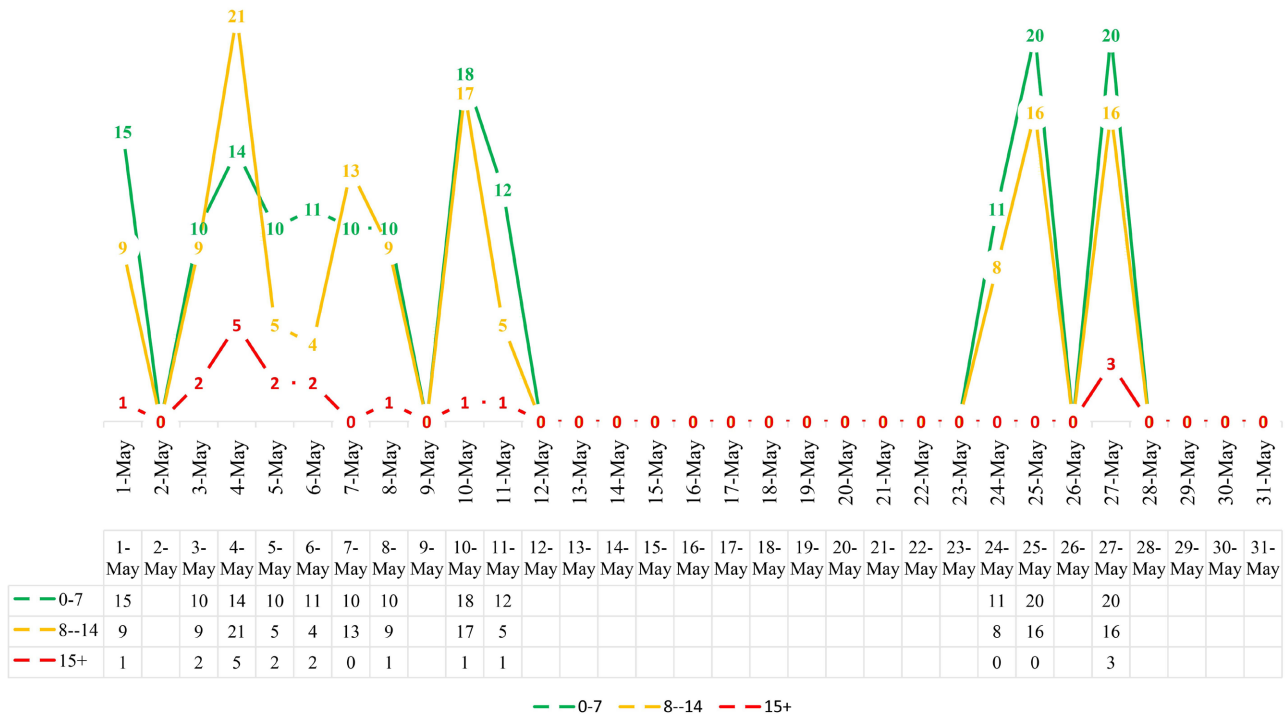


Figure 4. Acuity over the month of May 2024.

