# The Future of Cost Reduction in Healthcare

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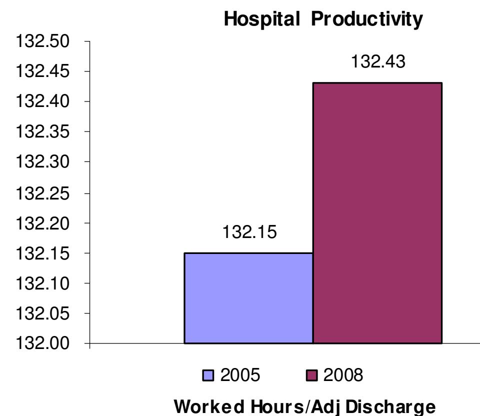
There is growing evidence that the rate of productivity gains in hospitals is stalling.

Hospital executives, in the Annual Survey of Hospital Executives sponsored by the American College of Healthcare Executives, report that financial pressures have remained their number one concern for the last 4 years. This year, 70 percent of respondents cited "financial challenges" as one of their top three concerns, compared to 67% in 2005, while "increased labor cost" earned the top rank within the overall "financial challenges" category.

The chart at right shows that the productivity of a sampled group of hospitals declined .21% between 2005 and 2008 on an adjusted discharge basis and leads to the conclusion that hospitals are consuming more hours for each dollar of revenue generated than they did in 2005.




In the report *"The Need For A National Focus On Health Care Productivity"* the authors, Stuart H. Altman, Susan Goldberger, and Stephen C. Crane state: *"Hospitals now employ more people to treat fewer patients…"*

The law of diminishing returns states that for any given system of production, there is a point beyond which further increases in inputs do not yield corresponding increases in outputs. If hospitals have reached this point, future gains will require a fundamental change in the way cost is perceived and managed within the organization— which in turn, must lead to a fundamental redesign of the "system of production."

*The authors continue: "Administrators have reached a limit to the savings they can squeeze out of their institutions through shortened stays, improved scheduling of procedures, and other minor modifications…sustainable gains in health care productivity will require a fundamental rethinking of the organization of work."*

This article will present two ways of looking at the "system of production" that I believe executives can use to identify and capture the gains they need to thrive and grow in these very pressing times: The system paradigm, and variation.

**System Paradigm–** Toyota's North American Parts Operation was able to achieve a 50% reduction in inventory, a 25% increase in throughput, a 25% reduction in freight costs, a 25% increase in space utilization and a 50% decrease in backorders over a 3 year period. In order to achieve these kinds of dramatic results, Toyota had to refocus management from

improving the performance of individual departments to looking at the system, as a whole.

Most hospital cost reduction programs focus on incentivizing department managers to operate with fewer resources. Strategies include department level labor productivity monitoring based on RVU adjusted charge volumes, benchmarking with other institutions, automation of essential department functions, flex budgeting, responsibility reporting, interdepartmental charge backs, and hard wiring resource consumption goals into pay for performance models.

But hospitals, like Toyota may find that their largest gains come when they take a hard look at the system in which they operate and change some of the fundamental paradigms, rather than simply squeezing individual departments to operate on fewer resources.

This is not a new idea. Twenty years ago W. Edwards Deming began to demonstrate his belief that the system itself was key to improving performance, rather than the individuals (and departments) who are constrained to operate within its bounds. His classic red beads experiment showed that unless the system is changed, performance cannot be improved beyond a certain level.

**Deming's Red Bead experiment**

In the famous Red Bead experiment, Deming presents a large container containing a mixed proportion of red and blue beads, say 50% of each. He also presents a tool for catching and removing the beads from the container. He then calls for audience volunteers ("willing workers") to come up and take turns removing red beads using the capture tool. Red beads represent quality product. The blue beads are rejected. The workers find that each time they remove a batch of beads from the container, the exact number of red beads varies, but it never strays far from the 50% average of red beads in the container. The willing workers are alternately threatened with layoffs and pay cuts, and then offered bonuses, promotions, and all sorts of rewards if they can improve the rate at which they extract red beads. Of course, they cannot do it. Their performance is limited to the system in which they operate. The design of the system, and thus ultimately the performance of the workers, maintains Deming, is the responsibility of management.

The author acknowledges a growing awareness of the impact of the "system" on cost and performance in the hospital industry. This can be seen in the growing popularity of multidisciplinary teams. But because they generally consist of staff personnel, I do not believe they are capable of making fundamental change to the structure of the system. The reason for this is simple: Besides lacking an understanding of the big picture, and authority to implement systemic change, staff personnel are loathe to offer up suggestions that decrease the scope of service of their departments, and to share responsibility for the services that make up their organizational power base.

Furthermore, the traditional cost center model of accounting for costs enforced by the finance department (and the Medicare cost report) becomes another barrier when responsibility for process costs cannot easily be assigned to specific cost centers. It is precisely this no man's land—the cracks between the walls of departments that needs to be conquered.

Consequently, we believe the best outcome from the efforts of staff personnel in multidisciplinary teams is better understanding, communication, and cooperation between departments who are both saddled with equally inefficient processes. Good things in and of themselves, but insufficient to achieve the breakthrough results the industry needs.

