Training Within Healthcare

It is just as relevant in 2009 as it was in 1944

By Mark Graban

Training Within Industry (TWI) is thought of most commonly as a method used in manufacturing and shop floor environments. It is less often known that, by 1944 at the latest, the TWI materials had been adapted for use in healthcare settings. Today's hospitals still can benefit from the principles and methods explained in these World War II era manuals.

In 1944, the War Production Board published a 12-page healthcare addendum to the core TWI materials. The basic TWI methodology is sound but requires an adaptation in terminology. For example, if the term "production" is replaced with "patient care," the TWI materials fit well in a hospital. The word "tools" is more appropriately replaced with "instruments" or "equipment," and "head nurse" is a much better term than "gang boss."

The first page of the healthcare addendum states the imperative for TWI by asking the question, "Do you have any of these problems in your hospital?"

Listed are 31 problems in the categories of Work Problems in Patient Care, Safety Problems, Quality Problems, Personnel Problems. Reviewing this list with managers or staff members at a modern hospital would lead to "yes" answers for most, if not all, of the 31 questions (given updates for modern tools or lingo). Problems range from the merely frustrating ("limited storage space - linen and supplies - not properly used") to the dangerous ("safety equipment not properly used.").

Do you have any of these problems in your hospitals?

Work Problems: Patient Care

- Deliveries of supplies delayed because of improper ordering, i.e. medications, laboratory work, etc.
- Employees don't know specialties.
- Mix-ups in getting supplies.
- Articles returned by other departments because they were not made right, i.e. masks, gowns, etc.
- Employees have special problems because of changes in techniques.
- Poor planning.
- Employees have difficulty in handling new-type equipment.

- Limited storage space (linen and supplies) not properly used.
- Excessive wear and tear on equipment.
- Extra beds put to accommodate extra patients without extra bedside equipment being supplied.

Safety Problems: Safety to the Patient, the Equipment, the Employee

- Safety equipment not properly used.
- Poor hospital housekeeping.
- Employees don't know safety rules.
- Employees don't know hazards of their jobs.
- Employees get careless.
- Minor injuries or illnesses not reported.

Quality Problems

- Inspection standards are not met.
- Too much faulty work.
- Equipment not properly used, i.e., oxygen tents, steam kettles, etc.
- Correct procedures not followed.
- Too much left to inexperienced employee's judgment.

Personnel Problems

Employees:

- Leave to go to other hospitals — couldn't "get the hang" of job, or want more money.
- Lack experience in mechanical things.
- Lack interest in the work - not inspired with the idea of "service."
- Want transfers — they think they can "make out" better in other positions.
- Claim to have had good experience but don't "come through."
- Dawdle or pass the buck — let the other person do it.
- Are instructed the wrong way.
- Get discouraged learning the job.
- Watch the clock.
- Experienced employees difficult to find.

The bottom of this page poses a final question that reads, "Supervisors say that most hospitals could be solved — or at least helped — if they had a better trained work force. How about yours?" Having a poorly trained work force is often an excuse for all of our problems. From a lean standpoint, it is

unfair to blame the employees for these systemic problems in a hospital. It is management's responsibility to provide proper training (and proper tools) for staff and supervisors. The TWI manuals give us a roadmap for systematically improving the skills and capabilities of our employees.

Problems and "waste" (as we would describe it in the lean methodology) abound in hospitals. Poor processes and disconnects between departments lead to waiting for patients and frustration for staff members. A lack of standardized work methods can lead to mistakes and errors that cause patient injury or death. The waste is not the result of "bad" employees or "bad" managers. Rather, the root cause of many of these problems can be traced back to weaknesses in job design, training, and supervision techniques. Better alternative methods are, thankfully, outlined in the TWI manuals.

The Need for Job Methods (JM)

Dr. Donald Berwick, of the Institute for Healthcare Improvement, estimates that 30% to 40% of work in healthcare is waste. Hospital employees typically are more than aware of this. Because hospitals are busy environments, managers and employees often do not take the time to stop and improve a process. Instead, they use workarounds to get the job done now and to get through the day.

Rather than tolerating waste and fighting the same battles each day, hospitals can be inspired to create (paraphrasing JM materials for healthcare) "a plan to produce greater quantities of patient care in less time by making the best use of the people, machines and materials that are NOW available." Freeing up employee time to improve Job Methods (in addition to just doing the Job each day) is a basic, but powerful step in the improvement process.

For example, one hospital had an inpatient unit with only three "pulse oximeter" machines available for the six nurses who worked at a given time. Some nurses would come in early (off the clock) to "claim" a machine, hiding it for their own use. Nurses would wait for machines or come into conflict with each other throughout the day. This was not the best method, but it was tolerated and never questioned.

Inspired by lean methods, a team of hospital personnel stepped back and observed the work for a two-week period. They identified problems that they had "known" were there, but now saw with fresh eyes. The team tracked down three missing pulse oximeters from other parts of the hospital and

labeled them, pairing each with one of the six nursing carts. A new process was put in place for each nurse to "sign out" their own set of equipment for use throughout the shift. The time freed up from search for or fighting over pulse oximeters was now freed up for providing more and better patient care. The team wrote a summary of their improvement, highlighting the benefits and giving credit "where it is due" to other employees who helped with this small improvement. The team also realized they needed hospital-wide improvements and processes to make sure the machines were not again "borrowed" by other units that were in need.

