Nurse anesthetists can use their creative problem-solving abilities to benefit both their employers and themselves. In an era when healthcare dollars are in short supply and patients who require anesthesia care are living longer (and requiring more procedures with anesthesia), innovative strategies are needed to achieve value and access to anesthesiology services. Leveraging the professional interests of Certified Registered Nurse Anesthetists (CRNAs), the implementation of a flexibility-based compensation structure can optimize overall staffing requirements to meet patient care demands, particularly in the face of recruitment challenges. This unique program, proposed and implemented by CRNAs, is presented as an exemplar that accomplishes multiple professional and financial goals.

**Keywords:** Anesthesia staffing, innovation, practice management, recruitment, retention.

Traditionally, anesthesia staffing at the hospital or facility level is determined by peak expected demand by hour of day. Shortfalls of staffing due to vacancies, high vacation burden, and family medical leaves of absence are often covered with overtime of employed staff or through the use of agency (locum tenens) personnel or a dedicated group of staff who are employed yet able to provide services at multiple locations. Rapid departmental growth combined with recruitment and retention of staff are challenges that employers face from time to time. Creative management of solutions, though, are often harder to come by.

A large multihospital system comprising 16 disparate locations (at the time of implementation), faced this very situation and was tasked to meet an ever-growing demand for Certified Registered Nurse Anesthetist (CRNA) profes-

### Table 1. High-Level Goals and Benefits of Flexibility-Based Compensation Program to CRNA Employee and to Health System

<table>
<thead>
<tr>
<th>Employee benefits</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menu of choices that are self-directed</td>
<td>Employee elects level of comfort for clinical familiarity with movement between facilities; no mandatory reassignment if not interested in participating in program</td>
</tr>
<tr>
<td>Potential income enhancement for additional commitment</td>
<td>Employee buy-in to system integration is rewarded financially</td>
</tr>
<tr>
<td>Clinical and professional diversity</td>
<td>Ability to practice in a variety of settings and subspecialty practices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health system benefits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced flexibility between locations to meet dynamic changes in OR volume</td>
<td>Rapid ability to meet expansion needs and serve critical shortages across hospitals</td>
</tr>
<tr>
<td>Fiscal predictability</td>
<td>Current per diem incentive is variable and difficult to predict</td>
</tr>
<tr>
<td>Ability to staff to less than 100% of demand calculation</td>
<td>Enhancement of productive work efforts and ability to cover more locations in an efficient manner</td>
</tr>
<tr>
<td>Quick method to accommodate rapid expansion in services that continues to occur throughout a growing health system</td>
<td>More rapid adaptation for expansion of services, including non-OR anesthetizing locations</td>
</tr>
<tr>
<td>Objective measure tied to compensation</td>
<td>Criteria clearly defined and monitored</td>
</tr>
<tr>
<td>Innovative approach to CRNA compensation</td>
<td>New method to engage staff in an integrated delivery system</td>
</tr>
<tr>
<td>Ability to compete more on a national level with compensation benchmarks</td>
<td>New graduates who enter the system at a higher tier level would experience a more nationally competitive wage</td>
</tr>
</tbody>
</table>

Abbreviations: CRNA, Certified Registered Nurse Anesthetist; OR, operating room.
sional services. An enterprisewide review of daily demand compared with staffing revealed that peak demands rarely overlapped across hospitals. Through modeling based on actual demand, a more efficient approach to enterprise coverage became apparent. Using a CRNA leadership-driven initiative, the health system was able to meet operational needs by the contributions of the CRNA team. In return, the CRNAs had the ability to share in the cost savings by earning additional compensation, based on each individual’s desire to offer flexibility to the integrated health system.

The United States appears to be experiencing a rapid demand for CRNA services across many regions, although predictive labor data are somewhat contradictory. Whereas the US Health Resources and Services Administration (HRSA) produced workforce projections in 2016 suggesting a surplus of 10,070 CRNAs by 2025,1 RAND Health projects a shortage of 1,282 CRNAs by 2020, with 60% of states reporting a current shortage of CRNAs.2 Schubert et al3 described the continued increase of case mix index, a measure of case complexity, among Medicare recipients. This trend of living sicker and longer intensifies the resources needed in the practice of anesthesiology as patients, particularly the elderly, present for surgical and procedural interventions. Innovative solutions, such as the approach described here, are needed.

**Methods**

Through guided discussion at CRNA leadership meetings, current staffing challenges were analyzed at a multihospital system. The needs of both the employee professionals and the health system delivery were considered to arrive at a solution that best satisfied all interested parties. In an attempt to improve employee relations, promote recruitment and retention, and initiate a culture change toward an integrated complex healthcare delivery system, a new adjunct to compensation was initiated.

Table 2 describes the high-level goals of the flexibility-based compensation structure (“tier” program).

