Acuity-Based Staffing as the Key to Hospital Competitiveness:
Why the Smartest Hospitals are Tying their Nurse Labor Investment to Patient Care
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At no time has managing nurse resources been more important to hospitals than today. Acuity-based nurse staffing systems are becoming the standard of care in hospitals to manage valuable nursing resource and deliver quality care. Find out why leaders are adopting technology and gain insight into successful adoption of these systems.

**ACUITY-BASED STAFFING SOLUTIONS: A FOUNDATION FOR A NEW ERA OF CFO AND CNO PARTNERSHIP**

Value-based healthcare is placing an increased focus on managing quality outcomes. Nursing is a key component of care delivery and a major cost for hospitals. This is resulting in increased attention to nurse staffing practices and costs. Hospitals have the challenge of achieving quality patient outcomes, maintaining a committed and stable nursing workforce, and delivering strong financial results – the triad that supports competitiveness.

**Figure 1**

![The optimal management of nurse staffing directly supports hospital competitiveness.](image)

Today CNOs and CFOs are forming a new level of partnership to drive optimal use of resources and assure quality care. Acuity-based nurse staffing systems play an essential role in nurse workforce programs and enable a new era of finance partnership.

Nurse staffing is generally understood to represent 35-40% of hospital costs. In acute care facilities, nursing can account for as much as 50% of total costs and provides 95% of its patient care (Nguen, 2006). Maintaining a stable nursing workforce and the mix of competencies required for quality patient care can be challenging. Nurse managers struggle with pressures to use lower-competency personnel to reduce costs and address nursing labor shortages. When nursing is under-staffed, the subsequent stress on nurses causes burnout. As many as half of nurses report insufficient time with patients and 96 out of 100 report fatigue at the beginning of a shift (ANA Nurse Staffing, 2014). A study referenced by the Agency of Health Research and Quality (AHRQ) found that each additional patient assigned to a nurse led to a 23% increase in the risk of nurse-reported “burnout” and a 15% increase in the risk of a nurse being dissatisfied with his/her job (Aitkens, et al, 2002). If a hospital is not able to maintain a stable nurse workforce, not only are patient outcomes, safety and satisfaction at risk, but nurse satisfaction and retention deteriorates, resulting in additional recruitment, overtime and agency personnel costs. US hospital average nurse attrition is 14% with a 13-week impact on productivity to recruit and train replacement personnel (KMPG, 2011).
Nursing resources are allocated based on patient need, or acuity, as a measure of the intensity and complexity of care required by a patient. Patient acuity can be difficult to assess. Patient acuity and patient numbers change within shifts. There are growing mandates and literature about safe staffing nurse-patient ratios (ANA Nursing World, 2014). Regardless of mandates, many hospitals are already considering staffing ratios and patient acuity as part of staff plans (Lolla Mitchell, August 2014). And there is a body of evidence that staffing aligned with patient acuity directly and positively impacts medical errors, falls, hospital-associated pressure ulcers (HAPU), and other adverse events, such as readmissions (Colbert, 2014). Patient staffing is a complex issue, but a method that incorporates nurses’ input and provides evidenced-based data is valued (Hertel, 2012.)

**Nurse leaders are discovering the power of IT as a strategic labor planning tool to maximize use of nurse competency and skill mix, provide consistent and safe staffing, and foster a new nursing and finance partnership.**

A new breed of acuity-based staffing IT solutions are available today and considered by many to be essential for the planning, real-time management, and optimization of nurse staffing. Nurse managers can plan and manage staffing with greater ease, consistency and accuracy based on multiple considerations important to nursing. These systems support a standardized approach to assessing patient acuity where transparent classification is a byproduct of the clinical documentation process. The solutions enable nurses to improve their documentation skills and provide quality bedside care. Nurse administrators can maintain a stable nursing workforce, improve patient and nursing satisfaction scores, and avoid incidental overtime or agency personnel costs. Importantly, the reliable data and reporting provided by these solutions builds a “bridge” with financial leaders less familiar with clinical care.

