



Pittsburgh Regional Healthcare Initiative

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On Starting a Learning Unit

Between them, RNs Judy Shovel and Sue Martin have over four decades of nursing education and management experience. Judy, who started as an ICU nurse, ended up in the education department developing process improvement models. Ms. Martin, a former nursing clinical director, is now in clinical design/improvement.

Ms. Martin and Ms. Shovel shared an interest in improving patient care by improving the system of care delivery. They had long realized that convoluted systems prevent healthcare workers from doing the jobs they deeply care about. Problems in the system end up surfacing as: (a) errors, (b) waste, and finally (c) rework and frustration of the frontline staff.

When Ms. Martin and Ms. Shovel learned about the Toyota Production System model in use at other hospitals in the region, they became intrigued, due to their work in the past 4 years with UPMC Shadyside's Clinical Design Initiative.

"At first, I was like everyone else," says Ms. Shovel, "wondering what cars have to do with patient care. But it wasn't long before we understood that the ideals behind TPS really do apply to health care."*

Ms. Shovel and Ms. Martin were hand-picked by Shadyside's Vice President of Patient Care Services, Tami Merryman, to become Lend Forwards—in essence, students at an existing Learning Unit at South Side Hospital. From a management point of view, doing without two key employees for several weeks was a sacrifice—and an investment. But Shadyside's new Learning Unit, Tami realized, would build naturally on the years of clinical design work begun at Shadyside. The Learning Unit would have an enormous head start

if these two top people received the training.

Throughout the organization, hospital leadership including the CEO agreed to commit the time (up to 6 months) and resources (two top, full-time managers) to create a Learning Unit that would succeed.

What did Ms. Shovel and Ms. Martin learn as Lend Forwards on the South Side Learning Unit? Under the guidance of Teacher/Trainer, Deb Thompson, they found "eyes to see." They learned to watch one person work for one hour at a time, observing everything about how the work was done. Sound simple?

"We say that managers observe at 50,000 feet," said Ms. Martin. "Instead, we learned to observe close-up, as the work was happening. It was exhausting. It was also a revelation. Finally we could see what the problem was in getting our patients what they needed."

In one-hour sessions, Ms. Shovel and Ms. Martin observed how many times the nurses were drawn off-task by late medications, lack of supplies, loss of keys—a hundred and one little problems. The nurses considered it part of their jobs to work around these problems, having little hope of solving the underlying causes.

"We call it 'nursing the system' instead of nursing the patient," said Ms. Shovel, "and we found they had to nurse the system about a dozen times each hour."

Perfect Patient Care Ideals

Certain ideals apply to the making of cars and the care of patients. Those ideals involve work (care) that is supplied:

- ◆ On demand.
- ◆ Immediately
- ◆ Defect free.
- ◆ One at a time.
- ◆ Waste and error free.
- ◆ In an environment that is physically, emotionally, and professionally safe.

While at the South Side Learning Unit, Ms. Shovel and Ms. Martin also learned to create A-3's, problem diagrams that:

- ◆ Specify the problem
- ◆ Describe the current condition and the target condition.
- ◆ Describe the steps required to reach the target and solve the problem at its root cause.

After several months at South Side, Ms. Shovel and Ms. Martin were ready to bring their learning over to Shadyside, and to begin the process of painstaking observation. Experimenting with ways to fix problems, they hoped, would begin to yield small, incremental improvements to the system—which could ultimately add up to some big improvements.

Part two

“I’m the air traffic controller of patients’ needs,” says Tina Danzuso, RN, Team Leader on the PPC Learning Unit at Shadyside’s 4 Main, a general surgery unit.

With guidance from Judy Shovel and Sue Martin, two Program Managers involved in clinical design and improvement, Tina began to learn the detailed techniques of observation and experimentation used in the system of Perfecting Patient Care. Adapted from the principles of the Toyota Production System, PPC stresses that it’s *patient needs* that guide health care delivery.

As Team Leader, Ms. Danzuso’s full-time job is to notice when a patient’s need is not being met. She will fix individual problems immediately, and then systematically unravel the problem to its root cause—wherever that may lead—and summon whatever help is needed to fix it. When a nurse isn’t able to fill a patient’s need, the next step sounds deceptively simple: *just define the problem.*

Who’s Got the Key?

What is a Learning Unit?

A Learning Unit is a small hospital unit organized around the principles of TPS. At the point of patient care, the experts—the people doing the work—focus on the goal of meeting patient needs, one patient at a time. On the Learning Unit, everyone in the care continuum works toward the ideal: *delivering patient care on demand, defect free, one-by-one, immediately, without waste or error, in an environment that is physically, emotionally, and professionally safe.*

When a problem hinders work, a full-time Team Leader takes the lead. Rather than interrupting those performing the work, the Team Leader immediately begins researching the problem by first determining what happened. Then to determine the root cause of the problem, the Team Leader asks, “Why,” five times. This disciplined approach to problem solving is based on the Toyota Production System (TPS), a model borrowed from industry.

As the problem’s origins become known, the workers closest to the problem design solutions immediately, testing them with scientific methods. This way, every worker becomes a scientist who knows how to contribute to the cycle of rapid, frequent, low-cost improvements. Learning Units increase scientific knowledge of patient need and ways to meet it.

With a Learning Unit, the hierarchical concept of the *Chain of Command* yields to the idea of the *Help Chain*, where managers and executives become partners in problem solving. The Help Chain answers the question,

“What if the workers on the Learning Unit need more information or resources to get to the root of a problem and solve it?”