### ACUITY OVER THE MONTH OF JUNE 2024

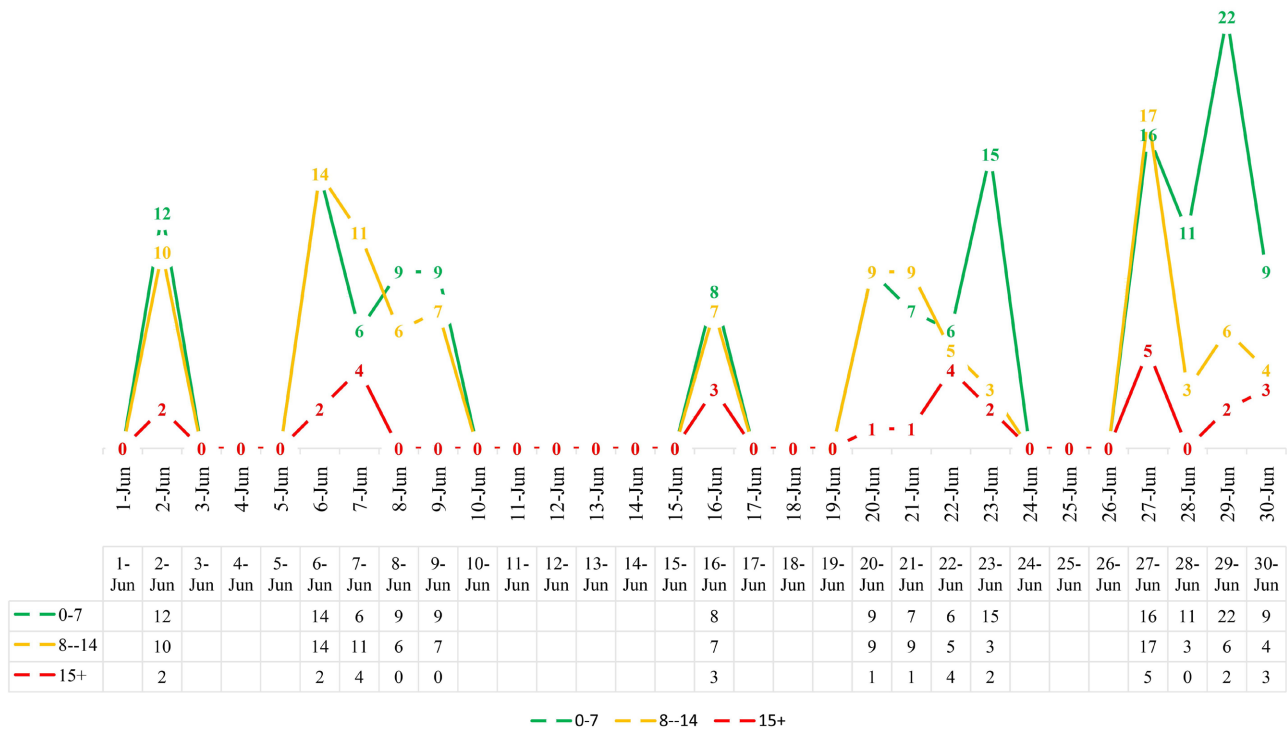


Figure 5. Acuity over the month of June 2024.

