



# Patient-acuity Scales and Equitable Nurse Staffing

PICO: Do patient-acuity scales create equitable nurse staffing vs. standard census staffing?



By: Lia Breeden, Senior Nursing Student, University of New Hampshire

## What is a Patient-acuity Scale?

- Acuity is the measurement of nursing care required by a patient
- Regulates the number of nurses needed on a unit
- The unit manager oversees the floor acuity to determine where float nurses are placed
- Difficulty arises when nurses are assigned by the same number of patient's without regard to acuity

## Effects of Heavy Nursing Workloads

- Tasks not completed
  - “On average four nursing care tasks left undone per shift” (MacPhee, Dahinten, Havaei, 2017)
- Increased chance of adverse events
  - Pneumonia
  - Shock
  - Cardiac arrest
  - UTI's
  - Falls
- Increased costs due to adverse events
- Increased nurse dissatisfaction, turnover, and burn-out
- Decreased patient satisfaction
- Decreased quality of care (Stanton, 2004)

## Current Practice

Acuity Category	4	3	2	1
Patient Care	<ul style="list-style-type: none"> <li>• Total Care/feed</li> <li>• AMS, Restless, combative, restraints</li> <li>• Vitals/neuro q4h</li> <li>• High scores CIWA</li> </ul>	<ul style="list-style-type: none"> <li>• High flow O2</li> <li>• Complex Wound</li> <li>• Vitals/Neuro q2</li> <li>• Peritoneal Dialysis</li> <li>• Med. Score CIWA</li> <li>• Virtual Sitter</li> <li>• 2+ RN Lab Draw</li> <li>• Multiple Chest Tubes</li> <li>• Temp pacing</li> <li>• TR Band Removal</li> </ul>	<ul style="list-style-type: none"> <li>• BIPAP/CPAP HS</li> <li>• PICC/Central Line</li> <li>• NG Tube</li> <li>• Incontinent</li> <li>• High Fall Risk</li> <li>• Ostomy</li> <li>• Assist with ADL's</li> <li>• Low Score CIWA</li> <li>• Routine Wound Care</li> <li>• Chest Tube x1 or to water seal</li> <li>• Pre-op heart prep</li> </ul>	<ul style="list-style-type: none"> <li>• Standard Tele</li> <li>• VS q4h</li> </ul>
Medications	<ul style="list-style-type: none"> <li>• Titrating Cardiac Drips</li> <li>• Insulin Drip</li> <li>• Dobhoff</li> </ul>	<ul style="list-style-type: none"> <li>• &gt;5 IV meds</li> <li>• Non-titrating cardiac drips</li> <li>• Blood</li> </ul>	<ul style="list-style-type: none"> <li>• 2-5 IV meds</li> <li>• PCA, epidural</li> <li>• TPN/Lipids</li> <li>• Electrolyte Protocol</li> <li>• Heparin gtt</li> <li>• Diabetic with coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Standard meds</li> </ul>
Education, Psychosocial, Safety, or other interventions (pt and family)	<ul style="list-style-type: none"> <li>• &gt;10 per shift</li> </ul>	<ul style="list-style-type: none"> <li>• 6-10 per shift</li> <li>• End of life</li> </ul>	<ul style="list-style-type: none"> <li>• 3-5 per shift</li> <li>• Cardiac/CABG discharge</li> </ul>	<ul style="list-style-type: none"> <li>• &gt;2 per shift</li> </ul>

