

Lean Six Sigma Leadership in Health Care Organizations

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“I have neither given or received, nor have I tolerated others use of unauthorized aid.”

Introduction

When pondering the current health care system in the United States the first word that pops into the mind is; change. Change is something that needs to happen when components of the world are advancing and in turn any stakeholder in the world may need to evaluate and change to succeed in the world. With health care as an ever changing system, the people with proper leadership background need to help facilitate that change. However, the health care systems are changing at a rapid pace that many organizations cannot keep up. This calls for change in not only the management system in that health care organization (HCO) but also a change in philosophy and structure.

From the ongoing learning of the HCO structure in HADM 501, I immediately want to dive deeper in the meaning of a successful HCO and the detailed explanation of how a HCO becomes a phenomenal system. I have heard of many programs in place that really help HCOs reach their full potential. However, the one that I have heard the most about is Lean Six Sigma Management. After initial findings, I have found that Lean Six Sigma is an extremely successful philosophy that many hospitals need to be implementing. Many organizations are stuck in the fact that change is difficult and people may not go through with actually implementing the change. But, if more health care organizations adopt Lean Six Sigma Management in their hospitals, then the United States Health Care System will excel in improved quality and patient satisfaction.

I am extremely passionate about the findings after I started researching the entire background of Lean Six Hospitals. I began to draw the connections from HADM 501 to the entire core concepts of Lean Six Management. The learning behind the entire process of Lean

Six will give me the proper background to lead HCOs in my future endeavors as a health care leader. The main questions I am addressing from my research are as follows:

- What is a Lean Six Sigma Hospital?
- What is the leadership structure in a Lean Six Hospital?
- How can hospitals adopt Lean Six Sigma Management?
- How can Lean Six Sigma benefit our current Health Care System in the United States?

Each of the questions above will be able to be answered by the reader after the completion of reading the document. In the entirety of document, you will hopefully be able to hear the passion in my voice concerning the need for Lean Six Sigma Management in all HCOs to really transform our current Health Care System in the United States.

Research Findings

The information findings for the topic of Lean Six Sigma Management in HCOs were very extensive and extremely informative. There were a plethora of documents and texts that supported the benefits of using Lean Six Sigma and the background of the entire hospital once it earns the title of a Lean Six Sigma institution.

Background of Lean Six Sigma

Lean Six Sigma has not always been adapted to the health care setting. The first company to supposedly adopt Lean Six Sigma was Toyota Motor Corporation. According to multiple sources, "Toyota Motor Corporation is sometimes known as the company that invented lean production," (Graban, p.3 2009). Even though Toyota may have invented the lean production, Jon Krafcik is credited to the term lean. Jon Krafcik is part of the research team at MIT's International Motor Vehicle Program. Companies have seen the success for motor companies that have adopted Lean Six Sigma ideologies, so in term they were intrigued on how

to adopt it themselves. In turn, hospitals began to look at how Lean Six could possibly help rearrange the current management structure to better their health care.

For HCOs, Lean Six Sigma is about reducing waste and respecting people. These ideologies are the base of what Lean Thinking is. The book *Lean Thinking* defines the terms as follows: “In short, lean thinking is lean, because it provides a way to do more and more with less and less—less human effort, less equipment, less time, and less space—while coming closer and closer to providing customers with exactly what they want,” (Womack & Jones, p.15, 2003). Hospitals are always trying to find a way to cut costs but not reduce patient satisfaction. Lean Six Sigma thinking better management and give a standardized methodology to improve quality, patient safety, and employee satisfaction while reducing costs for the patient and hospital itself.

Now, with the given definition of how Lean Six Sigma came about and what it can be defined in a hospital setting, what is Lean Six Sigma? Lean Six Sigma is a business process that enables companies to increase profits by streamlining operations, improving quality, and eliminating defects or mistakes. This would include variations reduction, waste elimination, streamlining, and gains in quality and productivity. These different components of what Lean Six tries to tackle are main concerns on every HCO. That is why Lean Six is very influential for the reorganization of HCOs to continue to improve the overall quality of the operations of the hospital. So, “Lean is a toolset and management system, a method for continuous improvement and employee engagement, and approach that allows us to solve the problems that are important to us as leaders and as an organization,” (Graban, p.19, 2009).

We now know the what is Lean Six Sigma but why Lean Six Sigma? Corporations are getting better faster after properly adopting Lean Six Sigma into the work place. They combine

the speed and power of both Lean and Six Sigma to get a powerful program in place to really transform their work environment. Lean focuses on continuous improvement and waste removal while Six Sigma focuses on data driven reduction of variation. Both of these components together can really help drive an organization to a better platform for success.