### ACUITY OVER THE MONTH OF JULY 2024

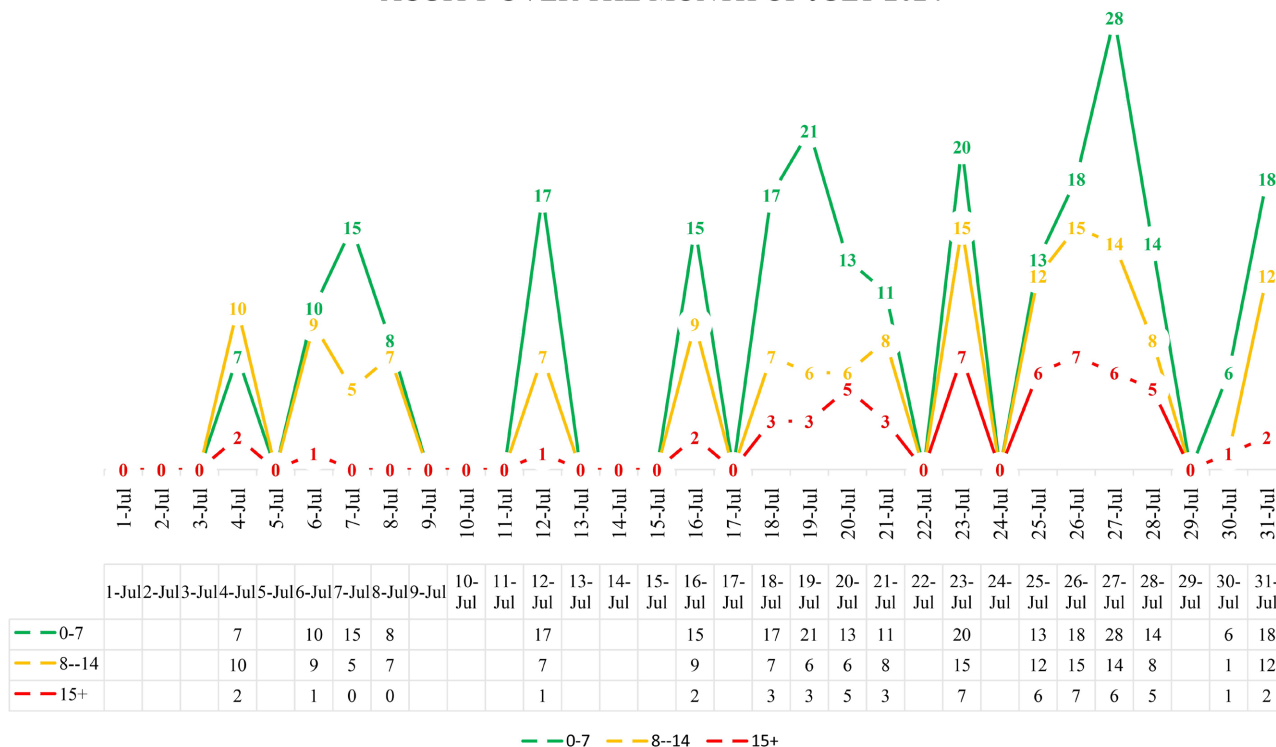


Figure 6. Acuity over the month of July 2024.

