



HEALTHCARE

Engaging Physicians In Lean Six Sigma

by **Chip Caldwell, Jim Brexler and Tom Gillem**

It may go without saying that healthcare is one of the most complicated industries in which to build quality systems.

That's why most Six Sigma Black Belts (BBs) from outside healthcare fail, after initially saying all industries are alike in that they all manage processes.

While this is, of course, true, these BBs quickly become frustrated because of the confusing role of physicians. In fact, in constructing a simple supplier-inputs-processes-outputs-customer diagram, attempting to place physicians in their proper role can cause headaches. Yet, only a handful of process changes can be fully optimized without physician engagement, and active management of the role of physicians may be one of the most vital tasks of senior leaders.

In 50 Words Or Less

- Participation and support from physicians is crucial in healthcare improvement efforts.
- If they want to engage physicians, hospital administrators must show how improvement projects benefit the doctors.



This article is adapted from chapter seven of *Lean-Six Sigma for Healthcare*, which was published earlier this year by ASQ Quality Press.

Case One—Physician Leadership

The emergency department (ED) at Morton Plant Medical Center in Clearwater, FL, faced an unreasonable number of patients leaving without treatment, leading to more than \$5 million in lost revenue and causing patient satisfaction scores just above the 60th percentile. Furthermore, the relationships among ED nurses, inpatient unit nurses, ED physicians and other caregivers were constantly under stress, at one point resulting in a finger pointing session between ED nurses and ED physicians regarding who was to blame.

Chartered by the CEO and chief nursing executive (CNO), physician director Brian Cook, M.D., and nursing manager Donna Moran formed a define, measure, analyze, improve, control (DMAIC) team, composed of four 100-day workout teams focusing on specific ED subprocesses. The 100-day workout is an execution oriented method that lays out a project over the course of 100 days, with prework, a kickoff and 30-day check-ins.



From the outset, Cook clearly established leadership, devoting significant time to reviewing data with subteam leaders, coaching them in developing 100-day workout action plans and overseeing rapid implementation of committed tasks. He resolved internal and external barriers to suggested process pilots by meeting with inpatient unit nurse managers, ancillary department directors, physician leaders and other stakeholders to communicate the ED's goals and routes of collaboration by those in the care stream.

Within a year, ED patient satisfaction saw a 50% gain and topped the 90th percentile, ED length of stay (LOS) dropped 25%, and cost of quality (COQ) recovery exceeded \$5 million. So, what did the DMAIC team do to achieve the improvements?

They flawlessly executed the following tasks:

- Restated the CEO/CNO vision into ED staff terms.
- Sought statistically valid process drivers around which to craft detailed 100-day workout action plans and appoint team leadership.
- Collaborated with internal and external leaders and stakeholders to set agreed-upon expectations.
- Created the infrastructure to create and track 100-day workout action plans.
- Resolved staff resistance to change, paradigm constraints and delays.
- Led the celebration of achievements and shared praise with all involved.

Case Two—Missed Opportunities

A medical center in Mississippi discovered improving care of patients with heart failure and shock (known as DRG 127) would recover more than \$1 million in COQ. Variation in medication use explained almost 90% of variation in cost, as shown in Figure 1.

Further analysis demonstrated that, as shown in Figure 2 (p. 44) adequate variation in medication use warranted an attempt at uncovering sources of variation and engaging key stakeholders in aggressive action.

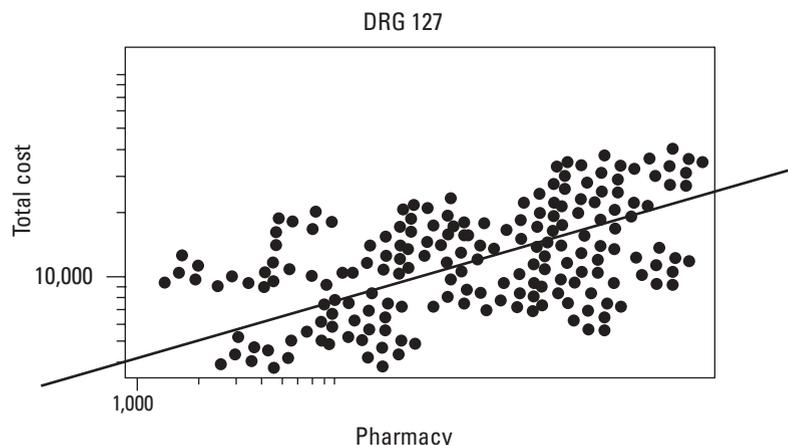
Administration formed a DMAIC team, which analyzed medications used in great detail and discussed project suc-

cess factors and risk factors. They concluded, as shown in Table 1 (p. 44), that three critical groups of people would drive the success of reducing variation in medication use—physicians, case managers and pharmacists. Although clinical pharmacists were actively involved in care processes, they had resisted being involved in clinical cost management activities, and case manager involvement had until this point focused on discharge management, not clinical use. However, managers for pharmacy and case management said their staffs would engage if the physicians were engaged.

