

Using Lean to Reduce Central Line Infections

Outcomes

- For at least the first six months following implementation, the subject unit had zero central line infections.
- A better, standard, line dressing kit was developed that forced standard processes to be followed

A national call to action to eliminate hospital-acquired infections was recently amplified by the announcement that Medicare would stop paying for them. Hospitals, eager to do right by their patients and their missions, have accelerated efforts to eliminate these infections, starting with central line associated bloodstream (CLAB) infections. Central lines, when inserted or handled improperly, can introduce microorganisms that cause devastating infections.

At an Oklahoma City facility, staff is implementing Lean to accelerate progress against CLAB infections by creating a standardized procedure for dressing lines. Facilitated by HPP consultants, the cross-functional team mapped and followed the process from the physician order through line insertion through radiology—to ensure that the line was ready to use—through line dressings, and then observed each step as it was actually being done.

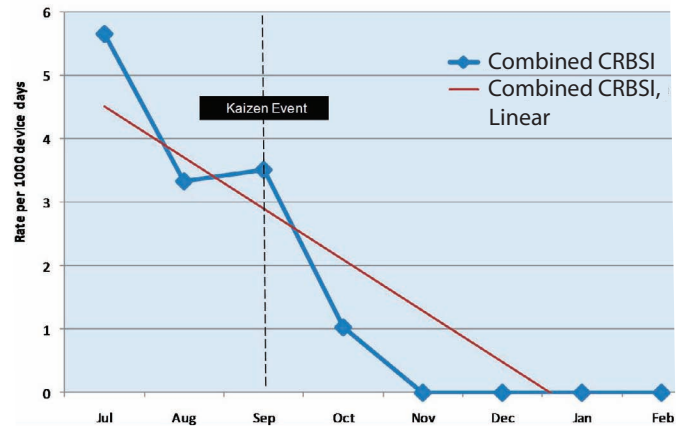
Variation is the Standard

The team discovered that there was not one process, but actually five or six.

“Reality sank in,” said a staff member. “The processes were done differently. For example, a chest x-ray is taken to determine if line placement is correct and the line is safe to use. But there were multiple ways to communicate—fax, phone, and so forth—and staff needed to look in five places to find the results. It was inefficient.”

While the off-the-shelf dressing kit contained most typical supplies for a dressing change, the nurses discovered that equipment and lines differ. Nurses took different things from the kits, based on what they had been trained to use. They discovered training was nonstandard. The improvement team

COMBINED CATHETER-RELATED BLOODSTREAM INFECTIONS (CRBSI)



“Now we have a standard kit, detailed instructions, and better communication among nurses and with other departments.”

spent weeks developing a better kit for nursing staff to do dressing changes, with visual cues and step-by-step instructions on every kit.

To ensure sustainment, the team practiced instructions and videotaped the event. Within six weeks, nearly 100% of the nurses responsible for line dressings were trained. Now the training is part of orientation, and everyone must demonstrate proficiency annually.

Results

Feedback has been very positive. The dressing change process is stable now. In a promising sign, demand for the kits is spreading, and dialysis nurses are pulling for training. From a single Lean activity, an important part of central line infection prevention has been established, sustained and spread.

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