### ACUITY OVER THE MONTH OF AUGUST 2024

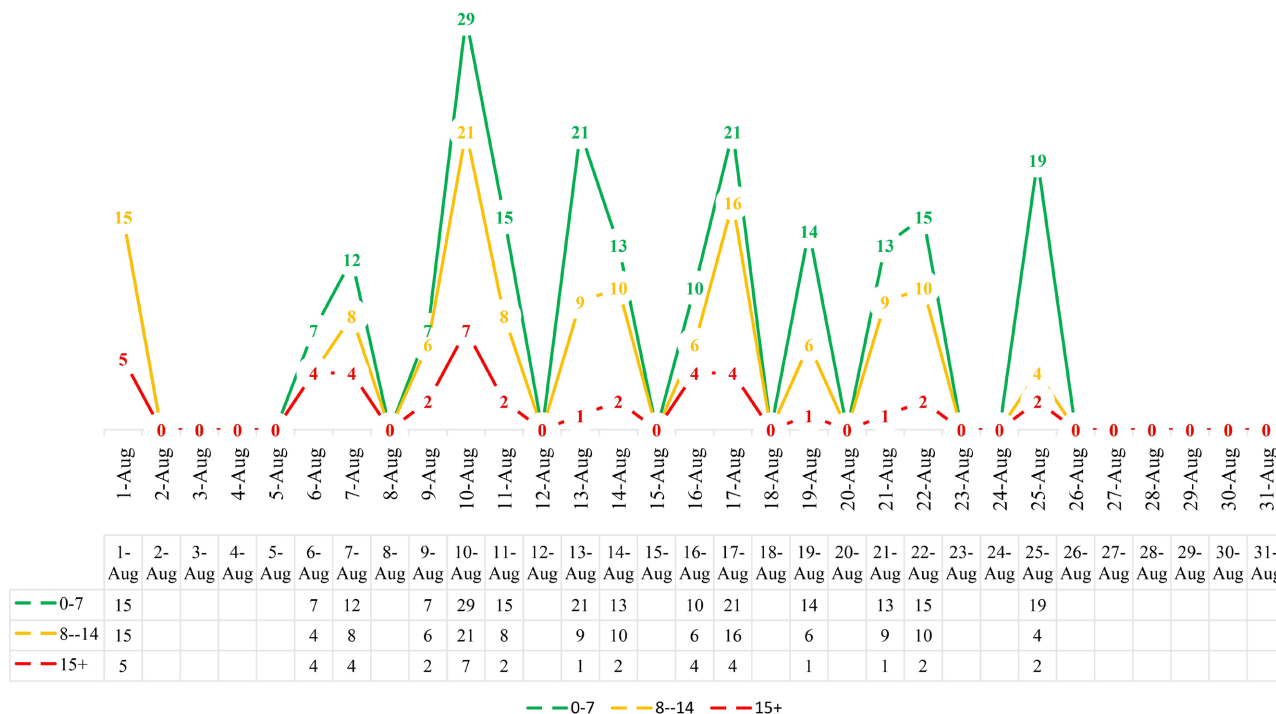


Figure 7. Acuity over the month of August 2024.

## 4. Results

**Table 2** and **Table 3** details the post-intervention survey after implementation for 6 months. Overall, the staff was satisfied with the assignments. Question 6 addressed whether the acuity tool was easy to fill out; 95% of responses were satisfied. Question 5 addressed whether geographical distribution has any consideration for making assignments. 46% of respondents feel that geographical distribution should be considered when making the assignment. Question 8 positive comments: “simple”, “easy to use”, “quick to fill out”, “it shows how difficult the patient is”, “consideration of time required for individual patient needs by dividing up the workload”, “the scoring was helpful”, “putting on paper why or why not patient is heavy”, “helpful in making the assignment”, and “detailed”. Improvements on the patient acuity tool suggested including “certain IV medications (Bumex, Lasix, Milrinone) at a score of 3”, “High fall risk should be a 3”, “increasing scores on antibiotics and tube feeding”, “a score for blood sugar checks”, and “a score for sitter needs, both virtual and ‘at bedside’”.

**Table 2.** Post-intervention survey responses: 22 surveys.

Question 1—Are you happy with your assignment.			
Question 2—Assignments are created fair and equitable.			
Question 3—If you feel that the assignment is not equitable, please describe why?			
Question 4—For those who did the role of the charge RN, do the scores reflect the best of the nurse’s knowledge when making nursing assignment?			
Question 5— Geographic distribution is more/less/same in consideration for making assignment.			
Question 6—Is the acuity tool easy to use and fill out?			
Question 7—Do you feel this acuity tool has improved your satisfaction with your workflow? In other words, do you feel this acuity tool has improved the unit as a whole?			
Question 8—If you have any suggestions on what to improve or what you like about the acuity tool please describe.			
	Dissatisfied	Satisfied	% of satisfied/total surveys
Question 1	7	15	68%
Question 2	5	17	77%
Question 4	4	8	67%
Question 6	1	21	95%
Question 7	5	17	77%

**Table 3.** Question 5: Geographic distribution is more/less/same in consideration for making assignment.

Answer	Number of responses	% of response/total surveys
consideration	10	45%
Can go either or	8	36%
Does not affect my assignment	4	18%

Nursing participants agreed that the patient acuity tool is effective in prioritizing care that influences the fairness of acuity distribution with the nursing assignment. With the ease of the tool, confusion and disagreements decrease because there exists a systematic way in categorizing patient acuity. Therefore, a nurse with four patients and another with three patients can feel satisfied knowing the rationale behind the distribution rather than strictly basing the assignment on nurse-to-patient ratios [2].

## 5. Strengths and Limitations

One of the strengths highlighted was the fairness of the assignment. Another noteworthy discussion was being able to rationalize the workload. Many respondents cite that the acuity tool greatly captures the patients' acuity with many saying that it helps create fair nursing assignments. The charge nurses that were responsible for creating the nursing assignment for the oncoming shift utilize the patient acuity tool in creating the assignment. 67% of charge nurses utilize the patient acuity tool in creating the assignment. Eastman & Kernan highlighted 92% of 13 charge nurses survey respondents utilized the tool in creating the nursing assignment [3]. In this project, 77% of nurses surveyed were satisfied with their work citing that the patient acuity tool has improved the unit.