Adoption of Lean Six Sigma Leadership

With the background of what Lean Six Sigma in place, how can hospitals adopt this methodology? First, they have to lay the foundations of the Lean Six Sigma Management. This is the start to determining if adopting Lean Six needs to happen quickly. There was a survey done for the book *Lean Hospitals* by Mark Graban. The survey was presented to over 50 institutions and they asked; What is the hospital's motivation for initiating Lean? The following answers were the top 8 reasons why they wanted to initiate Lean:

- Quality and rework costs: 56%
- Patient Satisfaction: 50%
- Labor Shortages: 50%
- Overall cost pressure: 42%
- Culture change: 44%
- Employee Satisfaction: 38%
- Labor Costs: 38%
- Patient Safety” 34% (Grabana, p.204, 2009).

Each one of these is an important component for the initiation of Lean Six Sigma. Even just focusing on one aspect can change an organization in more ways than many would think.

The Lean Transformation will then start with 8 different categories. This may seem like a lot of components but with time and effort they will all play into each other to be successful.

The following transformational components are:

- Improving the physical layout and structure
- Improving the work processes to increase flow
- Error proofing and quality improvement
- Improving the scheduling process
- Standardized work
- Inventory management and control other lean methods
- Engaging employees and starting a Lean Management System (Graban, p.209, 2009).

Each component of the transformation will be hit in many different ways. With a HCO identifying their concerns it can pin point the goals when implementing this new system. To create these goals using Six Sigma Methods, an organization must use these Six Sigma

Methodological steps:

- Define: Organization of the project
- Measure: Determine the “as-is condition”
- Analyze: Collet data and process information, regarding the “as-is condition”
- Improve: Actively manipulate
- Control: Sustaining the gains

Each of these steps help to identify each goal and how to make a strategic plan to execute projects in a standardized manner. With these Six Sigma Methods the adoption of them should be addictive and contagious. The only way that a hospital can be successful in getting their employees on board are to:

- Gain energy through quick improvements that everyone feels
- Offer appropriate training for those who express interest
- Support improvement activities by managing gains and not losing them
- Realize that not everyone will jump on board. A process improvement mentality takes time to engrain in an organization.

This describes the importance of behavioral change management that is incorporated into Lean Six Sigma Management. Lean Six Sigma not only involves technical changes but behavioral changes from employees. The new process of Lean Six Sigma Management will challenge assumptions about how the entire organization does their current business. And that challenge will create resistance. However, the HCO must do the following to really empower the structural change:

- Use visual tools to communicate and celebrate
- Constantly pursue perfection realizing that there is no such thing
- Rapidly respond to improvement needs
- Prioritize projects to get maximum positive effects
- Mistake proof processes
- Constantly improve people and processes.

Each of these components that HCOs should keep in mind will decrease the chances of resistance and employees can see the light at the end of the tunnel.

After building the fundamental building blocks of continuing the transition to Lean Six Sigma management is to plan, do, check, and act. Each one of these will be on the basis of what the organization's leadership team will need to do to be able to direct the issues to a Lean Six process. After the leadership team builds on the transition to Lean Six they will use the 5S to

take on each individual project. The 5s are sort, store, shine, standardize, and sustain. These are key components of bringing quality improvement from Lean Six. Many of these components are self-explanatory but the focus needs to be standardize. Standardized work is a key Foundation of implementing Lean Six Sigma into the health care setting. Many people are afraid of the work standardized because they correlate the term with standard with identical and in turn believe that the work is not their own and they are robots. This is not the case whatsoever because all hospitals are on some sort of benchmark. The benchmarks are the overall standard for similar HCOs and are to keep quality of care across the board roughly equal among all organizations. People may be resistant to the work “standardized” but “standardized work starts with a very simple premise: we should analyze our work and define the best way of going that work,” (Grabau, p.75, 2009). This standardized work gives a great baseline for where employees should be meeting at. There is still individuality but the expectation is the same. This makes the overall work environment to be current, proper outcome and the highest quality, to safely complete, one best way, and standardized, not identical. Once people are starting to adopt the Lean Six Sigma Program the focus on management and leadership will start to look slightly different.

Leadership Structure

The leadership system does not need to change much when Lean Six is being implemented. However, leaders in a HCO need to be backing up for the changes. Leaders have an influential effect that can either make or break an implementation of a change. Especially in large hospitals there are so many employees that contribute to how an organization is run, the influence from manager/leaders need to be at the top priority.

