How to Grow Your Workforce Through Staff Optimization

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Recent statistics reveal that the demand for registered nurses continues to grow. The time to address nurse staffing concerns is now. Data analytics in nurse staffing and scheduling is a beneficial, yet largely overlooked, area. Incorporating modern modeling techniques and machine learning methodologies to forecast staffing needs, predictive analytics identifies demand for staff weeks in advance. This article suggests how optimizing a health system's workforce with best practice strategies and advanced technology can greatly diminish the staffing challenges being felt in hospitals and health care facilities across the United States.

How do I optimize my workforce during a nursing shortage? How do I build a pool of resources when the demand is greater than the supply? These are questions hospital and health system leaders across the country are asking themselves on a regular basis. Although it may seem like an uphill battle, optimizing your current workforce is possible—just look to new, technology-driven solutions.

According to the Bureau of Labor Statistics' Employment Projections 2014 to 2024, registered nursing is listed among the top occupations in terms of job growth through 2024.[1] The RN workforce is expected to grow from 2.7 million in 2014 to 3.2 million in 2024, an increase of 16%. The Bureau of Labor Statistics also projects the need for 649,100 replacement nurses in the workforce, bringing the total number of job openings for nurses due to growth and replacements to 1.09 million by 2024.

Much like the rest of the United States, the average age of the RN population continues to rise.

A significant portion of the nursing workforce is nearing retirement age. With over half of the RN workforce age 50 years or older, it is projected that more than 1 million registered nurses (RNs) will reach retirement age within the next 10 to 15 years.[2] According to a 2017 survey of registered nurses by AMN Healthcare, 73% of Baby Boomer nurses who are planning to retire say they will do so in 3 years or less.[3] This retirement wave will create a particular drain on experience and institutional knowledge, which is critical to an organization's success.

An organization must acknowledge the generational makeup of their employee population. For instance, a unit or department with a heavy contingent layer of senior staff and new grads, while great for mentoring, is imbalanced and can leave a unit with an inexperienced workforce. To optimize their workforce, there should be the right amount of experience mix and skill mix on each unit.

The time to address nurse staffing concerns is now. Like a lot of industries, data analytics has found a home in health care, making significant improvements in a variety of areas that ultimately improve patient care. One practical, yet overlooked, area that can benefit tremendously from data analytics is nurse staffing and scheduling. Incorporating modern modeling techniques and machine learning methodologies to forecast staffing needs, predictive analytics identifies demand for staff weeks in advance.

Inaccurate projections of staffing needs (or simply relying on what was done last schedule period) can lead to understaffed shifts, overstaffed shifts, increased core staff floating and cancellations, excessive overtime and incentive pay, last-minute schedule changes, and other issues that stress staff, raise costs, and negatively impact the quality of care. Further, nurse managers feel that scheduling and staffing problems have a negative impact on overall staff

> **KEY POINTS**
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> - **Utilizing an open-shift program is an effective way to fill needs, reducing the amount of dollars typically tied to filling open shifts.**
> - **Having a flexible pool of resources reduces core staff working in extra hours and overtime, decreasing the likelihood of nurse burnout.**
> - **Continuously monitoring key performance indicators keeps staff aligned with organizational goals and effectively tracks progress toward those goals.**

morale, and are concerned about the impact of scheduling and staffing problems have on patient satisfaction.[4]

This article suggests how optimizing a health system's workforce with best practice strategies and advanced technology can greatly diminish the staffing challenges being felt in hospitals and health care facilities across the United States.

UTILIZE AN EFFECTIVE OPEN SHIFT PROGRAM

A tremendous amount of waste, in both time and dollars, is tied to traditional processes of filling open shifts. The emotional response and inefficiency of a last-minute process that pits units against one another to compete for resources is a frustrating practice that increases labor costs and discourages staff. The lack of fairness (or perceived lack of fairness) in open shift programs can have a negative impact on both adoption of the program as well as morale in general.

Managers should resist offering one-off bonuses or special enticements, such as gift cards tucked away in their desk drawer, ready to offer up to the first taker. Open shift incentives should be aligned with budgeted bonus targets and offered through an automated and emotionally agnostic manner. Meaning, the dollar amount of incentives should not be set by the manager working to fill the shift. Instead, the incentive amount should align with a budget that corresponds to the severity of the need, with the highest incentive offered in advance, ideally 2 weeks to 30 days before the shift.

Avantas research has found that an effective open shift program rewards staff for picking up shifts further in advance, creating a disincentive to wait until the last minute hoping the amount of pay might increase. Data gathered over the course of the study pointed to the effectiveness of a model of decreasing financial incentives as shift dates approach. Seventy-five percent of shifts were picked up more than 2 weeks before the day of the shift, and 43% of shifts were picked up 30 days in advance, when peak incentives are offered.[5] By promoting the desired behaviors, more shifts are picked up sooner, solidifying staffing plans further in advance.

The flexibility offered by an automated open shift program empowers nurses to pick up additional shifts that fit their lifestyle. It gives them control over their schedule and the ability to schedule themselves while considering the needs of their department. Whether someone is motivated by money or convenience, an effective open shift program appeals to both. If an organization chooses to offer monetary incentives, staff members can maximize their income by committing to shifts early, working a flexible schedule, and agreeing to work in multiple units.