**Figure 2**

**Acuity-Based Staffing Solutions Allow Hospitals to Manage Nurse Staffing for Optimal Care Delivery and Cost**
THE FUTURE EVIDENCE-BASED PRACTICE LANDSCAPE OF HOSPITAL CARE

Hospitals and clinicians are increasingly being asked to take on more risk under value-based care. Reimbursement is tied to quality outcomes, as with 30-day readmit penalties. Hospitals are required to report on a diverse range of quality measures and also may need data to support any adverse event claims. There is increasing transparency on performance. The marketplace today for hospital services is competitive and demands demonstrating quality outcomes.

Nurse staffing has recently drawn renewed interest given the impact nursing has on patient outcomes, the high percentage of hospital costs associated with nursing, and the risks and costs associated with adverse events. Financial aspects of nursing are complex to manage. Nurse staffing needs to be planned and flexed up or down, often in real time. Patient acuity mix for a facility can change over time. Industry changes, such as utilization of outpatient centers for less-complex procedures and pressure for shorter hospital stays, are potentially resulting in higher patient acuity during hospital stays. Patient satisfaction based on Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores impact reimbursement and also a facility’s reputation. Hospitals desire to get the most from their labor dollars and to manage nursing resources well. This improves the chances of HCAHPS bonuses and mitigates the risk of penalties for readmission and other adverse events. Improved nurse satisfaction encourages retention and reduces recruitment and training costs. The ability to accurately forecast staffing needs avoids costly overtime and agency personnel.

Nurses have traditionally used patient volume to allocate staffing. Today, a new breed of acuity-based staffing solutions are available that support optimal management of nursing staff and costs.

WHY HAVING A NURSE WORKFORCE PLAN WITH A TECHNOLOGY SOLUTION IS ESSENTIAL

Today’s environment requires new approaches to assure quality outcomes and financial sustainability, and technology has become a key part of a strategic labor plan for nurse leaders. Technology solutions are a valuable tool to improve and standardize workflow, and to be able to plan effectively, respond to changes in real time, and make quality staffing decisions. The challenge becomes defining the best-fit technology solution, supporting the case for adoption, and achieving successful organization integration.

While not all hospital nursing environments involve the complexity of care that requires a technology solution, many do. Facilities, or hospital units, with stable patients and predictable patient flows may not require these. However, small, medium and large hospitals, with flows of surgical, specialty or emergency care patients, can benefit significantly.

The availability of acuity-based staffing technology solutions means that traditional nurse-staffing practices become the foundation, and the solutions enable greater standardization in patient acuity classification and accurate and up-to-date patient acuity. This leads to optimal staffing decisions for quality care, improved patient and nursing satisfaction, and mitigates the need for higher-cost labor. In this scenario, nurse staffing and cost management are tied directly to patient care. Hospitals with complex patient flows and acuity operating without acuity-based technology solutions potentially risk underperforming operationally, clinically and financially.

The importance of acuity-based staffing solutions increases as hospitals transition to risk-based reimbursement and data-driven management:
ACUITY-BASED STAFFING SOLUTIONS AND BEST PRACTICES

Optimal staffing leads to optimal outcomes and requires matching nurse staffing numbers and competencies to patient acuity.

Leading solutions enable:

- Patient classification methodology that is evidence-based and updated every few years to match the evolving needs of the clinical specialty and hospitals practices;

- Ability to assess patient complexity and make objective, evidence-based recommendations to improve staffing allocations;

- Benchmarking database to compare performance against other hospitals and departments, incorporating acuity as an important comparative data point;

- Ability to quantify how changes in nurse staffing impact relevant patient outcomes and safety;

- Management reporting capabilities to help with nursing labor budgets and strategic planning; and

- Sophisticated forecasting capabilities to help with future staffing challenges.

Nursing Practice and General Tools

Nurse staffing best practice is based on critical thinking and judgment, and may be supported by general tools such as Microsoft Excel. Nurse managers generally assess and document staffing needs several times a day, especially in medical, surgical or other areas with high patient flow, typically in the morning and then at each shift change. Reporting normally includes actual compared to target hours. In some facilities there may be dedicated nurse roles responsible for checking each nurse’s assessments. These approaches can work well in environments with low complexity and variability.
Productivity and Financial Management Tools

Hospitals may also use staffing or financial tools that enable benchmarking to targets and reporting. These tools can make valuable administrative contributions, but not in areas deeply related to nursing care, such as improved classification of patient acuity, supporting real-time decisions, and assuring balanced assignments. Some hospital systems commit to building a proprietary solution, but may find it difficult to commit the necessary resources for support and to maintain validity to current practice (such as new technology and equipment, or nurse practice change).

