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RESEARCH NOTE **SCHEDULING APPLICATIONS CUT** **HEALTHCARE COSTS**

THE BOTTOM LINE

By deploying advanced scheduling tools, healthcare institutions can reduce labor costs and improve the productivity of schedulers, staffers, and caregivers. By reducing a provider's reliance on agency help and ensuring proper staffing levels, these applications also enable improvements to quality of care.

Time and attendance application vendors such as Kronos, McKesson, and ADP typically also provide advanced scheduling applications. These tools go beyond the capabilities in time and attendance applications by providing advanced features and functionality such as:

- **Scheduling.** These applications provide scheduling-critical information on caregivers, including their location, certifications, skill sets, shift preferences, and amount of rest time since their last shift, so that managers can rapidly fill shifts on both an automated and as-needed basis.
- **Notifying.** Employees are notified of shift assignments through e-mails, Web sites, text messages, or voicemail.
- **Interacting.** Scheduling applications typically have portals for shift selection, shift swapping, and paid time off requests: tasks which would otherwise require face-to-face conversations with fellow employees or managers.
- **Integrating.** Scheduling applications integrate with time and attendance applications, enabling companies to accelerate payroll workflows.

Although scheduling applications are not new to the healthcare industry, they are becoming more important to providers, which have unique scheduling challenges. Although they need to maximize the quality of their care, they also have to find ways to minimize labor costs despite the fact that a shrinking pool of caregivers is steadily making labor — already a provider's largest expense — even more expensive. Add to this the complexity of staffing requirements, and the people who have to manage this trade off have a mandate that is high risk, labor intensive, and error prone.

For schedulers assigning shifts several weeks in advance, and staffers, who adjust caregiver levels on a day-to-day basis as conditions change, some of the challenges to cost effectively achieving proper staffing levels include:

- **Complexity.** At any given time, proper staffing is required for a large number of varied departments and specialties, such as the emergency room, intensive care unit, pharmacy, and radiology. Associated with each of these

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departments are fluctuating patient populations requiring caregivers of varying availability, skill levels, and certification.

- Variability. Staffing demands can change unexpectedly as the result of local medical conditions such as flu season or emergencies, which can suddenly increase populations in the emergency room, intensive care unit, and other care giving areas.
- Scarcity. Demographic conditions are simultaneously increasing patient populations and decreasing the pool of available care giving staff. As a result, schedulers and staffers need to compete for them using a combination of compensation and flexibility that enables people to self manage their work-life balance.

Small changes that improve scheduling can have a significant impact. Having too many caregivers on hand means managers have to account for why they went over budget and ask for higher funding levels. Having too few caregivers on hand poses a risk to patient care levels and compliance with Joint Commission regulations, which require certain staffing levels based on a hospital's patient population. When scheduling is optimized, departments are neither overstaffed nor understaffed, and shifts are assigned to the least-cost employee with the required care-giving skill set.

Over the course of analyzing numerous deployments of time and attendance applications at healthcare providers, Nucleus has learned that many of these providers also have deployments of advanced scheduling applications. In order to learn why healthcare providers make these additional investments, Nucleus more closely analyzed deployments by these users, which included Mercy Health Partners in Tennessee, TriHealth in Ohio, Robert Wood Johnson in New Jersey, and Banner Health, which has operations in nine western states.

BENEFITS OF ADVANCED SCHEDULING SOLUTIONS

Benefits that healthcare providers can expect to achieve as the result of an advanced scheduling deployment include reduced labor costs, improved productivity, and improved levels of care.

Reduced labor costs

Advanced scheduling applications enable healthcare managers to minimize overtime costs and reduce the use of costly agency workers. The caregivers available to a hospital are paid dramatically different rates, so assigning them shifts without sufficient visibility about their cost or availability makes it difficult, if not impossible, to cost-effectively utilize staff. Internal employees are available at their agreed-upon hourly rate or time plus one half if they are eligible for overtime. External caregivers from agencies typically cost twice as much as an internal employee. Nucleus finds that if a manager does not have an advanced scheduling application, they are far more likely to assign a shift to an overtime-eligible employee or agency worker even though a less expensive on-staff employee is available.

Advanced scheduling applications provide, for every employee, up-to-date information about how many hours they have worked, what their rate is, and how many hours they'll work during the remainder of the pay period. This enables

healthcare providers to reduce costs by identifying the least-cost qualified employee for a given shift:

- *"We reduced our agency costs by 30 percent over the first two years after the scheduling deployment."*
- *"In scheduling, you get a lot of up-to-date information about each employee; how much they've worked so far in the period, and how much time they have scheduled. When you're filling a shift, you browse lots of employees' data and pick the one who won't incur overtime."*
- *"The scheduling application makes it easier to see who is working, who is available, and how many hours they've worked. So managers filling shifts avoid incurring overtime hours and agency usage. This tool is a big part of our mandate to reduce overtime and avoid agency usage."*

One hospital reduced labor costs by \$1M by deploying advanced scheduling in just one of its 22 facilities.

