Case Study: Hospital A: Laboratory Testing Process

Case Lab Test Process
Description of the organization

Hospital A is a university-based health care system. They provide a comprehensive suite of services including burn/shock trauma, cardiac center, and transplantation center services. Hospital A also has a state of the art laboratory that offers an extensive menu of specialized clinical tests.

The mission and goals of Hospital A had long been to provide excellence in patient care. Along with this broad objective Hospital A also had the following objectives:

- Provide education to healthcare professionals
- Promote ethical behavior in practicing medicine and conducting scientific research
- Become the preferred healthcare provider in their locality
- Become a valuable business partner to payors
- Build a steady stream of loyal patients

The goals of Hospital A for the current fiscal year were to maintain quality standards, decrease costs, and increase the overall contribution margin.

As a result, Hospital A sought how they could make improvements in areas where they thought the opportunity existed to cut costs by doing work better, faster and cheaper.

Determine the As Is

Hospital A looked at its laboratory facility. They had an extensive test menu with 22 subspecialties. Based on historic data, a 200% increase in lab costs had crept up on Hospital A in the last 2 years.

Hospital A decided to take a closer look at the laboratory testing process. They saw a very good opportunity to lower or at least slow down the increase in costs that had been occurring in the last two years.

To do this, Hospital A began by mapping the laboratory process to understand its inputs, activities and outputs better. They also created a Cause and Effect Diagram to understand how problems tie back to their root cause. When complete, they summarized their understanding of the process as follows:

- Starts with a written physician order
- Order is transcribed into Lab System
- Sample collected from patient and sent to lab for test
- Test performed by lab
- Results submitted electronically

The results of the above steps brought Hospital A to believe that the following issues were the major causes of excessive laboratory costs:

1. Duplication of test orders
2. Incorrect test orders
3. New test utilization
4. Suspected unfounded research

Determine the Should Be

Hospital A felt they now had a good understanding of the lab testing process to try and come up with a better way of doing things. They now wanted to talk with other hospitals that conducted clinical tests to determine if there was anything they could do differently.

Hospital A checked with a local healthcare association and found that there was an 85 member University HealthSystem Consortium. The consortium was founded in 1984 and had a mission of advancing knowledge, fostering collaboration and promoting change to help all members compete more effectively.

The consortium actually tracked lab costs. They were able to provide Hospital A with lab costs for the prior 12 months. Upon comparing their costs with the costs of the consortium, Hospital A found that they were in the average to high range for costs. They felt they could definitely look at the low cost providers as a goal or benchmark.

After seeing some quantitative numbers, Hospital A then decided to talk to the top tier labs and try and understand how they handle similar issues that Hospital A identified in its "As Is" state.

They choose a few Hospitals that most resembled them. These hospitals were academic medical centers who do similar lab tests and who have a similar patient profile. Four hospitals matched the criteria and agreed to participate provided that Hospital A be willing to share information with them and provide them with a written document summarizing their improvement initiative.

From these hospitals, Hospital A gleaned the following best practices:

- The other hospitals had also experienced significant cost increases in laboratory testing in the past two years
- The others did a prospective review of expensive tests before performing the test
- The others did a retrospective review of expensive tests after performing the test
- Tiered review process for all tests (some type of review for all tests is done)
- A model was used to help decide if a test should be performed (certain criteria must be met)

The Gap

As a result of the benchmarking initiative, Hospital A realized they had some gaps that needed to be filled. Their current process did not have any review procedure at all. The tests were simply performed once the physician ordered them. This would explain a lot of duplicate tests, incorrect tests, and tests done for unfounded research. Hospital A definitely felt it could adapt some of the best practices from the other hospitals.

At the same time, Hospital A was somewhat comforted in reporting to management that their benchmark peers had also seen sharp rises in lab costs in the past two years. As new lab procedures were implemented and ordered costs began to rise out of control. The main difference was that these hospitals reacted to those with the review procedures to monitor cost more proactively.

Adapt Best Practices

Hospital A took the information gleaned from the other Hospitals and derived the following key action steps as an attempt to improve the process:

- Before lab test orders are even placed they implemented procedures to change ordering practices. They did this by educating physicians on the rising costs to make them more acutely aware of those costs and that they were going to be monitored more closely. The effects of this were to stem the tide of abuse in lab test orders placed by physicians.
- Test practices themselves were changed. A prospective review of all test orders was to occur. It was tiered such that a higher priced test was scrutinized more than a less expensive test, but all tests had some form of approval process before being entered into the system for scheduling.
- Test practices were reviewed retrospectively. This time the lab reviewed the cycle time, quality, and cost of lab tests to spot any trends in behavior that might indicate a problem. This ended up being a set of performance measures not unlike the Consortium. This was a base of historic data to set goals and monitor continuous improvement efforts.

Monitor and Improve

As eluded to in the final bullet point above, Hospital A's retrospective reviews became baseline performance measures to monitor progress and proactively manage by measurement. Specifically, they began to calculate the following measures on a regular basis:

- Cost per test of Hospital A vs. Consortium benchmark (to track cost of tests)
- Number of tests per paid hour (to monitor volume of tests)
- Percent of tests done in-house vs. sent out (to measure activity and productivity of internal resources)

Conclusion

Hospital A was tasked with finding creative ways to maintain quality and cut costs. They had suspicions about a particular area that could need improvement, lab testing. They spent time understanding the process via process mapping and a cause and effect diagram. They then compared their performance against other organizations and talked to a few of those organizations to really understand what they did, why and how they did it. Finally, they adapted some of the best practices back into their own process and set up a system of performance measures to help monitor the process.

Case Discussion Questions

Be prepared to discuss in class the following questions:

1. What did Hospital A do to try and understand if a real problem existed in the clinical lab area? Why would they do this rather than just go and research best practices for clinical lab testing?

2. What did Hospital A do to seek out best practices? Would you have done anything differently?

3. What were the major gaps in Hospital A's process compared to those they benchmarked against?

4. Do you think Hospital A will have a difficult time getting these process changes to stay in place? How do you think they should manage the change aspects of this better?

5. Do you think their performance measures for monitoring the process are adequate? If so why, if not why not?