In a typical hospital department, there are countless examples like the one. If employees are given a method for improvement and the time to do so, they can improve their own JMs through direct observation and JM analysis questions.

The Need for Job Instruction (JI)

In a typical hospital, current methods often are informal or inconsistent. A common objection to the idea of standardized work is: *"But every patient is different."* That is not a good excuse, though, for not standardizing certain tasks that are independent of patients. Often, technical procedure manuals, while valid, sit unused on shelves. These technical manuals often miss many of the details of how work is done throughout the day, leading to waste and inconsistency. For example, a hospital laboratory will have binders full of methods for "how" to do each detailed clinical test, but there is zero documentation about how each person structures their job throughout the day or how non-technical tasks (such as supply replenishment) are done.

JI and the Job Breakdown Sheet (JBS) approach can be used in a way that does not place undue constraints on clinical decisions. The decision of whether or not to start an IV for a patient is a medical decision. The method for how to prepare and administer that IV once that decision has been made is something that can be standardized through a JBS.

In one hospital, the nursing assistants used a JBS to define the precise method for admitting a new patient into their unit. (While "all patients are different," and there are some variations in the method required if the patient is a new admit from emergency or if transferred from a different unit, the JBS still can be a helpful tool.) The JBS format listed the 24 steps required, starting from receiving communication from the charge nurse that a patient is arriving to the point when the patient is comfortably in the room and the assistant can leave.

The 1944 JI manual gave examples of JBSs that could be used for nursing. For, example: how to prepare a thermometer for use. While the technology has changed (digital thermometers instead of mercury bulbs), the need for a JBS is still present, i.e., how do you clean them or properly use disposable covers. Not having (or not following) consistent methods can lead to patient infections or other problems.

In both the 1944 examples and our 2009 usage, the JBS lists "key points" that are details that can impact quality or safety or "make or break the job." For example, the nursing assistants had a key point of "Get the heart monitor and leads with the other supplies before the patient arrives." In a traditional management setting, this task might be "enforced" by a supervisor — the implicit contract is *"Do it this way, and you won't be punished."* In the JBS method, in keeping with the lean philosophy of "respect for humanity," there is a column that explains why the key point is important. In our 2009 example, the "why" statement explained *"To avoid wasted walking and to ensure the patient can be monitored immediately upon arrival"* to the heart treatment unit. This is a method outlined in the modern "Toyota Talent" book as a way of creating internal motivation for staff. Thinking *"I will do it this way because it is best for the patient"* is much more effective than *"I will do it this way because I might get caught and punished."*

One reason there is variation in healthcare delivery is the lack of a formal training system for new employees. I have observed many hospital laboratories where the new employee was "trained" by having to follow an experienced medical technologist around to watch them work. As the "trainer" talked and did their job, the new person was struggling to keep behind them, scribbling frantically, creating what was, in effect, her own unique private training manual. I saw that she was not getting it all down, was frustrated, and was not given the chance to ask questions. As the TWI manuals say, the student wasn't learning, which meant the instructor wasn't teaching.

I have coached hospital employees in using a TWI-based four-step training method that is simple and effective.

1. Talk through the JBS and allow the trainee to ask questions and give feedback.
2. Demonstrate the work and how the JBS is followed.
3. Allow the trainee to try the JBS, being observed and coached by the trainer.
4. Verify, after training, that the trainee has learned the JBS and can follow it with good results.

Employees appreciate the effort put into simple-yet-effective training methods. Having formal cross-training matrices and tracking training progress helps the trainers pace their training work appropriately.

The Need for Job Relations (JR)

I hear frequent complaints from hospital professionals, statements that are sadly reminiscent of my days working with assemblers in manufacturing. Highly skilled nurses and medical technologists say things such as:

- "They want us to check our brains at the door."
- "I feel like a robot."
- "I've worked here for six years, and nobody has ever asked me what I think."
- "I was branded a 'troublemaker.' I was told to just do my job and to quit wasting my time on that [improvement] stuff."

Nobody, whether they are production operators or nurses, should feel that way in their workplace, not if we are going to have quality outcomes. Why do hospital personnel end up often feeling this way? One contributing factor is the lack of formal hospital leadership development programs. It is far too common for the "best" employee to be made a supervisor. In the same way the best Industrial Engineer might not make the best I.E. manager, the same is true with nurses and medical professionals. Even if the person has the personality and interest in being an effective manager, hospitals are generally sorely lacking in supervisor training, most of it being "on the job" or "figure it out as you go."

The JR manual would be a good starting point for any hospital looking for a supervisor and leadership-training program. Good supervision skills can be taught and practiced, if the effort is made. Hospitals, their employees, and their patients would be well served by moving away from "top down" authoritarian supervision methods where "writing people up" is more common than coaching, and you are more likely to find the supervisor in their office or in a meeting instead of being out where the care is being provided (the "gemba.")

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Mark Graban is a senior consultant with ValuMetrix Services, which is part of Johnson & Johnson's Ortho Clinical Diagnostics. Since 2005, he has worked with hospitals in the United States, Canada, and England helping teach and implement lean management and practices in departments that include laboratories, radiology, and patient care settings. Mark is also the author of a book entitled "Lean Hospitals: Improving Quality, Patient Safety, and Patient Satisfaction," published in 2008 by Productivity Press. He is also the founder of the popular site http://www.leanblog.org.