It will take committed, visionary executive leadership to bring about the deep structural changes that capture the next level of cost

savings. It’s the kind of gutsy leadership exhibited by Humana, who after looking at their system objectively reinvented the entire organization as an insurance company. It will take rethinking the way we way work with all of our community—patients, payers, and doctors.

What areas of the hospital are most likely to have systems that would benefit from the kind of review and change described here? There are two places I would offer for consideration: Strategic and Process.

From a strategic perspective, management must challenge the beliefs and paradigms under which their departments operate. For example, do we really need an all RN staff? Do we really need 24/7 Physical Therapy services? Do we really have to have 30 minutes availability for a particular service? Should we even provide that service in house when the local market appears be oversupplied? Is it really good stewardship to subsidize a program that will likely never be self sufficient in our community? The decision to be all things to all markets has created huge amounts of built in cost and excess capacity. Specialty hospitals have successfully reduced their operating costs by carving out programs and focusing their resources on that which they were equipped to do well and for which an adequate market exists.

The other area for evaluation is the actual processes within the hospital that support the strategic vision. I would suggest that the more hand offs a process has, the more opportunity it presents. With this criteria in mind, I would suggest the Emergency Room, the Operating Room, and the admission/discharge process. Inefficiencies here will cause ripples of inefficiency to flow throughout the organization and out into the community.

**Variation–** As management undertakes the restructure of its processes, it will be important to consider nature of the throughput of the process. While we often think in terms of capacity—it is equally important to consider variation. This is a key consideration for process improvement in virtually every other industry. Yet hospitals have largely ignored variation preferring to focus instead on averages, even though, in most cases, low productivity, overtime, poor morale, errors and low patient satisfaction are directly explained by variation.

Variation occurs in two forms: Variation in inputs to the process, and variation that occurs within the process itself. The standard manufacturing industry performance improvement models, which can be applied to healthcare as well, seek to understand and drive out the causes of both forms of variation.

Hospitals often believe that they cannot achieve this objective. The standard logic is that a hospital is not a factory, where every car requires exactly 4 tires mounted with 6 bolts, and we can optimize surgical throughput by completing one cholycystectomy every 2.2 hours.

(Interestingly, while the industry vehemently argues against being compared to a factory, it continues to adopt and apply tools directly from manufacturing, like charge master driven productivity reporting)

But who says that hospitals cannot extend the scheduling process out to various sources of inputs in the community, and by working

collaboratively, shave the peaks off of expensive, error prone "rush hour" periods? The industry already does this in a negative, reactionary way when ambulance services are put on diversion. Can we now find ways to influence volume in a positive way that enhances the patient experience? But, taking action to influence variation in system inputs requires hard work and willingness to challenge the underlying status quo.

I believe that Shawnee Mission Medical Center may have already begun taking steps in this direction when they formed a multidisciplinary team to smooth the flow of patients through the ED. The team identified patient streams and bottlenecks, and has reported reducing ED diversion time from 82 hours to 6 hours per month. Because of the octopus like reach of the ED process, the resulting improvements also cascaded into shorter turnover times in surgery, and reduced hold times in the post anesthesia unit.

There is also much that hospitals can learn and do as it relates to variation inside the system as well.

For example, in making job assignments, tasks whose variation has the same or related causes should not be assigned to the same individuals, lest bottlenecks be increased. Instead, hospitals can do like the lawn care industry, which often combines itself with snow removal---thus smoothing demand for resources across the entire calendar year.

Once a hospital has identified its processes, and studied the reasons for variation within them, individual processes can be aggregated and examined together, creating a whole new view of opportunities that could not be understood before. Variations inside processes can indicate opportunities for training, standardization or process redesign.

Due to the inherent culture of healthcare, many processes are designed to stop and start within the borders of a single department. When hospitals combine a system view with a desire to identify and understand causes of variation, they will suddenly discover all kinds of inefficiencies that develop in the cracks between the walls of various departments. A classic example is created by the installation of a new computer system, where certain data elements are not considered essential to the installation. IT gets the system up and closes the project, leaving one or more departments with a need to develop a parallel manual system to meet its data needs. Not only does this spawn redundant work processes, but it can greatly affect later processes which, unless one takes a system view of the hospital, do not even appear related. This would occur, say, when the data elements of a scheduling module are not extended far enough into an organization. Then, as a compensating process, a department manually re-enters information already collected, but not available to them, into their internal process which introduces errors that ultimately affect the charges they submit—leading to late charges, billing delays, and audits.

Implementing a system view, and developing an understanding of the causes of variation in healthcare will take considerable time and effort. It must start, and will only continue with executive leadership. It is a new and challenging undertaking that will require

a disciplined multi year approach that anticipates increasing benefits as the paradigm takes root. This approach flies directly in the face of the typical “going on a diet” this month approach that hospitals often follow in response to the imperative to change, but the stakes are high, and the rewards are great: Improved patient satisfaction, patient safety, employee morale, reduced need for capital and operating efficiency that would otherwise be unattainable. Are you up to it?