Improved productivity

Advanced scheduling applications improve productivity by eliminating manual or partially-automated workflows and making it easier for employees and managers to exchange the information needed for scheduling decisions. Managers who use scheduling applications become more productive because a broad variety of information about employees — including certifications, length of rest-time between shifts, location, and shift preferences — is all in one place, so that it's easier to both rapidly make scheduling decisions and inform employees of them. Other online features such as shift selection and shift swapping entirely automate workflows that would otherwise require time-consuming interactions among employees and their managers.

Nucleus finds that productivity improvements are readily achieved when a healthcare provider deploys an advanced scheduling solution:

- *"Each manager is saving between a half hour and full hour a day because they are no longer making changes to multiple documents and applications. A change in scheduling automatically goes to the timecard and then payroll with no manual work."*
- *"The person's certifications, preferences, availability, and contact information is all in one screen in the scheduling application. We didn't have this before, so we're able to do the tactical parts of scheduling a lot faster."*
- *"The most recent Kronos version of scheduling enables employees to swap shifts online with no manager intervention. The system lets them do it as long as it doesn't break any scheduling parameters. There are about 60 swaps per week. So this saves everyone a lot of time."*

Productivity benefits are typically even higher when scheduling and time and attendance applications are purchased from the same vendor, because standard integrations support streamlined workflows. One end user said, *"Before, with ANSOS, I had to tab between three applications in order to compare time sheets to schedules in order approve someone's reported attendance. Now that it's all in Kronos, everything is in one screen and I don't have to do nearly as much."*

Another hospital that migrated away from ANSOS said, *"Doing scheduling in ADP is a lot better than in ANSOS. Instead of making changes in two places, then running*

batch files in order to get the changes into payroll, you do it once in scheduler, and it goes automatically to the time card and payroll."

One hospital system improved manager productivity by an hour a day when it migrated from a separate scheduling solution to one provided by its time and attendance vendor.

Reduced staffing costs

Often, hospitals keep extra workers on their payroll so that it is easier to have adequate staffing levels even during unanticipated spikes in patient load. This practice, which causes additional costs to recruit, hire, train, and retain employees, can be avoided with better scheduling. Because of improved visibility into their employee base, managers who use advanced scheduling applications are less likely to pad their staffing levels as a way to manage crisis-like situations such as catastrophic weather or accidents. Scheduling solutions also reduce costly employee turnover by making day-to-day operations more predictable and enabling employees to more actively manage their work-life balance by selecting shifts or swapping them with fellow employees.

Nucleus found that when scheduling was part of a broader initiative aimed at retention, healthcare providers were able to reduce costs related to higher turnover and headcount:

- *"Because we use the people we have so effectively, we're leaner in terms of the number of people on our payroll, which means lower benefits costs."*
- *"We have a major retention initiative underway, and scheduling, where people can pick up extra shifts or self-manage their part-time schedule is something that our people really like."*
- *"Enabling employees to swap shifts online is a big quality-of-life perk for them. It makes them less likely to quit."*

Improved quality of care

By reducing turnover and reliance on external caregivers, advanced scheduling applications make it easier for hospitals to control and improve the quality of care given to their patients. Although outside factors such as local health conditions or disasters can force a healthcare provider to utilize agency help, the visibility that scheduling solutions provide can dramatically reduce this type of labor. This is an important benefit, since caregivers hired through agencies have less knowledge of organization-specific workflows and best practices, making them less productive.

Nucleus found that healthcare providers that used advanced scheduling solutions to reduce costs were also able to improve their quality of care:

- *"Our termination rate is a lot lower than at an agency. So relying on them less means we have better caregivers helping our patients."*
- *"Reducing agency usage isn't all about costs. Assigning shifts to employees is much better because they know our organization, policies, and procedures. And they're more accountable. We can't review agency nurses. In my opinion it's always about quality of care first. So an employee is always better."*

CONCLUSION

Healthcare managers looking to cut costs should consider purchasing an advanced scheduling application that goes beyond the base functionality that may be in their time and attendance application. Advanced scheduling gives both staffers and schedulers the visibility they need to reduce costly overtime and agency costs, and become more productive. Beyond reducing labor costs, these applications also reduce reliance on agency workers, enabling hospitals and other healthcare providers to more tightly control and improve their quality of care.

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