



Pittsburgh Regional Healthcare Initiative

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UPMC South Side Pharmacy: *the Un-batching experiment*

“It’s a matter of learning to look at work differently,” says Kelley Wasicek, Manager, Pharmaceutical Services, UPMC South Side, about the Perfecting Patient Care (PPC) Learning Unit in her unit. “Often it seems counterintuitive.”

One of the most difficult and fundamentally different ways of looking at work is as a patient-focused “pull” system. Ordinarily, work is a series of

tasks and demands placed upon workers by supervisors or others on up the chain of command. This system relies on “Push”—push on the worker to produce, and push on the product to the customer, often regardless of whether the customer has a need for it.

An Example of Push

The pharmacy’s method of unit dose batching was a good example of a “push” system in action. The pharmacy filled, checked and delivered all its intravenous (IV) orders up to 48 hours in advance and “pushed” them out. The problem was that, in that amount of time, patients were transferred or discharged, medication orders changed. The pharmacists had prepared medication to meet a need that, for one reason or another, no longer existed. Having numerous

What is an A-3?

It’s no mystery. The term A-3 is the name given to 11" by 17" sheets of paper--the size used for this planning device. A-3s are tools derived from the Toyota Production System (TPS). In the Perfecting Patient Care system, A-3s are used to map out problems as they exist, observe the current condition, define what the ideal situation would look like, hypothesize how to get from here to there, and build in tests.

Why use them?

A-3s are a disciplined way of examining problems and creating solutions. In TPS, every problem is mapped this way, usually by hand, and used as a springboard for specific actions and measurements of progress. PRHI has adopted the A-3 across all disciplines represented.

extra doses on the floor increased the chance for medication error. And in the end, every a large percentage of the IV medication came right back to the pharmacy, where they required time-consuming restocking and crediting.

“We basically prepared all these IV’s and took them out for a walk,” said Wasicek.

Moving Closer to the Ideal

Pharmacy staff wanted to move closer to a system where their work would be “pulled” by their clients, the nurses (and ultimately, of course, the patients). Stated as the *Ideal*, the patient “pulls” from the system what is needed in a way that is defect-free, one by one, with no waste, immediately, in an environment that is physically, emotionally and professionally safe. Only what was needed was prepared, reducing the potential for error and waste.

To move their system closer to the ideal, two years ago the pharmacists examined their batching process and halved the advance time, from 3 days to 32 hours. Shortening the lead-time led to a reduction in IV returns, to 25- 39%. Still, pharmacy technicians wasted hours preparing and restocking IVs that were ultimately returned.

Wasicek and her team decided to experiment with shorter IV fill intervals. Acting on a main tenet of the PPC system, “learning by doing,” pharmacy staff began to experiment with the frequency and timing of filling and delivery. They have been able to shorten lead times to between 3 and 15 hours, depending on the scheduled administration time for a particular dose. Fewer than 17% of the IVs are returned .

“The Pharmacy Department is not staffed 24 hours a day, so we have to do some preparation ahead of time,” said Wasicek. “And while our system is still not ideal, we are providing meds much closer to ‘just in time’ and showing some good results.”

The batching experiment is beginning to save time—5 minutes here and 5 minutes there. It adds up. Based on previous observations, the batching experiment could save up to 89 minutes of pharmacist time and 13 hours of tech time per week.

“Now if we can figure out a way to ‘batch’ the saved time,” says Wasicek, “that would seal our success.”

Wasicek sees merit in this experiment because, “it’s authentic work, not a contrived scenario. We try to engage everyone, including our customer, in the design of the work, then decide what’s working and what’s not.”



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Education and Training

Education is key for inquisitive pharmacists. Wasicek points out that the comfort level required for change can only be achieved through a thorough understanding of the principles underlying the PPC system. The pharmacy staff is attending the PPC University sessions, four full days of intensive instruction. Part of the instruction deals with the use of A-3s, the road maps that specify goals and methods. On a practical level, each staff member has an opportunity to work as Team Leader, solving problems in the course of work.

“We are learning the value of a good A-3,” says Wasicek. “When you’re not sure what to do, if you have a question or a problem, you can refer to the highly specified design on the A-3.”

Instead of supplier-driven “push,” the pharmacy staff is experimenting with ways to respond to the “pull” of client need. ❏