The chief medical officer agreed with the team that the leading admitter, who was also the informal physician leader, would be best at leading the DMAIC team. When he was approached, his general reaction was positive, and he asked for examples of standing orders and protocols from other organizations with less variation. Several physicians were asked to attend an initial meeting. A second meeting produced a pilot standing order to be suggested to those physicians treating a high number of DRG 127 patients.

After more than six meetings held over six months, almost no physicians, including the physicians authoring the standing order, had used the protocol. The physician leader said many improvements were more important than medication use in DRG 127 and this project was unworthy of additional time and energy. The hospital recovered none of the more than \$1 million opportunity.

FIGURE 1 Comparison of Total Cost to Pharmacy Cost



Case Three—Over Before It Starts

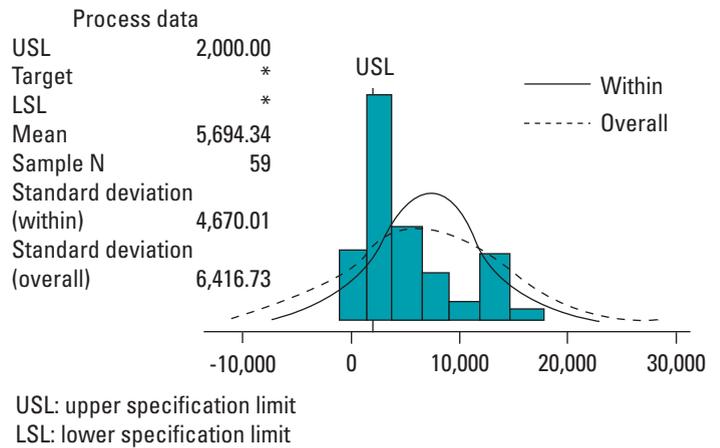
A leading academic center in Florida determined ED LOS improvement would yield more than \$5 million in reduced nurse worked hours per ED visit and reclaimed patients who were leaving before completing treatment. Based on analysis of ED data, the physician and nurse managers charted a three-pronged approach to reduce ED LOS, as follows:

1. Reduce bottlenecks and delays in flow, particularly time to ED bed and time from ED physician initial assessment to request for inpatient bed.
2. Reduce 50% of the variation in nurse staffing to hour-by-hour patient demand.
3. Reduce 50% of the variation in ED physician LOS variation.

The analysis of physician variation found significant unexplained differences in clinical practice, as illustrated in Figure 3.

At the initial meeting, a general apathy and resentment was apparent among most physicians. One of the more respected physicians said it was unimportant how long the patient stayed. Also, in many cases, she ordered a lot of tests unrelated to the patient’s primary complaint because many patients did not have adequate primary care and she believed quality care required her to order preventive tests. She went on to advise her colleagues that if the medical center prevented her from this primary physician role in conducting her ED physician episodic care duties, she might be forced to

FIGURE 2 Drug Cost Distribution



find work at a hospital that valued “quality” care.

Despite this initial setback, a second meeting was planned, but the emergency physician manager rescheduled it at the last minute to be held 30 days later. A week before this meeting, he cancelled it again.

Reasons for Resistance

Although physicians are indeed part of the healthcare system managed by the medical center, this fact is often not recognized. Some physicians even resist the notion that their actions affect other processes in the system, such as nursing, pharmacy, medical records, or billing and collections. Many are aware of the effect of their processes on medical center processes but prefer to ignore it.

However, one important reason physicians resist change is that the change frequently places more

burden on their processes—consuming more time, increasing complexity and providing less service to them or their patients. It is often the case that medical center leaders do not fully understand the physicians’ processes before brainstorming potential changes. As a first step, leaders can go a long way toward averting resistance by simply developing what W. Edwards Deming called “profound knowledge” of physicians’ processes in the DMAIC analyze phase before entering the improve phase.

TABLE 1 Stakeholder Buy-In Analysis

Level of commitment	Physician	Case manager	Pharmacist
Enthusiastic support	●	●	●
Help it work	↑	↑	↑
Agree		■	
Hesitant			
Indifferent	■		
Opposed			
Hostile			
Not currently involved			■



The reasons for the physicians' reactions in cases two and three could be varied and complex. However, by and large, disengagement by physicians in organizationwide improvement efforts can be attributed to relatively few causes, as follows:

