



6 strategies for successful workforce technology implementation

Use data-driven workforce management to improve hospital staffing and scheduling.

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Healthcare staffing and scheduling is complex and time-consuming. It requires constant attention by managers, including navigating layers of internal and external variables that influence daily outcomes. These multifaceted processes may require contemporary strategies

and integrated technology solutions for effective management.

This article offers a practical guide for implementing integrated data-driven workforce management technology.

Background

Legacy Health, a regional health sys-

tem in the Northwest with more than 13,500 employees and 4,200 nurses, includes eight hospitals and a network of ambulatory clinics and other health-care services. Legacy organizes and ensures enterprise-wide staffing through a 24/7 central staffing office and a 200+ full-time equivalent (FTE) central re-

Catch the wave

Legacy Health's central staffing office staffs all of the various units across the entire eight-hospital system, so the workforce management technology implementation was rolled out in waves based on specialty.

- Pilot** Critical care, intermediate care, Emanuel Medical Center respiratory therapy (721 employees)
- Wave 1** Medical-surgical, step-down, psychiatry, Silverton Medical Center (1,621 employees)
- Wave 2** Family Birth Center, emergency department, pediatrics, and Mount Hood Medical Center surgical service pilot (1,525 employees)
- Wave 3** All surgical and procedural areas (1,147 employees)

This was the go-live timeline for the implementation

- Pilot**—12/10/16 **Wave 2**—7/6/17
- Wave 1**—4/16/17 **Wave 3**—10/1/17



A project team with clear roles and responsibilities is foundational to the success of any project. At Legacy, the project's scope led to a shared decision-making model. An executive steering committee (system CNO, hospital CNOs, chief nurse information officer, system director of clinical resource management [the author of this article], and the nurse executive council) and four workgroups worked with the project team (operational business owner, manager of the central staffing office, functional system administrator [a staffing application expert], project manager, training coordinator [a nurse educator], and trainers [staff specialists]) to provide organizational insight and oversight for important decisions about technology design and workflow. The workgroups included direct-care nurses, charge nurses, hospital supervisors, nurse managers, and directors, and also had non-nursing members such as personnel from human resources and information technology as well as ancillary staff to provide interprofessional collaboration and perspective. The project team reviewed information obtained from the workgroups and presented it to the executive steering committee for final decision-making.



After the project team and organizational decision-making methods have been developed, define how the project will be implemented. Conduct an assessment to examine the organization's structure and daily operations. In the context of a staffing and scheduling technology project, the project team should consider whether the implementation can mirror current staffing and scheduling practices or if the organization should change some of those practices during implementation. The team also must evaluate the overall scope of the project. If the organization has multiple workforce applications beyond staffing and scheduling, the team should decide if the application will be implemented in consecutive projects or if multiple technology applications will be implemented simultaneously.

For Legacy, the project team and steering committee wanted to mirror the current daily practices of the central staffing office. For example, because the office staffs all of the critical care units across the system rather than by individual hospital, Legacy's implementation was divided into four consecutive waves corresponding to the specialty design. (See *Catch the wave.*)



Organizational assessment provides insight into critical aspects of the project, including how to build and design the technology to align with organizational workflow, define roles based on end-user needs, and develop training.

At Legacy, the project team's assessment uncovered the lack of a true scheduler role. Instead, each department in the eight hospitals had different roles responsible for scheduling in addition to their other activities. The team developed an action plan and wrote an executive proposal and new job description to transition the system to a scheduler model. The scheduler would be a nonclinical employee, and the scope of the scheduler was one FTE to support 250 FTEs for daily schedule and time card maintenance. This would promote a standard approach and limit the training burden during the implementation. The conversion to the new model was FTE neutral; productive hours used by clinical staff to create schedules was used to support the new scheduler role.

The team's assessment also revealed that Legacy had seven outdated, overlapping staffing and scheduling policies, which didn't allow for building a standard technology before implementation. A workgroup converted the seven policies into two—scheduling and staffing—that include floating, trades, weekend requirements, scheduling cycles, cancellations, and vacation coverage.

source pool of nurses and certified nurse assistants who are deployed to support the daily staffing needs of 60 inpatient nursing units.

In 2014, Legacy partnered with GE Healthcare to purchase and implement Time and Attendance, a timecard software program. In 2015, the division of nursing continued the journey toward integrated workforce management by purchasing additional components: Staffing and Scheduling, Open Shift Notification, Mobile Time Management App, Business Analytics, and Patient Classification. The technology design and interfaces met Legacy's requirements for sophisticated applications that promote

ease of use and meet the system's complex daily organizational demands for data-driven workforce management.

With the promise of an exceptional technology platform, the real-world challenge was determining how to get each application efficiently implemented and keep healthcare leaders and employees engaged. Using these six implementation strategies, Legacy successfully converted to the new technology in just over 2 years:

- Establish the project team.
- Determine the how.
- Assess organizational structure.
- Consider the timing.
- Standardize project documents.

- Pre- and post-go-live support activities.

