The ups and downs of lean, Six Sigma

Regardless of you leading your customers and organization through a long-standing rough spot or flopping with face-plant financially and operationally you can learn a great deal from Lean and Six Sigma project success stories and failures.

More than a dozen experts shared their positive and negative anecdotes, as well as useful tips, with *Healthcare Purchasing News* that are chronicled below in edited transcripts of their own words.

Lean Success stories

At a large government services organization we implemented [Lean Six Sigma] in the logistics, supply and account management functions, touching an estimated 60,000 federal employees. Success was a result of starting small and growing step by step into each part of the organization. All along the way we implemented technology that allowed all levels of the organization to trace improvements and infuse accountability. Once the five-year project was complete, [Government Accountability Office], [Treasury Inspector General for Tax Administration] and Congress all produced reports praising the commissioners who championed respective phases of the project, in addition to publishing documented improvements. The same thing can happen at any organization in healthcare.

– Jeremy Belinski, vice president, strategic development, Aspen Healthcare Metrics, a MedAssets company

Our continuous improvement strategy combines the Lean and Six Sigma philosophies. Depending on the problem at hand, we deploy various tools and techniques from both. Broadlane recently acquired a large teaching hospital system on the East coast. To help successfully and rapidly implement the client on the Broadlane portfolio and recognize significant savings as soon as possible, Broadlane's Rapid Implementation Team arrived on site to utilize Lean Six Sigma processes during the transition. The transition was a huge success, and the client was very pleased. At the same time, the project had been properly scoped and defined, and the data had been adequately gathered. From there, the Rapid Implementation Team was able to efficiently implement this client without extra steps or wasted work.

– Ron Geguzys, senior vice president and Six Sigma Black Belt, operations, Broadlane Inc., Dallas

We have re-engineered operating room turnover processes and workflow to eliminate approximately 20 percent of the physical distance covered on foot by nursing personnel between cases in our pilot rooms.

– David Reiter, M.D., MBA, FACS, associate Chief Medical Officer, Thomas Jefferson University Hospital, and professor of otolaryngology-head & neck surgery, Jefferson Medical College, Philadelphia

A hospital turned to the strategies of Lean to help them achieve a goal to improve productivity of its food delivery process.

The team first started by documenting the 'current state' process from makeup of the trays, to the delivery of the trays to the patients, and finally to the retrieval of the used trays. During this process the team observed many activities that led to process waste, including waiting, over-processing and even over-production. Patient surveys and complaints were also assessed.

During the preparation and serving of the food, a ‘race-like’ scenario existed with the tray builders pushing the servers and the servers racing in and out of rooms to keep up. Very little time was available to greet the patients and answer questions, as the waiting trays of food would get cold.

The next step was to create a ‘future state’ that would eliminate the waste and produce a more Lean process. Based on the future state, an implementation plan was developed to address the process changes. It was decided the first critical step should be to improve the current process in order to prepare for the more challenging meals-on-demand process.

At the completion of their first future state, there were significant improvements. An old unreliable piece of equipment was eliminated, saving electrical as well as repair and maintenance costs. Four positions were freed up that were used to increase the staff that will deliver or prepare the food. This resulted in the ability to add the valuable resources that were required to serve the patients when on-demand started. Pull and flow enhancements from the preparation of the trays of food to the delivery to the patient units were created in the system so that the food was always fresher and didn’t have a chance to cool down while waiting to be served.

This transformation in thinking and process had a positive outcome that didn’t cost the hospital any additional staff or any additional equipment. In fact, the hospital freed up several staff to do value-added work and removed some old legacy equipment that required constant repair and maintenance. Most importantly, it helped to improve the quality and service to the patient/client and improved the staff morale – the always hoped-for ‘Win-Win’ result.

Here are keys to success based on the above case study:

1. Documentation of current process

2. Outside-the-box thinking

3. Attention to quality along with productivity improvement

4. Re-engineering of processes while considering newer ideas

– Michael Rudomin, principal, and Sandesh Jagdev, senior logistics consultant, HealthCare Solutions Bureau LLC, Bolton, MA

Six Sigma success stories

Product selection – After the consultant came in and reviewed our product selection process, we restructured our main products and clinical products meeting to reduce the time the initial request is received by Supply Chain to the time it is presented and approved/rejected. We were able to reduce approval time from two months to four weeks.

