Improving the Frontlines of Hospital Care: The Critical Elements of Leadership and Learning

The 8th National Quality Colloquium
August 18, 2009

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Frontlines of Care: ICU Nurse

Patient on ventilator, vent setting turned down as an experiment

- **9:10** Missing container for sputum sample
- **9:25** Try to give bath, but no towels
- **9:30** Prepare for triple lumen insertion, but doesn’t know what kind of supplies the surgeon will want
- **2:10 P.M.** Lab lost sputum sample, need to redo
Frontlines of Care: Physician

- Ready to discharge patient, but MD wants to speak with patient to ensure he understands his condition
  - Phone broken, can’t connect with translator
  - Can’t print discharge orders from the computers
  - Wrong pager number for translator
- MD: “If I worked at McDonald’s, these systems problems wouldn’t happen.”
  - Observed by Christi Zuber, Kaiser Permanente
Workaround Culture

- 239 hours observation, 26 nurses, 9 hospitals
- 264 operational failures
- Typical Response: **Workaround** (93%)
  - Focus on patch so immediate task at hand can be finished
  - Fix it on his or her own whenever possible
  - If help is needed, ask friend first, then colleague, only when unavoidable, manager or doctor
  - No effort to prevent recurrence

Workaround Culture: Lack of Organizational Learning

“We never told the pharmacy when we got a dose of medicine that was more than we requested. We just squirted out the extra because we figured they were busy, they had not intended to make the mistake, and they wouldn’t do anything about it anyway. It was sad really because we weren’t letting them have the information so they could fix their own problems.” - Nurse Hosp #8
Puzzle: How to Improve?

- Harried Nurses
  - Spent on ave. 1 hour per shift working around failures (~$100 per failures)
  - Stayed 45 minutes (unpaid) over end of shift
- No “Big Problem” that if fixed would eliminate these failures and their workarounds

Chart from IHI website, Pareto Diagram 2004
Instead Many “Small-scale” Problems

81% of Wasted Time from >50% of problems
Data from JCAHO on Sentinel Events 1995-3/31/09

Need to address 59% of the problem types to get 80% improvement
“Long Tail” of Problems

- Many problems, each seems “small” individually
  - On their own, they don’t kill patients or waste hours
  - Can work around problem easily

- Cumulatively, have significant impact
  - Interrupt work, often interrupts other people as well
  - Delays care
  - Wastes time, causes frustration

- Challenge “Camouflaged” to managers because workarounds are effective in the short term
Why might Long Tail exist in Healthcare?

- **Complex, interconnected work with many steps**

- **When healthcare providers multi-task**
  - Hides small problems because they can still be productive

If problem with Patient A

Move to Patient B”
Match Effort to Distribution

Pareto

- A few large problems
- Measure outcomes
- Small group of experts
- Big payoff can justify expensive solutions
- Stand alone project
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**Long Tail**
- Many smaller problems
- Measure process
- Need to engage many people
- Need to resolve problems with lower cost
- Part of daily work and culture
Solving the Long Tail

- Concept of “Emergence”
  - Local actions can achieve organizational goal
  - Effort from wide group of people
  - Persistence because small “payoff” on solving each problem
- Managers must create conditions where many small-scale issues get addressed
Example 1: Cincinnati Children’s
creating the conditions

- Organizational Goal: The leader in child health, The Best at getting better

- Training clinical leaders in “Improvement Science”
  - Plan, do, study, act (tests of improvement)
  - Common language, approach, culture

- Select projects that the people doing the work are motivated to solve

- Involve patients, transparency about current performance
Cincinnati’s Improvement on Cystic Fibrosis

Percentile Compared to Other Centers on Lung Functioning

- Cincinnati
- Minnesota
- Comparable Hospital

Percent compared to Other CF Centers

2003 2004 2005 2006 2007
Example 2: Toyota Production System

“Rules in Use” enable workers to identify and resolve small problems. (Spear & Bowen 1999)

1. WORK
2. REQUESTS
3. PATHWAY
4. IMPROVEMENT
Example 2: Toyota Production System

1. WORK “Is it a problem that I don’t have the _____ I need?”

2. REQUESTS “I’m not sure if pharmacy received the fax of the medication order, so I’ll send it again.”

3. PATHWAY “The med could be in the drawer, in the bin, in the pneumatic tube system.”

4. IMPROVEMENT “Who do I even call about this problem?”
Managers: Facilitate a learning response

- Manager availability and supportiveness
  - Physical presence increased communication about failures
  - Relieve time pressure – designated resource for problem solving
  - Role model – What do we need to do so it doesn’t happen again?

- Psychological safety

- Confidence that organization will respond to communication
Thank You

- Questions?