Strategies for success

To illustrate the six-step implementation strategy, I'll focus on staffing and scheduling because it was complex, had a significant impact on daily operations (eight hospitals, 126 inpatient nursing departments, and 5,000 end users), and was applied to the division of nursing, not just the 60 departments that staffed through the central staffing office. I describe the strategies below in consecutive order, but they can be merged, reordered, and applied to any workforce technology project.

In addition to these strategies, the success of any project requires leadership support and engagement. Legacy Health had unwavering support from the highest levels, and the project was a priority for the system chief nursing officer (CNO).

Outcomes

Legacy Health's previous technology conversion attempts were unsuccessful, which led to organizational resistance. However, with leadership support and the six strategies, the new project was a success. The project team:

- maintained the budget
- met every milestone with no deviation

4 Step 4 Consider the timing

The success of a project depends on the organization's ability to develop a realistic timeline that considers the project's scope, resources, and team size. Missing a major project milestone can lead to lost momentum among team members and loss of credibility with end users. Another critical element is a pilot period for testing the technology to ensure that it functions as designed and to solicit feedback from end users.

At Legacy, the team built a detailed project timeline that included all activities, including team meetings, in-person meetings, time for building the technology, employee and manager training, and go-live and post-go-live meetings. The project was rolled out in four waves over 6 weeks with a time gap between the pilot phase and the first wave so that the team could assess the work and make any modifications based on feedback. (See *Catch the wave.*)

5 Step 5 Standardize project documents

Standardizing activities and documents improves efficiency for the project team. During the pilot period at Legacy, the team learned what needed to be standardized and created documents to support the rollout for the next three waves. Standard documents included discovery forms for obtaining necessary technology-building information for each unit as well as documents to ensure adherence to all building, testing, and implementation processes. To help with end-user training and transition, the team developed staffing and scheduling policies, staffing office workflow documents, discovery documents for the technology build, and manager/scheduler and employee training materials. The documents were shared electronically with every nurse manager and assistant nurse manager and posted on the intranet. In addition, all documents were explained in detail during an in-person mandatory kick-off meeting attended by CNOs, directors, managers, assistant nurse managers, and schedulers.

6 Step 6 Pre- and post-go-live support activities

Pre- and post-go-live support activities engage end users and encourage them to adhere to new technology. Users can voice concerns to the project team and share information about challenges that require modification.

At Legacy, the project team led more than 70 pre- and post-go-live meetings. The in-person and remote video meetings were spaced according to go-live dates for each wave. Other activities included emails, monthly updates, internal communications, and a dedicated project email address that was responded to daily by the team.

Achievements

Legacy Health recognizes workforce management achievements that are associated with technology integration and use. Some of these achievements include:

- A repository of electronic workforce data about leave of absence, sick time, overtime and premium shift costs, patient acuity, and inpatient scheduling practices and vacancies that's used to determine hiring needs, modify unit scheduling practices, and grow the enterprise resource float pool.
- An annual cost savings of \$115,824 in fiscal year 2018 as a result of reduced spending on premium labor. Before converting to the new staffing and scheduling technology,

Legacy used decentralized recruitment methods when recruiting to fill vacant and open shifts in inpatient units. Converting recruitment to a central platform ensured organizational adherence to premium pay practices as well as an enterprise view of every resource for the best placement and most cost-effective use of personnel.

The reduction in premium hours occurred even with a patient census increase from 2016 (pre-central recruitment) to 2018 (post-central recruitment). The data below are cumulative for all areas that use central recruitment—60 inpatient nursing units.

FY* 2016 patient census	275,114	FY 2016 premium hours	107,020
FY 2018 patient census	276,017	FY 2018 premium hours	99,781
Patient census increase	903	Premium hours reduction	7,239

*Fiscal year

tion from training, go-live, and pre- and post-go-live meeting dates

- achieved end-user adherence in units that successfully converted from paper to electronic scheduling. (See *Achievements*.)

Reap the rewards

The use of integrated workforce technology can give healthcare organizations a platform for data-driven management. Technology platforms allow organizations to standardize approaches, develop common workforce language, and promote transparency about resource management and placement. They also benefit end users by streamlining processes and making information easily accessible. At Legacy, employees can view their schedules from home computers and smart devices and make schedule, trade, and vacation requests. And managers now oversee staffing and scheduling with an integrated system that reduces administrative time.

Though the task of converting, implementing, or even optimizing current workforce technology may seem daunting, the reward and payoff of a more sophisticated system outweighs the

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challenges, which can be addressed through the use of the six strategies presented here. ■

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Selected references

Bowie D, Bradley C, Fall D. Finding solutions for the nurse scheduling problem: A process to choose software. *Voice of Nursing Leadership*. 2016;8-10.

Drake RG. The nurse rostering problem: From operational research to organizational reality? *J Adv Nurs*. 2014;70(4):800-10.

Drake RG. The 'robust' roster: Exploring the nurse rostering process. *J Adv Nurs*. 2014; 70(9):2095-2106.

Making Workforce Data Management a Priority

This on-demand webinar highlights the importance of patient-centered, data-driven workforce management in healthcare settings. Topics include:

- Why you need to manage workforce data
- How to successfully implement patient-centered, data-driven workforce management
- Having the business case conversation for workforce management.

Access the webinar at bit.ly/2M8v7X8