The health system had clear aims that required active participation by the CRNA staff. The CRNA leadership team felt strongly that active participation in assisting to navigate toward the goals would be beneficial for years to come. Additionally, it had the potential to position the CRNAs to be viewed as positive change agents by a progressive hospital leadership team. The health system desired an enhancement in CRNAs’ flexibility to achieve the dynamic changes in operating room (OR) caseload at multiple campuses on a daily basis. An inherent benefit to this flexibility was the reduction of fiscal unpredictability from overtime and agency costs that were being incurred because of the typical and expected volume fluctuations in a complex medical center. The medical center’s willingness to negotiate an innovative approach

<table>
<thead>
<tr>
<th>Category</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban facility</td>
<td>Work at surgery center only</td>
<td>Work at community hospital that involved call and/or weekend scheduling, or Surgery center employee who is credentialed at 1 additional facility</td>
<td>Credentialed at ≥1 additional suburban locations, and Credentialed at 1 urban facility</td>
<td>At least 3 of the following: Credentialed at ≥1 additional suburban locations Credentialed at 1 urban location Pediatric anesthesia Obstetric anesthesia</td>
</tr>
<tr>
<td>Urban facility (±4% from suburban facility)</td>
<td>Work at home facility’s location only</td>
<td>Credentialed at 1 additional location (any category)</td>
<td>Credentialed at 2 additional locations in urban category, or Trauma/Transplant team member</td>
<td>At least 3 of the following: Credentialed at 2 additional urban locations Trauma/transplant team member Pediatric anesthesia Obstetric anesthesia</td>
</tr>
</tbody>
</table>

Table 2. Flexibility-Based Compensation Model Depicting Levels of Opportunity of Participation Presented to CRNAs as Part of Program

Abbreviation: CRNAs, Certified Registered Nurse Anesthetists.
to CRNA compensation was fueled though an objective way to develop a method to accommodate rapid expansion and volume fluctuations at a reasonable cost.

For the CRNA staff, the ability to be self-directed in clinical versatility was paramount. This encompassed the ability to pursue (or refrain from) subspecialty cases such as obstetrics, pediatrics, trauma, transplantation, and others. Feedback from the staff was an important guiding force to ensure professional satisfaction. Some staff members made elections based on geographic consideration (ie, a proximal commute to a different facility). In addition, the ability to respect the practitioners whose choice it was not to enter the program was an important measure of success. Finally, the ability to earn additional income for the sacrifice of providing care at a “less familiar” location was a key element to the program’s acceptance and success.

A menu of options for program participation was presented to all the CRNAs in the health system through staff meetings that CRNA directors led at each hospital location. A description of the program (Table 2) was distributed at the time of discussion so that each individual could garner a clear understanding. Staff concerns were addressed as the program was rolled out. The ability to enhance personal income and diversify clinical expertise were among the major drivers that CRNAs identified as motivators to enter the program.

Results
Outcomes from the program implementation were apparent nearly immediately. Locum tenens CRNAs were slowly able to be released from their contracts with the medical center as employed CRNAs assumed more flexible assignments throughout the enterprise locations. Within 2 years, the elimination of expenses for locum tenens reduced approximately $2 million to payroll expenses (Figures 1 and 2). Concurrent to this, recruitment efforts were enhanced through the hiring of new CRNAs who were eager to practice across campus locations while enjoying the ability to earn additional income. This phenomenon allowed staffing across the health system to be adjusted to 94% (instead of 100%) of total demand since capacity, in terms of closed anesthetizing locations, could be met more efficiently through the flexible contributions of CRNAs. Because the medical center was in a growth phase, the demand adjustment from 100% to 94% did not result in any workforce reduction; rather, it reduced the recruitment demand in a modest fashion. This alone allowed for a budget savings of $3.9 million. As the pace of anesthesia demand continued to grow, nearly 175 additional full-time equivalent CRNAs were added to the enterprise over 4 years. In the same period, overtime expenses were reduced by 28%. The program, which has been in place for 10 years, allows a continued cost avoidance to the health system of approximately $2.5 million annually.

Figure 3 demonstrates the general CRNA participation in the “tier” program after implementation. Approximately 22% of the CRNA staff initially elected
Figure 3. Distribution of Staff Who Elected to Participate in Flexibility Program, Labeled Tier
Abbreviation: CRNA, Certified Registered Nurse Anesthetist
with a way to individually contribute to cost efficiency, opportunities through a team effort can be one way to have an impact on the bottom line. Innovative ideas that enhance the quality of care and reduce cost are the precise definition of value. This effort represents the ability of nurse anesthetists to create, implement, and enjoy direct benefit from a program that directly contributed to a large health system’s ability to deliver anesthesiology services to patients. This program designed by CRNAs has been in place for 10 years with only minor modifications, and it continues to deliver the same results.

REFERENCES

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