Despite the flexibility and strengths outlined in the project, there are limitations. Compliance is needed to sustain the usage of the patient acuity tool, May 2024 did not capture several days of the patient acuity tool and subsequent months; moreover, Powel and Ingram noted during their study, charge nurses taking a patient assignment when nurse census was low, who oversaw the nursing assignment, were unable to capture and utilize the tool data to make the nursing assignment heavily influenced whether the staff could or could not fill out the tool [9]. Another noteworthy limitation is the valuation of the scoring, which could be subjective judgments based on a multitude of factors: education, nurses' experiences, administration, etc. So, expert nurses should evaluate the content validity of each individual acuity item [6]. Finally, the generalizability of the tool is limited because the patient acuity tool was only implemented in one unit from a hospital. Johnson *et al.* implementation study noted that a small sample size limits generalization [10].

## 6. Conclusion

The utilization of the patient acuity tool has positive influences on nursing assignments. Replicating this study in another unit is essential to evaluate the reliability of a patient's acuity tool. By assessing a unit's patient acuity and creating a unit specific patient acuity tool, fair nursing assignments can be created.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

## References

- [1] Al-Dweik, G. and Ahmad, M. (2020) The Effect of Patients' Acuity Level on Nurses Shift Assignment in Jordan: A Qualitative Approach. *Journal of Nursing Measurement*, **28**, 404-418. <https://doi.org/10.1891/jnm-d-18-00101>
- [2] Kucera, P., Kingston, E., Ferguson, T., Jenkins, K., Fogarty, M., Sayles, H., *et al.* (2022) Effects of Implementing an Acuity Tool on a Psychiatric Intensive Care Unit. *Journal of Nursing Care Quality*, **37**, 313-318. <https://doi.org/10.1097/ncq.0000000000000652>
- [3] Eastman, D. and Kernan, K. (2022) A New Patient Acuity Tool to Support Equitable Patient Assignments in a Progressive Care Unit. *Critical Care Nursing Quarterly*, **45**, 54-61. <https://doi.org/10.1097/cnq.0000000000000388>
- [4] (2023) National Database of Nursing Quality Indicators (NDNQI): A Press Ganey Solution. <https://www.health-links.me/web/ndnqi.html>
- [5] Ilaio, C., Nairon, E.B., Cuffee, M. and Olson, D.M. (2024) Implementing MATRIX Acuity Tool to Improve Nursing Satisfaction on a Stroke and Epilepsy Monitoring Unit. *Applied Nursing Research*, **80**, Article 151868. <https://doi.org/10.1016/j.apnr.2024.151868>
- [6] Ko, Y., Park, B., Lee, H. and Kim, D. (2022) Development of a Patient Classification System for Critical Care Nursing Based on Nursing Intensity. *International Journal of Nursing Practice*, **29**, e13128. <https://doi.org/10.1111/ijn.13128>
- [7] Paliga, G., Cunningham, J., McDowell, A. and O'Mara, M. (2023) Implementation of a Patient Acuity Tool and Safe Staffing Model in an Outpatient Oncology Clinical Trials Unit. *Clinical Journal of Oncology Nursing*, **27**, 424-431.
- [8] Firestone-Howard, B., Zedreck Gonzalez, J.F., Dudjak, L.A., Ren, D. and Rader, S. (2017) The Effects of Implementing a Patient Acuity Tool on Nurse Satisfaction in a Pulmonary Medicine Unit. *Nursing Administration Quarterly*, **41**, E5-E14. <https://doi.org/10.1097/naq.0000000000000254>
- [9] Ingram, A. and Powell, J. (2023) Patient Acuity Tool on a Medical-Surgical Unit. *American Nurse*. <https://www.myamericannurse.com/patient-acuity-medical-surgical-unit/>
- [10] Johnson, K., Haines, J., Woock, L., Madden, B., Sundstrom, G. and Razo, S. (2023) Implementing a Patient Acuity Tool: Perceived Effectiveness for More Equitable Staff Assignments. *Nursing*, **53**, 53-58. <https://doi.org/10.1097/01.nurse.0000919000.40286.de>