ACUITY-BASED STAFFING SOLUTIONS

Acuity-based staffing solutions seek to support nursing practice with valuable workflow, analysis and reporting. Patient acuity vendors are committed to research, validation to new practice, and successful implementation. They enable nursing to easily define a proactive six- or 12-month plan, confidently set staff for the next 24 hours, and manage staffing in real time. For entities with tight financial constraints, the solutions are particularly helpful in supporting the case for nurse staffing levels. For hospital groups, they support system-wide efforts to standardize and improve safety, quality and cost. For all facilities they provide clinical information and analytics that are increasingly important to hospital care delivery and competitiveness.

Acuity-based staffing solutions provide nursing with:

1. Transparent classification
2. Complexity of care
3. Discharge management
4. Patient-care assignment
5. Outcomes management
6. Management reporting

Frost & Sullivan conducted a series of interviews to understand best practices in leading hospitals today.

North Shore Medical Center, a Partners Healthcare facility in the Boston area, uses AcuityPlus, an acuity-based staffing solution from QuadraMed. Diane Menasco, nursing coordinator, shared that the transparent classifications and ability to know true admittance and transfer through connectivity with the Admittance, Discharge and Transfer system is highly valued by nursing staff. Beyond the staffing model generated based on patient acuity, nursing management reviews assignments and makes adjustments similar to the way that would be done under traditional (non-technology) methods, but with the added ability to easily ensure overall workloads are appropriately spread between the nursing staff. The ability to augment emotion or industry ratios with logical and transparent data is valued and has resulted in a strong nursing and finance partnership and collaboration within nursing and across the Partners organization. Nursing staff appreciate the quality research and validation to current practice provided by QuadraMed that enables meaningful benchmarking.
Today, nurses need to not only understand bedside patient needs, but also the organization’s need to be financially well-managed,

said Menasco

Mayo Clinic also has an organization-wide commitment to acuity-based staffing and uses AcuityPlus. All nurses are trained in patient classification, value the acuity-based staffing solution and can pull key reports. Those doing the work are the same people who review the workload. Nurses actively seek to improve their critical-thinking skills and achieve high (94% target) scores of predicted versus actual hours. Nursing staff review compliance and accuracy scores monthly and value having factual data as part of the conversation. Mayo seeks to stay within 1-2% of the predicted recommendations, and find if it drops to 3-4%, it generally gets feedback regarding nurse stress and patient flow issues. Kathy Matson, nursing administrator with Mayo Clinic Arizona, shared the importance of having a vendor who is proactive with education, updates and resolving any issues. Nursing management is confident in their ability to adapt to future needs and deliver quality and safe care with high levels of patient and nursing satisfaction. Matson also pointed out that nursing leads the utilization of the solution and needs to have an ongoing commitment to the use of data, a small team to manage the solution, and support from the IT organization.

AcuityPlus builds a bridge between nursing and finance, enabling the 24x7 world of nursing to be understood by the 8x5-hour finance team.

said Matson

Coy Smith, associate director of Care Services and CNO at Philadelphia’s Veteran Affairs Medical Center, has experienced a range of nurse staffing systems from critical thinking and paper-based patient ranking systems, to general staffing solutions and acuity-based solutions, including AcuityPlus. Smith shared that a system should ideally match to the organization philosophy and needs, including whether acuity data is useful to make the case for staffing levels. Smith found acuity-based staffing solutions valuable to proactively plan, manage in real time, and make the case for staffing levels with finance.
CONSIDERATIONS IN SELECTING AN ACUITY-BASED STAFFING SOLUTION

Nursing leadership, along with hospital finance and IT, need to decide on the best-fit nurse workforce and technology plan for their environment, and identify nurse coordination resources for successful implementation.

