



Summary

Situational Challenge

Case carts were arriving late at the ORs, delaying case starts by as much as 2.5 hours. Some were also arriving with missing or incorrect supplies and instruments. The goal: reliably deliver accurately assembled carts by first case start time.

Improvement

With the new flow cell design, carts are delivered 100% accurately, ahead of schedule, with improved ergonomics for the pickers and reduced costs.

Benefits

- Improved staff satisfaction and safety
- Significant cost savings
- Staff freed up for new assignments

AN 1100 BED METROPOLITAN HOSPITAL WITH 50+ OPERATING ROOMS

Situational Challenge:

Ensuring that all supplies and instruments reach the OR in a timely manner is not easy, but the layout of the central sterile supply department at this facility made it even more challenging. Each staff member was responsible for completing a case cart from start to finish by picking supplies from a 27,000 square foot supply department. The department’s size and lack of flow consistently caused two distinct problems: defective carts with missing or incorrect supplies or instruments, and carts arriving late at the ORs. Add-on emergent cases and OR service calls routinely occurred during the build time, further complicating the situation. A key improvement goal was to deliver all case carts, accurately assembled, for the day’s scheduled surgeries by 0730 (the first case start time).

Project Activities:

The case cart picking process called for a single picker to assemble an entire cart, including supplies, surgical packs, and instruments; enter the cart into the system; and deliver the cart to the OR. To complete each cart, pickers had to travel the length of the department several times. The process was highly variable, and each picker completed tasks in different amounts of time.

A team was established to review and improve the process. With assistance from the Productivity Healthcare consultant, the team developed a “flow cell” design to eliminate variation in picking times and diminish the distance each picker had to travel for a single build. The layout of the department and the picking process were redesigned for easy flow of the case cart from one process step to the next.



FLOW CELL DESIGN IN CENTRAL SUPPLY

After each case cart is loaded at the first station with the required items (surgical packs), the picker at that station moves it into a standard work in process (SWIP) lane to be worked on by the picker at the next station (supplies), and so on. When the instrument picker (third station) completes the cart, he or she moves it to the system entry and delivery SWIP lane. There, the system entry picker matches it up and delivers it to the correct OR.

As with any process, all process times were not exactly in sync. To level the times between each process step, pickers flexibly move to work upstream and downstream as needed. When a picker moves a case cart into the upstream SWIP lane and sees that all three lanes are full,

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Productivity Healthcare’s experienced professionals have worked alongside providers, payers, and their partners to identify and improve patient value streams. We will customize an approach using PDCA (plan, deploy, check, act) cycles to build and integrate these capabilities in your organization. Our patient-focused view has been adopted in hospitals, clinics, insurance, and government entities to discover systemic causes and create appropriate plans for improvement.

The new design breaks down the process into four elements or sub-processes with four corresponding work stations—sterile surgical packs, supplies, instruments, and system entry / delivery. Each picker is now responsible for a single station, and carts move sequentially from station to station. To even out or “level” the processing times between stations, which are not always in sync, pickers move flexibly upstream and downstream. (See sidebar for details.) The new process and flexing of pickers resulted in a consistent, reliable flow of case carts to completion.

Project Activities: Preparation—12 months; Implementation—3 months

Improvement:

Numerous cost savings were achieved in Central Supply and in the ORs. In addition, employee satisfaction scores improved by 75% and the response from OR staff was overwhelmingly positive. Before improvement, case carts routinely arrived as much as 2.5 hours late. Afterward, all case carts arrived a full two hours prior to first case start time. Many ergonomic improvements also resulted: the team reduced the NIOSH lift index (a measure of physical stress) by 0.34 (nearly 20%), and worker’s compensation cases due to lifting instrument trays fell by more than 50%.

Key Outcomes:

Reduced case cart build time from a range of 8-15 minutes to < 4 minutes; case cart delivery improved 100%; case carts are 100% defect free (no missing or incorrect supplies); ergonomic NIOSH lift Index improved from 1.75 to 1.41; walking distance to complete a case cart reduced from 864 feet to < 200 feet; production control board displays hourly status of case carts completed; number of pickers reduced from 6 to 3 with extra staff redeployed to other areas of the department.

he or she “flexes” forward to pick the required supplies or instruments. When a picker finds their SWIP lane empty, they flex back to assist the upstream (previous) process.

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Our Custom Solution

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