– Terry Cox, MA, MS, FAHRMM, CMRP, director, supply chain services, Texas Children’s Hospital, Houston

This concerned the development of Key Performance Indicators (KPIs) to measure the quality of service by different disciplines of the supply chain, including Materials Management, Point-of-Use supply management, Pharmacy, Linen and Waste management.

By measuring the performance of each supply chain activity, the hospital was able to create a continuous improvement atmosphere leading to better overall supply chain management quantity. Keys to success were:

1. Staff participation

2. Collection of information without spending lot of time

3. Simplicity

4. Display of KPIs

– Rudomin and Jagdev, HealthCare Solutions Bureau LLC

Lean failed efforts

I have had some false starts but those are almost exclusively related to poor executive sponsorship. Once new champions were appointed, project execution was successful.

– Belinski, Aspen Healthcare Metrics

We have not yet had a failed effort. Projects usually fail for one of two main reasons. The project was either scoped poorly, or the project manager skipped the step of gathering the appropriate data to support the need for change.

In the first case, Green Belts, Black Belts or their manager sets off on a project that has no beginning or no end. A perfect example is a project that every company I have ever worked in tries to tackle. It is usually called something like 'Purchase Order to Remittance.' The team starts to work on it and quickly finds that there is no part of the organization or process that is not somehow included in that project. Some would argue that it would be easier to 'Boil the ocean' or 'Solve world hunger.' For a project to be successful, a reasonable scope has to be set and adhered to.

In the second case, no project, Six Sigma or otherwise, will be successful if you don't – or can't – define the problem with data. You won't get the support you need if you don't adequately describe what you are trying to improve and why the change is needed. A good analogy that we often use is, 'Show them the bear is at the door.' What we mean by that is, in order to gain support and drive action, you have to clearly articulate or prove that there is in fact a problem and we need to change.

We do have a couple projects today that are at risk of failing. One is for lack of data and the other is a scope issue. What we have done in both cases, is stopped the project and started over. In the case of the lack of data issue, we simply told the green belt to stop designing a new process and asking for people's time and go get data to support his hypothesis. Until we have data there is no project. The main problem with that project is that it crossed functional boundaries. The other project simply had to be re-scoped and a new champion was assigned.

– Geguzys, Broadlane Inc.

We are not yet seeing spontaneous reporting of waste and sufficient requests for process modification from employees across the institution to suggest a thorough transformation of our culture.

– Reiter, Thomas Jefferson University Hospital

A hospital commissioned its lean management team to help streamline the receiving process at the receiving dock. A team of lean consultants was established internally to address many process issues across the supply chain.

As a first step, the lean team documented the current process to understand improvement opportunities. It was concluded that instead of each person on the receiving team performing each step of the receiving process, it would be more productive for each person to perform a specific part of the process with greater efficiency.

Upon implementation, the number of packages received per day did not improve. One of the key reasons for this outcome was that the lean team did not completely understand the details of the entire process, leading to lower productivity.

The key lesson learned was that in order to successfully implement a process change, it is important to dissect all elements of the process; e.g. segregating received packages going to the same floor then resulted in the need for them to be 're-aggregated' during the delivery process. It wasn't sufficient to just change process without understanding the overall impact of the process change.

– Rudomin and Jagdev, HealthCare Solutions Bureau LLC

Six Sigma failed efforts

Conversion timeframe – from the time the product is approved, entered into the system, ordered and received the timeline increased from four-to-six weeks to eight-to-10 weeks. A meeting to discuss the breakdown is being scheduled.

–Cox, Texas Children's Hospital

Our initial flurry of Six Sigma projects failed to respect the learning curve for the methodology. This resulted in too many projects in too little allotted time, diluting resources and reducing the overall effectiveness. This lesson was learned, and future schedules are more practical and achievable.

– Reiter, Thomas Jefferson University Hospital

A similar effort was put in place by another hospital where too many KPIs were picked by the departments. This made the process cumbersome with participants spending excessive time collecting information. Although this may have improved quality in some instances, it also decreased productivity due to the amount of effort involved in collecting the requisite information.

– Rudomin and Jagdev, HealthCare Solutions Bureau LLC HPN