A plan for fixing sterile reprocessing

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every morning when the central service (CS) staff arrived for work, they were greeted by a jumble of unprocessed sets left from the previous day. There were service problems with the OR, and morale was low.

“When the first shift came in, there was a never-ending pile of sets. They never got finished and they didn’t feel successful. Yet there was no understanding of why they couldn’t execute,” says Stephanie Karr, principal at Integrated Supply Solutions, LLC, Denver, who helped the department at this hospital get back on its feet.

With the department’s supervisors, Karr stepped back and looked at the whole process. The goal was to identify the key business drivers, opportunities for process improvement, and barriers to success and to determine how to achieve 100% of instrument processing daily. This evaluation and development of a staffing model helped achieve these objectives:

- align staff to the workload
- reduce an FTE of non-value-added activity
- reduce sets with missing instruments by 35%
- reduce unnecessary rapid turn-overs
- have 94% of its instrumentation available for case-cart picking (compared to 80% previously).

The project also had a positive effect on staff morale and the overall work environment. The staff could see the results of their work, there was a new sense of achievement, and a new bar was set. How did they do it?

Shutting off the noise

The first step was to eliminate the “noise”—inefficiencies that mask the true issues—by getting to a “zero baseline.” That meant cleaning up the backlog of sets so the project team could examine the existing process. The staff was brought in over a weekend to clear up the leftover sets.

The week-long assessment was started at 6 am on Monday. The assessment was followed by 4 weeks of data analysis, identification of opportunities and recommendations, and a presentation of results to staff, management, and leadership. Karr suggests any CS department could perform this type of analysis on its own by taking the following steps.

The assessment

Understand your business

During the assessment, evaluate how the department is functioning across all shifts. With the supervisors, observe reprocessing activities, and collect data.

“Having the supervisors as active participants really helps them under-
stand where the hurdles are,” Karr says. “And it helps them stay vested in sustaining the gains.”

As part of the assessment, observe and document:

• The work environment, work ethic of the staff, and impact of leadership.
• The work activities executed and the timing of those activities.
• Activities or steps that don’t add value. For example, do certain activities require the staff to walk across the department? Is that necessary?
• What is the quality of sets coming back from the OR? Is the OR contributing to the inefficiency of the process?
• How accurate is case cart assembly? Audit a sample of carts to determine the accuracy rate.

During observations, talk with the staff. What do they think about the current process and how it could be improved? If you have identified potential improvements, share them with the staff and ask for their feedback.

**Collect data**

Collect data on the department’s operations. The goal of data collection is to evaluate and understand the relationship of staffing to the department’s current performance and how you want the department to perform in the future:

• What is the average daily volume of cases?
• What is the mix of specialties?
• How many sets are processed by hour of day and day of week?
• Assess activities the staff are performing during decontamination, set assembly, case cart assembly, and so on.
• What is the current staffing for each shift?
• What non-value-added activities keep staff away from their assignment?

Document the number of incidents and time per incident.

In the facility where Karr consulted, after starting from zero, the supervisors realized that sets didn’t become available for assembly until about 10:30 am, even though many of the employees started their shifts at 7 am. That meant most of the first shift wasn’t needed until after that time if they were finishing all sets the previous day.

**The staffing model**

Using the data collected, develop a staffing model that reflects the organization’s workload and goals:

• Based on the assessment of activities, consider how staff roles can be organized the most efficiently. For example, what other activities make sense for the person running the steam sterilizers? When sets arrive that need a rapid turnaround, how can staff be deployed without affecting the productivity of regular set reprocessing?
• Determine when activities should take place during the work day.
• Determine the average work effort needed to accomplish the workload for those activities.
• Based on the work effort, determine the average number of FTEs needed per shift. (Be sure to incorporate factors for nonproductive time and actual work hours.)

Once you have built the staffing model to reflect your workload and goals, compare the results to your current staffing structure. Don’t be shocked if they are dissimilar.
Evaluate the staffing plan

Some things to keep in mind as you evaluate how to finalize your recommended staffing plan:

• Plan flexible staff positions so staffing can be adjusted on days when expected volume is higher or lower than average or when there is a heavy sick call.
• Evaluate opportunities to shift personnel between areas if you have more than one CS department or location.
• Evaluate the availability of agency or per diem staff to fill potential staffing gaps.
• Evaluate if you will use permanent staff, an on-call plan, or a combination for weekend work and evaluate the impact on the model.
• Consider the ease of hiring CS staff during off-shifts or nontraditional shifts.

Execute the staffing plan

Once you have finalized your plan, it is time to execute. This step may seem daunting, especially in unionized organizations because converting to the new model may require broad changes in staff roles and/or shifts.

“But the business impact will be well worth the effort if it is executed properly,” Karr says.

Once you understand your baseline and have executed your staffing plan (or a version thereof), keep the staffing plan current. Re-evaluate the plan whenever a change is made in the process to gauge the impact on workflow and staffing. For example, if a decision is made to take lenses out of instrument sets to avoid breakage and process them separately, how many more minutes will be required to process the 2 sets? What is the total of extra minutes per week? How will that affect staffing?

“If you don’t take these changes into consideration, you will wonder why all of a sudden you are not meeting your staffing target,” Karr says. “You may have introduced a step that is beneficial from a capital equipment standpoint. But how will that affect your production?” This concept also applies as you become more efficient. Gains achieved through process improvements should be updated in the model as well.

“It will reinforce the added value of your efforts and fiscal responsibility to the organization,” Karr says. “Doing more with the same or less.”

Moving forward: The top 3

Once you’ve conducted the observation and analysis, many opportunities will present themselves. Karr recommends starting with the top 3 inefficiencies to bring tangible improvement in a reasonable time.

For example, in the department where Karr consulted, each instrument set was assigned to a specific container. That meant the person assembling the set had to search for the container assigned to that set. This single step took over 1 additional FTE per week.

The solution was simple— make the containers more generic.

“All of a sudden, that non-value-added time disappeared,” Karr says.

Another area that may need attention is the storage room. Are sets stored in a logical sequence? Or must the staff zigzag to pick sets for a case? Are the most-used sets stored between knee and shoulder height to save strain on backs and shoulders? Is there extra space for growth? If not, new sets may need to be stored in an inconvenient place. Karr recommends leaving
about 20% to 30% of shelf space free for future set purchases and replacements.

**Sustaining gains**

Once you have completed the assessment, the staffing model, and the first set of improvements, use metrics to measure and track your business regularly (sidebar, p 23). Evaluate and update the staffing model data elements based on improvements and changes. This will help you understand how changes may affect your workload and allow you to be more proactive. It will also enable you to track whether you are sustaining the gains. Then you will be able to set a new baseline upon which to improve.

By completing these steps, you will have a framework for developing a predictive staffing model to start managing day-to-day workload fluctuations.

“Think how powerful it would be to understand your business well enough to know your staffing needs 1 to 2 days out and be able to adjust your staffing. It takes managing your business to a whole new level,” Karr says.

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**Key metrics to measure**

Some key metrics to measure for sterile reprocessing:

- case volume
- staffing levels
- production volume
- work in process
- sets produced per staff minute
- sets needed per case.