

Establishing Criteria for 1:1 Staffing Ratios

R. Colette Hartigan, RN, BSN, MBA, CCRN

The current reality of old and new challenges that nurses will continue to face in the 21st century include managed care, for-profit HMOs, third party payers, caring for the chronically ill elderly, aging in the nursing profession, the impending shortage of critical care nurses, and innovative efforts at reducing waste and improving efficiency. Mergers and acquisitions have led to unstable working conditions resulting in the potential of too little time to deliver effective care. Staff-to-patient ratios are seen as targets for reducing costs; higher ratios mean less time to complete required procedures and meet patient care and family comfort needs. Consequently, nurses must take a more patient-centered approach and adopt a framework of practice that supports our values when we review patient classification systems and staffing ratios.

Finding a Model

AACN Certification Corporation first described the Synergy Model (1) of practice that linked 8 patient characteristics to 8 nurse characteristics in such a synergistic way to achieve optimal patient outcomes.

Patient characteristics include stability, complexity, vulnerability, resiliency, and predictability; resources available; and patients' ability to participate in their care and decision making. Nurse characteristics, or competencies, are evidenced by sound clinical judgement and ability to advocate and respond to a patient's uniqueness, collaborate with colleagues, recognize holistic interrelationships, respond to diversity, show evidence of clinical inquiry, and demonstrate an ability to facilitate learning (see Table).

The Synergy Model is adaptable to all areas of nursing practice including determining staffing criteria for intensive care units (ICUs). Many hospital administrators look only at numbers to determine staffing without factoring in the severity and complexity of patients. Nurses are constantly asked to justify additional staff to balance patients' needs with nurses' competencies. Feedback from nurses shows that traditional ICU staffing does not adequately recognize unique patient needs but rather focuses on the technical and mechanical assistance patients require. Using the Synergy Model to determine staffing may result in more patient-centered care and better use of resources.

Patient Characteristics

Stability refers to a patient's ability to maintain a steady-state equilibrium.

Complexity is the intricate entanglement of 2 or more systems (e.g. body, family, therapies).

Vulnerability refers to a patient's susceptibility to actual or potential stressors that may adversely affect outcomes.

Resiliency is the patient's capacity to return to a restorative level of functioning by using compensatory and coping mechanisms.

Predictability is a summative patient characteristic that allows the nurse to expect a certain trajectory of illness.

Resource availability refers to resources the patient, the family, and the community bring to a situation; resources are personal, psychological, spiritual, social, technical, and financial.

Participation in decision-making and care refers to the degree to which the patient and the family engage in the plan of care and the outcome.

Nurse Characteristics

Clinical Judgement includes clinical reasoning and decision making, critical thinking, and a global grasp of the situation coupled with acquired skills.

Advocacy is the ability to represent the concerns of the patient, family and community and to help resolve ethical and clinical issues and concerns.

Response to patient uniqueness involves caring for the whole patient and family while creating a compassionate and therapeutic environment.

Collaboration promotes and encourages each person's contribution toward achieving optimal and realistic goals both for patients and colleagues.

Holistic interrelationships that exist across healthcare systems are recognized and appreciated.

Response to diversity is the ability to recognize and appreciate the individual, cultural, ethnic, spiritual, racial, and socioeconomic beliefs and values of patients, families, and colleagues.

Clinical inquiry is the ongoing process of questioning and evaluating practice through research and experiential learning.

Facilitator of learning for the patient, the family and colleagues.

Adapted from Biel M. Reconceptualizing Certified Practice. Aliso Viejo. Calif: AACN Certification Corporation; 1997.

Setting Criteria

At St. Elizabeth's Medical Center, the critical care acuity guidelines left much to individual interpretation and, therefore, each ICU had different criteria for 1:1 staffing. For example, patients

on high levels of oxygen or high-PEEP (positive-end expiratory pressure) and patients on vasoactive drugs could be classified as requiring 1:1 nursing care. To address this issue, Joan Vitello developed and chaired the Critical Care Staff Nurse Council (comprising representatives from medical-pulmonary, surgical, cardiac, post-anesthesia intensive care units, emergency department, neurology, cardiac catheterization lab, and interim cardiac care unit), which accepted the challenge of validating the criteria for 1:1 nurse-to-patient staffing ratios.

Classifying Patients

The council began by describing patients that required 24-hour nursing care (1:1 care) and could not safely be assigned to a nurse caring for another patient. Such patients are highly complex, vulnerable, and unpredictable and minimally stable with low resilience; they require many resources and cannot participate in their care. We classified them as requiring Level I care (sidebar).

Patients requiring 18 hours of nursing care per day (1:1 care) may be assigned to a nurse caring for a stable patient who is awaiting transfer to another unit. These patients are also highly complex and unpredictable but require fewer resources and can minimally participate in their care. We classified them as requiring Level II care.

Patients who require 12 hours of nursing care per day (1:2 care) may be assigned to a nurse caring for another patient requiring 12 hours of care. Such patients may need hourly assessments and/or interventions; they are moderately complex, moderately stable, and more predictable. They require Level III care. The council did not establish criteria for Level II or Level III care.

