**Rutgers University Supply Chain Operations:**

**Week 3 Case Study**

**By Sean**

1. What issue did the organization face and why did it need to be addressed?
2. How did they show that there was a problem?
3. What analysis did they perform and what did that analysis indicate?
4. How did they address the problems?
5. What did they do to ensure the problem did not reemerge?

Links for report:

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The case study was performed at multiple clinics to use new technology to increase productivity and efficiency.

1)What issue did the organization face and why did it need to be addressed?

With new technologies arising, such as machine learning

Increasing consumer demand as Americans get older and fatter, they had an increase of demand in their diagnostic imaging services with limited resources.

The processes surrounding diagnostic imaging services had not kept pace with the science delivering better equipment and information systems.

At a diagnostic image clinic(CT Scans), the project was started to address slow start up times or patients missing appointment bottlenecks that caused lost productivity at multiple clinics.

2) How did they show that there was a problem?

They found they had many delays and a backlog of patients at a diagnostic image clinics(CT Scans), the project was started to address slow start up times or patients missing appointment bottlenecks that caused lost productivity at multiple clinics.

Even with the latest equipment installed, many organizations face delays in report-turnaround time and a backlog of patients waiting for appointments. Diminished capacity and productivity can lead to a variety of problems for diagnostic imaging facilities or departments, including:

* Delay in diagnosis and treatment
* Emergency department bottlenecks
* Increased length of stay
* Patient dissatisfaction
* Referring physician dissatisfaction
* Potential loss of outpatient business
* Loss of revenue

3) What analysis did they perform and what did that analysis indicate?

To optimize performance, technology must not only be leading edge, it also must be appropriately aligned with the people and process steps involved in the delivery of safe and cost-effective patient care. One approach that has proven to be effective involves the implementation of technical strategies such as Lean and Six Sigma, along with cultural tools to accelerate change and build acceptance.

Applied in diagnostic imaging, this approach focuses on optimizing time, and human and equipment resources; improving service delivery (for patients, staff, radiologists, referring physicians); reducing costs while enhancing revenue. Lean and Six Sigma strategies using the DMAIC methodology (Define, Measure, Analyze, Improve and Control) eliminate non-value-added steps that cause delays, pinpoint root causes for defects and variability, and remove inefficiencies and redundancies that can undermine any organization’s best efforts.

4) How did they address the problems?

If a hospital or diagnostic imaging center decides that Six Sigma is the best way to achieve their goals, a project team is assembled and trained in the methodology, often led by experienced consultants or process improvement experts. To maximize the benefits to the organization, it’s important for the team to examine the entire operation – including service quality, service cycle, service cost and market potential. Existing assets, resources, equipment, staff, scheduling and transport should all be considered for their potential impact on departmental productivity.

5) What did they do to ensure the problem did not reemerge?

Process improvement and workflow adjustments using Six Sigma and other tools can have a measurable impact on cost and quality of services. Addressing additional areas such as marketing and providing specialized training for technologists also helps the diagnostic imaging department gain advantages in market share and accelerates their return on investment for equipment such as CT scanners and MRI machines.

Diagnostic imaging departments must recognize and respond to new market realities. The business of radiology in all its various forms is growing at a rate of 10 percent each year, driven by an aging population and increasing demand for services. This growth is continuing to strain the ability of healthcare organizations to maintain adequate services. Reimbursement and compliance issues also present certain challenges, and the quest for market share continues unabated. To survive and thrive in this environment, diagnostic imaging departments and facilities must adopt strategies for increasing efficiency and cost effectiveness.

What is your overall conclusion of the case? What did you like about the Six Sigma project? What would you have done differently? What was the most striking thing you learned from this case?

Overall Diagnostic tech is a booming field(growing 10%) per annum, as America continues to get older and fatter, I'd expect that demand to accelerate. I found it interesting that hospitals created so much profit based on their services so an increase in efficiency and productivity lead to a direct increase in their profits. I personally would of leaned more into the machine learning aspect, checked and signed off by an actual Radiological Technician as that seems to be a growing field and has a higher success rate than mere mortal men, while also skirting around any potential liability issues with having a final signoff and double check done by a human.