## Recommendation

Acuity Care Category	4	3	2	1
Complicated Procedures	<ul style="list-style-type: none"> <li>• Total Care (2)</li> <li>• Restraints, Combative, Restless, AMS (2)</li> <li>• Vitals and neuro q2h</li> <li>• Hourly CIWA scores (2)</li> <li>• Continuous BIPAP</li> </ul>	<ul style="list-style-type: none"> <li>• High Flow Oxygen</li> <li>• Chest Tubes</li> <li>• CBI</li> <li>• Peritoneal Dialysis</li> <li>• Complex wounds</li> <li>• VAC Dressing Change</li> <li>• Vitals/Neuro q4h</li> <li>• Moderately Scoring CIWA</li> <li>• Virtual Sitter</li> <li>• TR Band Removal</li> <li>• Temp Pacing</li> <li>• Contact Precautions</li> </ul>	<ul style="list-style-type: none"> <li>• Trach Care</li> <li>• NG Tube</li> <li>• Fall Risk</li> <li>• Central Line/PICC</li> <li>• Incontinent</li> <li>• Intermittent BIPAP</li> <li>• Ostomy Care</li> <li>• Assist with ADL's</li> <li>• Chest Tube x1</li> <li>• Pre-op heart prep</li> <li>• Low CIWA</li> <li>• Routine Wound care</li> <li>• RN Lab draws</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous Pulse Oximeter</li> <li>• Foley</li> <li>• Suction</li> <li>• VS q4h</li> <li>• Telemetry</li> <li>• EKG</li> </ul>
Complicated IV medications and other medications	<ul style="list-style-type: none"> <li>• Cardiac Drips</li> <li>• Blood or Blood Product Transfusions (2)</li> <li>• Insulin Drips</li> <li>• Dobhoff</li> </ul>	<ul style="list-style-type: none"> <li>• &gt; 5 IV meds</li> </ul>	<ul style="list-style-type: none"> <li>• 2-5 IV meds</li> <li>• TPN</li> <li>• Lipids</li> <li>• PCA, epidural</li> <li>• K-Rider</li> <li>• Diabetic with coverage</li> <li>• Heparin Drip</li> </ul>	<ul style="list-style-type: none"> <li>• &lt; 2 IV meds</li> <li>• KVO Fluids</li> </ul>
Oral Medications including PRN's given	<ul style="list-style-type: none"> <li>• &gt;16</li> </ul>	<ul style="list-style-type: none"> <li>• 11-15</li> </ul>	<ul style="list-style-type: none"> <li>• 6-10</li> </ul>	<ul style="list-style-type: none"> <li>• 1-5</li> </ul>
Psychosocial or Therapeutic Interventions	<ul style="list-style-type: none"> <li>• &gt;10 call bells per shift (2)</li> <li>• &gt;10 family interactions per shift (2)</li> </ul>	<ul style="list-style-type: none"> <li>• 5-10 call bells</li> <li>• 5-10 family interactions per shift</li> </ul>	<ul style="list-style-type: none"> <li>• 2-5 call bells</li> <li>• Admission</li> </ul>	<ul style="list-style-type: none"> <li>• Less than 2 call bells</li> <li>• CMO</li> </ul>
Education	<ul style="list-style-type: none"> <li>• New diagnosis</li> <li>• Multiple conditions</li> <li>• Inability to comprehend</li> </ul>	<ul style="list-style-type: none"> <li>• DC Planned Pre- or Post-op procedure</li> <li>• Family Education</li> </ul>	<ul style="list-style-type: none"> <li>• New medication</li> <li>• CHF</li> <li>• DM</li> </ul>	<ul style="list-style-type: none"> <li>• Standard</li> </ul>

## Current Evidence

- Staffing not adjusted during high turnover rates
  - Increased mortality when understaffed by just one RN
- Nurses' voice in workload adds value to nursing care processes
- Study at Indiana University Memorial Hospital implemented a 5-category patient-acuity scale to improve equitable staffing
  - Improved from 7 to 55% satisfaction of assignment
- John's Hopkins trialed a new acuity-adjusted staffing model
  - Decrease in overtime hours, and nursing expenses
  - 3 month fall free to present
  - 94% effectiveness of scale, 89% reflective of nursing workload
- Staff adjustment by acuity decreases cost per-patient

## Clinical Implications

- 5-category acuity scale
- Check-off boxes in each category
- Acuity Score >60, 1:3 nurse-patient ratio
- In the future, acuity should be linked to online documentation
- More reflective of time needed for interventions