The council then surveyed their colleagues to solicit criteria for 1:1 staffing. The criteria were compiled using a medical systems approach, and a comprehensive, patient-focused list was formulated and further refined to reflect current practice. We specifically addressed the patient characteristics of stability, complexity, vulnerability, and resiliency. We agreed that patients requiring 1:1 nursing care would be highly unpredictable, unable to participate fully in decision making about their care, and resource intensive. Because the Synergy Model reflected our practice of linking patient characteristics with nursing competencies, criteria were established under the relevant patient characteristics.

Criteria for 24-Hour 1:1 Nursing Care

Stability Level I

- Patients with unstable cardiac rhythms that cause hemodynamic compromise and necessitate frequent assessments, pharmacological interventions, and/or mechanical termination of the rhythm and patients who require external cardiac pacing and/or placement of a transvenous pacemaker
- Patients who experience hypertensive or hypotensive crisis and require rapid stabilization of blood pressure
- Patients with symptomatic cardiac tamponade who require immediate intervention on the unit including drainage and stabilization
- Patients who experience inadequate myocardial perfusion who exhibit ongoing symptoms

of chest discomfort resulting in decreased cardiac output and severe hemodynamic instability

- Patients who develop symptomatic bleeding and require immediate intervention
- Patients who experience cardiac arrest and remain severely compromised requiring ventilatory and pharmacological support with continuous adjustments
- Patients who exhibit symptoms of extreme dyspnea, acute anxiety, orthopnea, and diffuse pulmonary congestion who are highly complex and vulnerable in the acute phase of their illness
- Patients who require insertion of an intracranial pressure monitoring device (ventricular drain or Camino) and demand continuous intracranial pressure monitoring with frequent assessment and interventions
- Patients with an acute change in neurological status who require continuous nursing assessment and interventions
- Nonventilated patients exhibiting life-threatening airway compromise who require frequent treatments and continuous observation
- Patients in metabolic crisis with multisystem compromise who require continuous monitoring, assessment, and interventions
- Patients who must leave the critical care area for a procedure or test and require continuous nursing assessment and monitoring for the duration of the test

Highly Complex Level I

- Patients assigned to a research protocol who require initiation into the study that necessitates documentation every 15 minutes or more often
- Patients who require a diagnostic or therapeutic intervention in conjunction with conscious sedation and recovery
- Patients who are potential organ donors who require immediate, extensive preparation and/or management
- Patients who are severely compromised and require continuous arteriovenous hemofiltration
- Patients who require pressure control ventilation in the acute stage of acute respiratory distress or ventilated patients in the critical stage of acute lung injury with high-PEEP and high oxygen requirements

Vulnerability Level I

- Patients whose families require frequent interventions including complex teaching and help resolving ethical concerns; for example, families who require counseling because they are considering terminating life support measures and/or donating organs for transplantation
- Patients exhibiting emotional trauma who require intensive care, collaboration, and coordination with other support services, including but not limited to victims of sexual assault

Resiliency Level I

- Patients in the acute phase of their illness who exhibit signs of confusion, sensory

- overload, or psychosis and require continuous assessment and immediate pharmacological interventions
- Patients who require continuous intravenous sedation and/or neuromuscular blockade for control of anxiety in the acute phase of their illness and those who exhibit withdrawal symptoms as they are weaned from long-term sedation.

Focusing on Patients

In a highly technical environment it is all too easy to focus on tubes, machines, monitors, and intravenous medications rather than on the patient and family. The Synergy Model assists us in exploring our practice and developing organizational strategies that are driven by the needs of patients, families, and the healthcare team. (2) The Synergy Model allows us to standardize the delivery of care from one ICU to another while personalizing it according to patients' needs. We are currently in the implementation phase of the model and although we have not yet evaluated its relevancy to practice, the consensus among our nursing leaders is that this model is reality-based and will allow for consistency across units. Its efficient framework permits critical care nurses to anticipate the level of care needed for patients, match patients' need with nurses' competencies, and thus achieve optimal outcomes and greater satisfaction for patients, nurses, and the healthcare team.

The ever-changing healthcare system and its challenging reimbursement regulations, the increasing need to contain costs, the aging population, and the advancing number of new technologies must not force us to lose sight of patients' needs. Instead, we must be willing to advocate for sufficient nursing care to ensure optimal outcomes for all patients and their families.

Acknowledgement

The author thanks Joan M. Vitello, RN, MSN, the Critical Care Staff Nurse Council - Karen Curtis, Suzanne Farley-Keane, Kathy Menard-Murray, Chris Moriarty, Betty Shea, Kellie Smith, Amy Tschudy - and the nursing leadership at St. Elizabeth's Medical Center for their thoughtful contributions to this article.

References

1. Curley MAQ. Patient-nurse synergy: optimizing patients' outcomes. *Am J Crit Care*. 1998;7(1):64-72.
2. Moloney-Harmon PA. The synergy model: contemporary practice of the clinical nurse specialist. *Crit Care Nurse*. 1999;9(2)101-104.