Considerations in designing a Nurse Workforce and Technology Plan include where the organization is today and its future vision:

Figure 4

<table>
<thead>
<tr>
<th>Technology as a Strategic Partner</th>
<th>General Tools</th>
<th>Staffing and Financial Management Tools</th>
<th>Focused Acuity-Based Staffing Solutions</th>
</tr>
</thead>
</table>
| Patient Acuity System             | • Paper-based system  
• Excel-based system  
• System embedded as a shell within another system | • Added function to another primary product (i.e., staff scheduling)  
• Task staff need to complete  
• Descriptive system | • Research-based methodologies  
• By-product of EHR, not separate task for staff |
| Value for Nursing                 | • Limited ability to identify acuity changes  
• Limited informatics and reporting  
• Subjective  
• Lack of validity and transportability across clinical populations | • Benchmarking focused on staffing numbers and productivity  
• Limited clinical data to improve acuity assessment, assignments or make real-time decisions  
• Minimal acuity vendor product expertise and focus | • Gaining nursing commitment, education and training  
• Empowers staff from the bedside to the C-Suite  
• Organization integration  
• IT support and partnership  
• CFO support and partnership |
| Return On Investment (ROI)        | • Limited to no investment in IT and informatics for improvement | • Investment in standardized staffing and financial management tools across organization  
• Not standardized across clinical populations: consistent interpretation of workload | • Optimally manage staffing to patient needs  
• Minimize overtime and other unplanned costs  
• Meet new mandates and metrics  
• Collaboration for quality care outcomes and cost  
• Quality, safety, satisfaction, productivity and cost improvements  
• Workload measurement across clinical populations |
The most important criteria in selecting a nurse staffing technology solution include assurance of achieving:

**Figure 5 - Key Criteria for Nurse Staffing Technology Selection**

1. **Patient safety and quality care outcomes**
2. **Accurate nurse staffing**
3. **Financial and risk management**
4. **Stable and committed nurse workforce**
5. **Nursing engagement and organization teamwork focused on quality outcomes**

Hospitals with interest in data-driven forecasting, benchmarking and reporting; who have complex patient mix and flows; and are committed to improving quality outcomes, typically choose an acuity-based staffing solution. These solutions provide nursing with tools for optimal staffing decisions and patient care, and a strong CFO partnership.

**KEY TAKEAWAYS**

**Staffing based on patient acuity is central to ensuring quality patient outcomes, a stable nursing workforce, and financial viability.** Acuity-based staffing systems valuably augment nursing knowledge and judgment, and assure accurate and safe staffing. A strategic nurse workforce plan with technology enables a new level of CNO and CFO partnership that supports delivery of the highest possible quality of care, safety and cost management.

Today’s value-based healthcare environment sees hospitals taking on greater risk. Managing nursing staff, costs and quality care is of high importance to financial viability and market competitiveness. Leading hospitals have a commitment to acuity-based staffing, and technology solutions are seen as a key component of their strategic nurse workforce plan. Acuity-based staffing solutions enable staffing to be proactive, prospective, efficient and fiscally responsible. Staffing and costs are directly tied to patient care. Nurses are able to improve their acuity assessment skills, provide quality bedside care, and feel engaged on staffing decisions. Nurses and financial managers value the transparency and rational data these systems provide. Hospitals are confident in their ability to deliver quality outcomes, achieve metrics, manage costs, and maintain a stable nursing workforce.
Nursing leadership interested in pursuing the use of an acuity-based staffing solution should:

1. Identify the best-fit technology solution for their environment;
2. Identify a small nursing team for implementation and continued coordination;
3. Validate precision of acuity data and methodology from potential vendors for your needs;
4. Develop a collaborative dialogue with finance on nurse staffing;
5. Identify IT support for optimal integration of the acuity-based staffing solution;
6. Define, plan and implement new workflow, decision-making, and collaboration within nursing; and
7. Develop a program to educate nursing on the value and use of the solution.

Best-in-class vendors are experienced in working with hospitals of all sizes to assess, plan, implement and provide ongoing support for these important programs. Acuity-based staffing solution vendors such as QuadraMed exemplify the product capability, technical expertise and support that enable nurse leaders to make the right choice and implement successful nurse workforce programs.

BIBLIOGRAPHY

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