The COVID-19 pandemic has exacerbated nursing shortages throughout the United States. Along with shortages have been reports of travel nurses earning $10,000 per week and $100,000 per 13-week assignment, a significant premium to the median annual salary of $75,330.¹² Neither situation is sustainable. In this article we highlight the multifactorial causes of the nursing shortage and suggest approaches for its alleviation.

Nurse Shortages: Situation Analysis

The national registered nurse (RN) vacancy rate in hospitals reached 9.9% in 2020; more than one-third of hospitals (35.8%) have vacancy rates exceeding 10.0%.³ The average period to fill a vacancy was 89 days.⁴ The average RN turnover rate was 18.7%.⁵ Associated turnover costs, including higher morbidity and mortality and lower satisfaction associated with staff burnout, have been estimated at $40,038 per employee (range: $28,400 to $51,700).⁶⁷

The baseline number of RNs, turnover rates and recruitment periods vary by region and state. All healthcare is local. Many states have between 10.0 and 16.1 RNs per 1,000 population, with a small number of states outside the reported range.⁸

⁴ Ibid.
⁵ Ibid.
⁶ Ibid., page 6.
⁷ “Nurse Burnout: Risks, Causes, and Precautions for Nurses,” University of St. Augustine for Health Sciences (July 2020), https://www.usa.edu/blog/nurse-burnout/.
⁸ “The 2021 American Nursing Shortage: A Data Study,” University of St. Augustine for Health Sciences (May 2021), https://www.usa.edu/blog/nursing-shortage/.
Travel nurse rates have increased substantially beyond the historical 25%-50% premium. Pay packages of $10,000 per week and $100,000 for a 13-week assignment have been reported. The $154,200 average cost of a travel nurse is more than double the $75,330 median salary of a staff nurse. Longer-term concerns regarding nurse retirements among the baby boomer age group is being partially allayed by the record enrollment in nursing schools (251,145 in 2020). But that is not enough. As of 2018, 25.8% of registered nurses were over 60 years old, with another 21.7% aged 50-60. The full-time employment rate declines from 81.9% at ages 55-59 to 29.0% at ages 70-74.

The number of nurses is projected by the U.S. Bureau of Labor Statistics (BLS) to increase by 276,800 to reach nearly 3.4 million in 2030. An alternative analysis by the Health Resources and Services Administration (HRSA) forecasts the supply of registered nurses to reach nearly 3.9 million in 2030; only seven states – Alaska, California, Georgia, New Jersey, South Carolina, South Dakota, and Texas – were predicted to have shortages. HRSA did forecast a shortage of Licensed Practical Nurses in 33 states, including Texas and Pennsylvania.

The 600,000 difference in the BLS and HRSA forecasts is substantial and highlights the uncertainty associated with the likelihood of nurse shortages. A confounding variable to the number of new entrants (graduates) offsetting the large number of baby boomer retirees is the impact of a rapidly aging population on the demand for services.

According to NSI’s 2021 National Health Care Retention and RN Staffing Report, 39.8% of hospitals expected to increase their RN staff in 2021. Hospitals have also expressed an interest in decreasing their reliance on supplemental staffing, particularly given the higher rates being charged. Meeting these expectations may be difficult, especially given the rise of emerging Covid-19 variants.

**Multifactorial Etiology of Shortages**

The current shortage is a function of several dynamics, including:

- A rapidly aging nursing workforce and high retirement rates creating manpower shortages and critical gaps in knowledge and expertise
- Nursing school enrollment at peak levels and unable to expand due to faculty shortages at a time when there are more qualified candidates wishing to pursue a career in nursing
- Career advancement opportunities attracting nurses away from the bedside
- Outmigration of nurses from hospital and health system employers to temporary staffing agencies
- Continuing use of traditional care-delivery models despite constrained resources and significant changes in reimbursement
- COVID-related burnout, infection, and vaccine mandates
- Concurrent shortages in support staff workers adding to workload of nurses
— Cultural shift to prioritizing work-life balance over financial incentives

The pandemic has stressed the nursing workforce to a breaking point. With fewer nurses and greater demand caused by the pandemic, an increase in chronic disease and an aging population, the risk of not having adequate numbers of appropriately educated nurses is real. The time is now for nurse executives, educators and advanced practice nurses to collaborate on strategies to educate not only potential nurses but also advance the knowledge and skills of those that are early in their nursing careers.

**Nurse Education Essential to Increase Supply**

With a shortage of nursing faculty, hospitals and health systems must become strategic partners with academia and commit to participating in the education and preparation of nurses. This includes employing models such as the Practitioner Teacher, where Advanced Practice Nurses (APNs), funded by their employers, establish expectations and provide financial support for nurses with advanced degrees to actively participate in didactic as well as clinically based learning activities. Programs which create a safe transition to practitioner will be critical. Capstone classes can be an early step in this transition process, followed by mentorship and well designed, competency-driven nurse residency programs. In addition to validating technical skills, developing and validating critical thinking competencies through simulation will be essential. Nurses who have left the profession for retirement or other career paths can be re-engaged in mentoring roles to support new nurses in the early months and years of their careers.