With predictive analytics powering an open shift management program, shifts are automatically posted according to predicted patient demand. When incentives are used, they fluctuate based on need while remaining within budget. An automated open shift program also manages commitments and rules around open shifts.

BUILD A FLOAT POOL FOR FLEXIBILITY

With growing demands on the workforce, flexibility offers an attractive perk to job seekers. Specifically, the millennial workforce is drawn to a lifestyle that allows them to fit their career into their personal lives, rather than living their life around their work.

This is good news for hospitals and health systems growing increasingly concerned about the expanding gap between supply and demand. Having resources that can flex up and down with patient demand is a vital resource to have and can ease a lot of strain when it comes to staffing. A float pool is one such resource. Although not a new concept, float pools have evolved in recent years.

Depending on the size of the facility or system, there may be more than 1 type of float pool to provide the greatest benefit to an organization. For larger health systems with multiple hospitals within 1 metro area, an enterprise-wide float pool is an excellent resource. This type of contingency layer is comprised of highly skilled and flexible nurses who are able to float to multiple units within multiple facilities. Enterprise float resources are deployed to the areas of greatest need, meaning staff should enjoy working in a variety of units. It also means that they have freedom over their schedule, signing up for shifts that fit into their lives.

The University of Kansas Hospital has had great success in tapping into the millennial workforce to provide needed flexibility. With the right operational structure and culture, newly graduated nurses are an excellent choice for a float pool. With an effective training program in place, newly graduated nurses get to experience working in a multitude of areas, effectively building their skills while enjoying the flexibility they desire. This is an excellent opportunity for recently graduated nurses to work on different units before finding an area they would like to commit to.

Is everyone a good fit for an enterprise float pool? No. Regardless of what generation they fall into, some individuals thrive on routine and shudder at the thought of not knowing where they will work until a few hours before the start of their shift. But there are a lot of people who like the spontaneity and flexibility.

Human resources must take an active role in matching an applicant's traits with the organization's open positions. This is easier said than done because it must take into account actual versus perceived motivations of staff members. Filling a role with a person who is not adequately suited is a short-term solution with long-term negative consequences, including the eventual cost of turnover. With the national RN turnover rate averaging around 17%,[6] turnover costs can be a significant hit to the budget.

CONTINUOUSLY MONITOR KEY PERFORMANCE INDICATORS

Implementing strategies such as float pool development and an open shift program are initial steps in the con-

tinuous improvement process. Key performance indicators must be monitored on a regular basis to ensure everyone is on track toward the workforce goals. What does success look like? An optimized workforce means shifts are regularly staffed, and there is a reduction of overtime and amount spent on shift incentives. Staff satisfaction should improve, and time spent on staffing and scheduling will decrease.

Prior to the University of Kansas Hospital embarking on their workforce optimization journey in 2015, there were 30 to 40 float pool full-time equivalents (FTEs) per pay period picking up shifts. As of 2017, there are 180 to 190 float pool FTEs per pay period picking up shifts. This has resulted in a 65% reduction in last-minute work requests and a 63% decrease in core staff floating because they have the resources they need to flex up and down with demand, and are able to accurately schedule them weeks in advance.

The University of Kansas Hospital conducted a study in 2015 focused on how much time was being devoted to scheduling, staffing, and payroll functions. The findings revealed that nurse managers or schedulers were spending an average of 13.4 hours per person each 4-week schedule period to create the initial schedule. Post-creation schedule tasks—such as entering schedule adjustments like paid time off and absences and correcting missed punches—were costing them an additional 40.3 hours, with over half of that being spent on daily staffing activities within 24 hours of the start of the shift. All scheduling tasks added up to more than 1500 hours for all inpatient units each schedule period.[7]

The time being spent on staffing and scheduling is valuable time that managers and schedulers could be devoting to staff development, education, and more pressing clinical responsibilities. This is a frustrating process that leads to less satisfaction of both nurse managers and staff.

Eighteen months after going live with new nurse scheduling software, the organization took another look at how much time was being spent on staffing and scheduling. The time savings were significant. The time each manager spent on schedule creation was reduced by more than 50%, averaging 6.6 hours. The post-creation scheduling outcomes were even more remarkable, averaging 4.4 hours. The average total hour savings per manager per schedule period added up to 61.1. This is a substantial amount of time that was given back to managers to apply toward more pressing clinical responsibilities. Managers agree that the scheduling process has improved, and staff are satisfied with the new system.

At the beginning of their workforce management journey, a $2 million savings opportunity was identified in their labor spend. Some of the biggest successes the University of Kansas Hospital has accomplished has been an average RN fill rate of 92% in 2017, the lowest turnover in health system history, and increased float pool RN FTEs from 9.8 to 20.1.

As with anything, success does not come overnight. New processes cannot simply be implemented with the expectation of immediate results. The keys to long-lasting workforce improvement include planning, transparency, and accountability. Advanced data analytics and strategic workforce solutions are able to deliver beneficial outcomes in a variety of areas within healthcare, ultimately enhancing patient care. It just takes a lot of data and a little bit of faith.

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