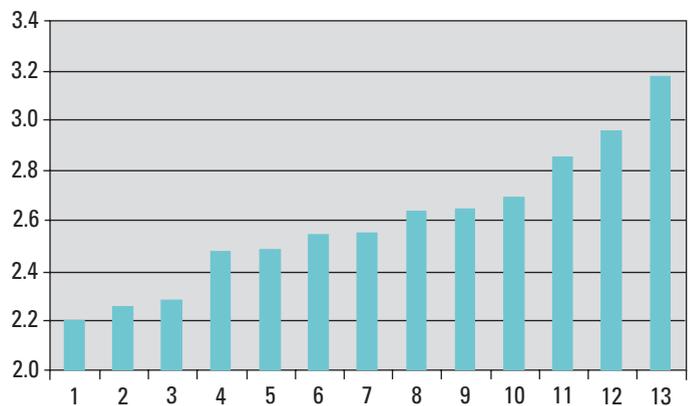
1. Not vested in the intended outcome.¹
2. Not understanding systems thinking or process analysis.
3. A bias that more resources and more staff are the best solutions and detailed analysis is a waste of time.
4. Adverse effect on physician processes by processes that aid hospital improvement.
5. A stance that they should be compensated for their activities benefiting the hospital.
6. A stance that the priority should be to improve processes that benefit their practices in the hospital before the hospital benefits from bottom-line improvements.
7. Little consensus among physicians regarding priority focus areas or their solutions.
8. A lack of teamwork in physician behavior patterns, even if the individual practice is within the same medical group.

The Healing Process

How can healthcare leaders tip the scale toward more effective collaboration and engagement from physicians? The most effective approaches to engage physicians seem to be to:

- Seek to fully understand physician needs in general and within the specific process to be changed during the prework, define and improve phases of a DMAIC project and learn the degree of support required. A useful tool for analyzing physician and other key stakeholder current and required positions regarding the change is shown in Table 1.
- Seek to build trust. This probably sounds simple, but trust between the physician and the hospital executive has dramatically eroded over the past decade. The reasons can be complex or simple. In many cases, in the quest to recover lost margins, executive teams have sometimes flown in the face of physician interests and desires. As a result, the collaborative model has deteriorated to a combative level.
- Educate physicians in all aspects of healthcare

FIGURE 3 Emergency Department Physician Length of Stay Variation



management, financial management, regulatory environment and competitive pressures with an aim to establish a true visioning partnership about the future (not just cursory staff meeting advisories of days gone by).²

- Seek win-win projects. That is, find projects that will delight physicians, usually by improving the efficiency in physician-hospital interfacing processes. For example, a significant long-term goal in surgery, assigned to the CNO, would be to increase the ratio of "cut to close" hours (hours that patients are in surgery) per week and total nursing hours per week. In most surgery units, cut to close hours make up about 50% of the total nursing hours for a week, meaning the other half of the time, nurses are on duty but not in surgery. By increasing the ratio, nursing hours are being better used—more hours are spent in surgery than out of surgery.

This can be accomplished by sticking to a strict surgery start time, decreasing case turn-around times and increasing accuracy of physician preference card picking, the process in which surgeons request the instruments they need in the operating room. DMAIC charters to improve each of the processes can be written to support those matters most important to surgeons, that is, reducing their downtime between cases. This will be embraced by surgeons and at the same time

- reduce COQ, in the form of decreased nurse staffing before and between cases.
- Negotiate a quid pro quo, in which the organization provides a concession in some other area in exchange for physician agreement to embrace the desired change.
 - Seek physician influencers (referrers, physicians with high credibility) to lead the way, instead of hospital managers and executives.
 - Integrate improvement work casually into existing physician committee and task force structures by replacing those agenda items that are discussion oriented, nonaction producing topics and scheduling Joint Commission on Accreditation of Healthcare Organizations topics bimonthly or quarterly instead of monthly (unless mandated) to free up time for action oriented work and follow-up. The 100-day workout action plan format or a modification is ideally suited for action tracking.
 - Consider incentives. Although beware: Incentives are often effective in the short term, but once offered become expected. Hence, the absence becomes a de-motivator.
 - Seek nonphysician caregivers to execute the change or influence physicians to embrace the change. For example, since ambulation on the first postoperative day is a statistically significant driver for patients receiving hip replacement surgery, physical therapists can be engaged to call surgeons on the day of surgery soliciting a physical therapy order.

Recommended Learning Session

Here's a recommended learning session for a one-hour senior leader meeting on engaging physicians. One member of the executive team should serve as the recorder, capturing feedback on a flipchart.

1. Each executive takes 10 minutes to review the list of ways to approach physicians and record opportunities to engage physician leaders in a current initiative using one or more of the techniques listed (or innovation of a technique not listed).
2. Go around the room, discussing ideas generated by the executive group.
3. Discuss what, if anything, can be done to elevate physician engagement in one or more of the initiatives discussed.

4. Discuss who should act on the engagement ideas discussed. (The recorder or another accountable executive team member should be asked to capture this action plan.)
5. Set aside an hour every one to three months to review the action plan for progress.

These approaches, while not unique, are indeed time consuming and, thus, are less optimized in many healthcare organizations than is required to fully realize the power of lean Six Sigma. Heroic process innovation simply cannot be realized without physician engagement.

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