In this case, the Team Leader engaged in problem solving is free to pull assistance as needed to the point of patient care from the manager, the director, the CEO, even the trustees.

But how does this powerful problem solving knowledge spread from one tiny unit to a whole hospital—and eventually an entire health plan and an entire community? Learning Units also serve as learning labs where others are taught—CEOs, managers, and Team Leaders in training from other units and other hospitals. (See *On Starting a Learning Unit*, page 1.)

This model has beneficial “side effects.” It enables healthcare professionals to spend more time doing the front-line care giving to which they are dedicated. It also wrings inefficiency out of the system—estimated to consume from 33 to 50 cents of every healthcare dollar.

Patients coming out of surgery often control their own analgesics by use of a pump, which regulates the dosage and prevents overdose. Sometimes, in advance of a painful procedure, a nurse can safely override the pump to give the patient an additional dose of pain reliever.

All the nurse needs is the “narcotic key” for the pump.

With one set of keys on the entire floor, they are rarely in their proper place. Nurses routinely spent frustrating minutes

searching for these keys, while a patient often endured needless pain.

Many nurses, many minutes—it adds up.

“We observed that in one 24-hour period, 49 minutes were lost looking for keys,” said Ms. Danzuso. “If you extrapolate that over the entire hospital, that’s 6000 hours per year—the equivalent of *three full-time employees.*”

The floor nurses, under the guidance of their Team Leader, Ms.

Danzuso, solved this problem in a matter of days. Now at the beginning of the shift, each nurse receives a narcotic key to carry with

them. At shift’s end, the keys are turned in, counted, and given out to nurses on the next shift. Thus the RNs can monitor controlled substances, while ensuring that every patient’s need for pain relief is met. Patient care improves while hours of wasted time, frustration and distraction are removed from each nurse’s job.

Problem? What Problem?

Sometimes, as Ms. Danzuso points out, it’s not that easy to define the problem. Often she will “shadow” a nurse and observe her to begin to unravel the puzzle.

“You can ask a nurse what she just did, and she will tell you she changed a bandage,” says Ms. Danzuso. “When the supplies aren’t there—and this happens more frequently than we realize—she runs around gathering what she needs, then goes in and changes the bandage. She doesn’t recognize the *running around* as a problem.”

Ms. Danzuso says that the Perfecting Patient Care System has taught her the art of disciplined observation. She or Judy or Sue will follow a nurse through her duties for an hour, marking down everything she does. If asked, the nurse often cannot name the things that stole her time.

“In one hour, I must have seen 12 things that made me feel bad for the nurse,” said Judy. “The gown supply was exhausted, and she had to walk clear down the hall. Staffers have to run to the supply room for cups, bandages, supplies for mouth care—you name it. Not until you observe this closely can you discover all their wasted movement. People heroically work around the broken system every day without even realizing it.”

To answer the question of supplies absent from rooms, the unit recently began experimenting with a “Supply Ticket.” They discovered that no specified way existed for supplies to get to the rooms, so they made one.

JCAHO Comments on Learning Unit

Recently, in the midst of starting their Learning Unit on 4 Main, UPMC Shadyside Hospital underwent an evaluation by the JCAHO, the national hospital accreditation body. Undaunted, the unit welcomed the surveyors, eager to demonstrate what they are learning in the course of work every day.

The JCAHO surveyors apparently saw the potential of the Perfecting Patient Care model. In their comments to the hospital, the surveyors said:

This facility, UPMC Shadyside, Pittsburgh PA, has demonstrated many strengths to the survey team. One such initiative is the demonstration project of the TPS (Toyota Production System) the leap into the health care arena at the unit level with an interdisciplinary team. We have enclosed a report of their efforts and success of starting a Learning Unit at the unit team level. If publication or JCR should need a sample of an enthusiastic team approach to solving problems that start with "What does the patient need?" this is a very clever approach to drill down at a staff level to solve the patient's problems.

At the beginning of each shift, the nurse surveys each patient's area and notes the needed supplies on a pre-made supply checklist. Called a Supply Ticket, this checklist is placed in a clearly visible holder, where it is retrieved and filled by an assistant. Now when the nurse changes a bandage, she is sure to have what she needs—no more, no less. With supplies replenished regularly, the nurses are beginning to forsake the stockpiling of supplies. The successful use of Supply Tickets, which has reduced inventories and wasted steps, has moved from the Learning Unit onto the entire floor.

“We’ve tweaked it a little,” said Judy. “We had to experiment with how many times per shift to do it, how to accommodate patients arriving in the afternoons, and so on. But the whole spirit of the Learning Unit is to experiment.”

Help From Above

“Senior staff members come to the Learning Unit nearly every day. Their presence is reassuring; it’s a way of asking, ‘How can we help you work better?’ They are giving nurses more authority over their work. They are recognizing nurses’ hard work, and how valuable they are.”

What are people learning on the Learning Unit? They are learning how to recognize and identify problems in their work. They are learning disciplined ways to sketch out problems, propose ideas, and experiment with those ideas until they become solutions. ☞



Every nurse has a key now, allowing them to meet patients' needs for pain relief immediately—while still meeting the requirements for handling controlled substances. Because it represents a redesign of the work, and because it has been so successful, the question of sustaining the change is moot. “I can’t imagine going back to the way it was,” says one nurse.