**Nurse as Care Coordinator**

Team-based care models built around the patient, with the nurse as coordinator of resources, will require a change to traditional thinking around a singular, department-driven approach. Skill portfolios will define roles such as patient care support, where supply-stocking, dietary, environmental and transport services are aligned into a single role. Clinical support roles will have responsibilities such as ambulation, phlebotomy, activities of daily living (ADL) support, and clinical data collection. Other professionals such as pharmacists can take on additional responsibilities, including medication reconciliation, medication teaching, antibiotic stewardship and oversight, and consultation for drug/drug and drug/food interactions. Physical therapists can take on the responsibility for mobility progression and safety plans to reduce/minimize falls for at-risk patients.

This patient-centered team approach will free the nurse to coordinate care, educate patients on disease management and lifestyle changes, and guide care progression, including length-of-stay management, discharge planning and referrals to other needed services such as palliative and hospice care. Traditional financial metrics such as hours per patient day will be challenged in this new model of organizing care and services. Alignment to a “cost of care” model will be required.

Other considerations in workforce redesign include hiring for skill or service-line focused competencies. For example, the role of the circulator nurse in procedural areas could be designed for a set of competencies such that nurses could be assigned flexibly to the operating room, cardiac cath lab or interventional radiology. Using a service-line approach, nurses would be hired to a service line and assigned to the area of greatest need, e.g., inpatient or outpatient area or clinic.

It is imperative that we not sacrifice continuity as we redesign the care model. The role of a nurse who coordinates care across an episode must be differentiated from the role of a nurse who will partner with the coordinating nurse to carry out specific nurse-required tasks such as medication administration. In this model, by virtue of the need for continuity, we have created a distinct role for part-time, contract and float pool nurses. Given that the role of coordinating nurse will require a level of clinical competence and higher-order thinking, it creates a path for nurses to remain in a clinical role while being compensated at a higher rate and potentially eligible for other incentives, such as reduced weekend work, enhanced paid time off and educational opportunities.

Given the widening gap between the supply of available nurses and the demand for nursing services, hospitals and health systems will be challenged to reduce the demand in a range of 5%-15% based on local dynamics.
To accomplish this, care delivery in the acute-care environment must be redesigned in support of nurses and other professional staff to work at top of license. This will require a fundamental shift in thinking from traditional ratios and nursing hours per patient day (HPPD) to a focus on nursing care requirements that a given population of patients will require for an acute episode of care.

**Advanced Practice Nurse Role in Acute Care**

With increasing numbers of nurses leaving the bedside in favor of career advancement opportunities afforded them as nurse practitioners, hospitals and health systems will be challenged to leverage these highly educated practitioners to advance care and improve clinical outcomes in the acute care arena. APNs, which include both Nurse Practitioners and Clinical Nurse Specialists, can favorably affect the demands on bedside nursing largely through efficiency and throughput management, and via early recognition of and intervention in complications which contribute to longer lengths of stay; examples include sepsis, pressure injuries and falls. *For each day of stay reduced in the medical surgical setting, there is a concurrent reduction of 10-12 hours of nursing care.* When leveraged as nurse clinical consultants, APNs also provide a level of expertise and an important enhancement to patient safety as the number of novice and inexperienced nurses increases, as well as real-time support in enhancing the critical thinking skills of bedside nurses.

**Travel Nursing: A Formidable Competitor**

The pandemic-enhanced demand for nurses has resulted in as much as a 200% increase in the cost of temporary nursing help, and the lucrative hourly rates have induced many nurses to leave direct employment by hospitals and health systems in favor of temporary agency employment. 20

With the combination of out-migration from traditional employers and the demand for agency help in communities across the nation, nurses are finding that they can continue to work in proximity to home while still enjoying the compensation benefit that had previously required staff to temporarily relocate. The continued reliance on temporary staffing agencies is financially unsustainable.

Hospitals and health systems are being challenged to find ways to re-recruit nurses as employees. While there is no single tactic or strategy, employers will have to appeal to staff on work-life balance, including, but not limited to, flexibility in scheduling, teacher schedule options and job-sharing. Additionally, enhanced pay programs and benefits such as enhanced weekend pay, enhanced pay and differentials for hard-to-fill departments and shifts, and incentive pay programs aligned to organizational goals will necessarily be a part of changing the employer landscape. Benefits such as child care, older adult care, enhanced support for continuing and professional education, career paths and enhanced paid-time-off programs are all options to be considered in recruiting staff back to the hospital.

**Bottom Line**

Although the current nursing shortage has been exacerbated by the pandemic, it was not unexpected. The drivers of the problem are multifactorial and cannot be addressed with a single solution. The approach to addressing this ongoing shortage must be strategic as well as tactical. Partnerships between providers and academia must be built around mutually agreed-upon goals. Work redesign will require a radical shift in thinking and must be rebuilt with an emphasis on nurses practicing at the top of license. Length of stay (LOS) and avoidable days are a significant driver of nursing workload. Advanced Practice nurses in the acute care environment must have increasing

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