The change in how a leader manages will help successfully implement Lean Six Sigma. The manager’s role is to “get each person to take initiative to solve problems and improve his or

her job as well as to ensure person's job is aligned to provide value for the customer (or patient) and prosperity for the company (or hospital)," (Shook, 2007). This does not mean that the employee has free reign of how their job is being done. There is a daily checklist that a Lean Manager will need to follow:

- Process audits, or rounding
- Performance measures
- Daily stand-up team meetings
- Kaizen and Suggestions management (Graban, p. 181, 2009)

Each of these will need to be done daily to help guide and empower the employee. As a leader, helping the employee start to transform their work into Lean Six thinking will start to bring higher quality of work and employee satisfaction.

Even further on the spectrum are Executive Sponsorship and Leadership influence. The manager has a certain role to empower employees and bring them on board but the executive leaders need to have the effect as well. The different organizational levels on where Lean Six Sigma is initiated starts from the middle or the Director and Administrators. It then pans out to the Executives as a leadership influence. For it to all work out, the CEO, CFO, and CIO are the next influences on initiation of Lean. Then the waterfall effect happens to then all employees are touched by the Lean Six initiative.

Finally, the make sure everyone is properly using the Lean Six Sigma tactics in their everyday work, a Lean Team is implemented. These are experts in the Lean Six Sigma field that uphold the standard. This is a committee of administrators that have freed up time to get trained and then train others. They are known as the change agents who are advocating to all employees

of the successful changes going on in the organization. These people are so influential that determining who is on this committee needs to be well thought out.

Lean Six Sigma Leadership in Current Health Care System

There are many hospitals that already have Lean Six Sigma initiated in their organization. They are proven that they have the capability to change their work setting and that in turn proves that they are successful in patient satisfaction and quality improvement. There are many problems in healthcare but “Lean is not about fixing any one major problem within healthcare. It is about solving the hundreds or thousands of little problems that plague the hospital every day,” (Graban, p.6, 2009). The Lean Six Sigma Promise that these hospitals can attest to are:

- Dramatic improvements in quality, productivity and services
- Improved customer satisfaction
- Superior competitive position
- Cost reductions
- Greater wealth and prosperity for the company

These are the components that Lean Six Sigma Hospitals have reached due to proper implementation. The most successful hospitals attained these by great managerial and leaders to influence and empower individuals of the work place.

This is a phenomenal goal for all HCOs. “If a hospital would want to see if they have reached Lean Six Sigma success they can look at these following factors: half the errors, half the patient harm, half the head count, half the cost, half the space, and half the complaints from patients and physicians, (Graban, p. 232, 2009). Now this is a rough estimate but it is a good benchmark for the improvements made from implementing this system of Lean Six Sigma

management. Different hospitals can achieve this status at different times but change does take time to bring everyone on board.

Analysis and Synthesis

There are many components to bringing Lean Six Sigma into the Health Care setting. Some are positive and some are negative effects. As said before there are challenges along the way but when overcoming of those challenges comes great rewards.

Benefits of Lean Six Sigma Leadership

The benefits of Lean Six Sigma definitely outweigh the challenges that comes with the implementation process of Lean Six Sigma. As an example, “Lean Methods have resulted in:

- Reduced turnaround time for clinical laboratory results by 60% without adding head count or new instrumentation—*Alegent Health, Nebraska*
- Reduced instrument decontamination and sterilization cycle time by over 70%--
Kingston General Hospital, Ontario
- Reduced patient deaths related to central-line associated blood stream infections by 95%--
Allegheny Hospital, Pennsylvania
- Reduced patient waiting time for orthopedic surgery from 14 weeks to 31 hours (from first call to surgery)—*ThedaCare, Wisconsin*
- Increased surgical revenue by \$808,000 annually—*Ohio Health, Ohio*
- Reduced patient length of stay by 29% and avoided 1.25 million in new emergency department construction—*Avera McKennan, South Dakota*

- Saved \$7.5 million from Lean Rapid Improvement Events in 2004 and reinvested the savings in patient care—*Park Nicollet Health Services, Minnesota* (Graban, p. 6, 2009).

From these given examples from successful Lean Six Sigma Methods, the improvements are from the inside of the hospital. “The work that was given in these hospitals were a concept of standardized work that meant the organization specified how work will be done rather than allowing common practices to just develop and in turn create discrepancy,” (Graban, p. 27, 2009). And in turn the capabilities of the employee’s work turned into successful improvements within the hospital setting. The leadership and managers were able to:

- Work is designed as a series of ongoing experiments that immediately reveal problems
- Problems are addressed immediately through rapid experimentation
- Solutions are disseminated adaptively through collaborative experimentation
- People at all levels of the organization are taught to become experimentalists

These aspects of their empowerment showed in the process improvement and quality of work.

These are proven benefits for implementing Lean Six Sigma into hospital settings to keep work constant and at the highest potential.

Challenges of Lean Six Sigma Leadership

With many benefits to Lean Six Sigma Management there is also some challenges that come along with it. The main challenge that comes with a new system is change. First off there is a cultural obstacle for Quality Improvement. Many people have been in the health care industry for years and don’t see the benefit of changing things on how they always have been done. This in turn is the need for a shift in management and leadership ideologies. There needs to be “a shift from naming, blaming, and shaming employees to an environment where we can learn from errors, using knowledge gained to prevent future errors,” (Black, p.432-33, 2005).

This may be hard for some people but overcoming those challenges will become influential in the future of the HCO.

With change, there comes resistance. This resistance comes from the following aspects:

- They don't want to change from the way they do things now
- They don't want to change to what a project team are recommending
- They don't want to go through the effort of getting to a new way
- They don't trust the leadership's ability to get them to the new way
- They don't trust the Project Team's ability to get them to the new way
- They have been there and done that before and don't believe it will be any more successful this time than the last time.

These can be common road blocks in implementing the Lean Six Sigma Management. However, as said before, leaders and managers need to empower and influence employees to see the change to Lean Six Sigma as a benefit to all aspects of the work environment.

Conclusion

With all the knowledge presented in this document, why do hospitals need Lean Six Sigma Management? The following statements that were outlined in the book, *Lean Hospitals*, really sum up the reasoning to why hospitals need to improve their quality of work through Lean Six Sigma.

- "Hospitals using Lean methods do not improve quality by asking to be more careful any more than they improve productivity by asking people to run around faster," (Graban, p.1, 2009).
- "Lean is a methodology that allows hospitals to improve the quality of care for patients by reducing errors and waiting times." (Graban, p.1, 2009).

- “Lean is different in that the methodology shows people how to look at the details of processes, fixing things where the work is actually done, by people who do the work, rather than relying on experts to tell them exactly what to do,” (Graban, p.2, 2009).

These hospitals tend to be the most successful and the most enjoyable to work at. All that I can see are the benefits from implementing Lean Six Sigma. From being able to connect my entire information findings to HADM 501, I am able to see just how beneficial Lean Six Sigma can be to the HCO. Now, many may be wondering what it might look like to work in a Lean Six Sigma Hospital. The following are outlines in the book, *Lean Hospitals*, and I could not have summarized the entire Lean Six Sigma Management system better than they could. The Lean environment includes:

- To be listened to by supervisors, to have their ideas solicited, to have the freedom to make improvements for the betterment of the system, and to be treated with respect.
- To develop the discipline to work within a system, but also to maintain the creativity required for kaizen
- To not be overburdened with more work than can be done in high-quality manner, nor to be standing around with nothing to do
- To be challenged to grow, personally and professionally, always striving to learn and improve his or her technical, leadership, and problem-solving skills
- To feel a sense of pride for contributing to a high-performance organization, for understanding his or her role and how his or her work impacts patients, coworkers, the hospital’s bottom line, and the community. (Graban, p.234, 2009).

When I read these aspects of a Lean Six Sigma environment, all I can think about is how empowered an employee must feel to really make an impact in their organization. This is what

many people are looking at when choosing a place of work. Lean Six Sigma Management is a proven methodology that does work and does make change easy and effective. If more hospitals make the change to Lean Six Sigma management, the United States Health Care system will be a very successful entity to the entire population.

References

Black, Nick. (2005). "Management Mistakes in Healthcare: Identification, Correction and Prevention," *Journal of the Royal Society of Medicine* 98: 432-33.

Graban, Mark. (2009). *Lean Hospitals: Improving Quality, Patient Safety, and Employee Satisfaction*. New York, NY: Productivity Press.

Shook, John, presentation, First Global Lean Healthcare Summit, June 25, 2007.

Summa Health System, presentation, Lean Six Sigma Awareness Course, March 11-13, 2013.

Womack, James P., and Daniel T. Jones, *Lean Thinking* (New York: Free Press, 2003), 15.