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Six Sigma

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Six Sigma can reduce defects in services to unprecedented levels because of its strong emphasis on statistical analysis and measurement in design, manufacturing, and the entire area of patient-oriented activities. It is obvious applying Six Sigma has impacts to how well a business performs, and, in the healthcare area, it has been proved that patients reap benefits from focusing on operational efficiency.

Defining Six Sigma

What exactly is Six Sigma? Put simply, it is a data-driven method for achieving near-perfect quality. What makes Six Sigma different from other quality efforts? It is that the focus is to follow a structured process for defining, measuring, and controlling an opportunity for improvement.

More specifically, it is a disciplined effort that closely examines a company's repetitive processes for product designs, production, suppliers, services, and organisations. Six Sigma is a statistical method of translating a patient's needs into separate tasks and defining the optimum requirement for each depending on how all of the tasks interact. Based on what is revealed, the steps that follow can have a powerful effect on the quality of organisational health, the performance of patient services, and the professional development of employees.

Six Sigma and Healthcare

What does Six Sigma mean to healthcare professionals?

Sadly, in many organisations – not much. There is a misunderstanding of how to apply Six Sigma methodologies. Common responses when a healthcare practitioner hears Six Sigma – "Oh great, another fad. I don't have time for this, I have to see patients. I cannot change. My patients are sicker. We do not have repetitive processes. Every person is different." Sound familiar yet? Six Sigma methodologies are not taking the focus off of the patient and only looking at cost cutting. The methodologies are also not taking away clinical quality and looking for short cuts or 'cookie cutter' medicine.

Why do We Need it in Healthcare?

There are a number of key elements in achieving Six Sigma:

• First, we must genuinely focus on the patient and identify their key to quality requirements.

• We must ensure that our processes are designed and managed to meet these key to quality requirements, and that we have appropriate measurement in place to understand how well we are meeting the patient requirements and how well the patient feels we are meeting the requirements.

•We need to involve our people, make sure they are effectively equipped so that they are able – and feel able – to challenge their processes and improve the way they work.

• And we need to undertake that improvement using a systematic problem solving and process improvement approach.

We know why we need it, but how do we do this Six Sigma thing?

Practical Tips on Implementation

The most critical step in implementing a successful Six Sigma initiative is to have senior management support. This has to be driven from the top. If the ones determining the future and direction of the organisation are not supporting an initiative, it will not be successful. I say this bluntly and without opinion; it is fact. All too often organisations want to bring Six Sigma into their operations without leadership support and fail miserably. This not only is extremely costly financially, but it is also costly in employee acceptance when another 'program' is thrust at them.

When management has determined Six Sigma is the right approach for the organisation it will take some time and research to ensure the right people are aligned to the right processes. This often requires assistance from someone who has significant experience applying Six Sigma methodology.

This is not a common occurrence in healthcare. There are many healthcare professionals who have made the transition to operational quality with great success. However, in many cases healthcare systems just do not have the resources or ability to stay within the organisation and must look to outside help, at least when building the foundation for Six Sigma. There is a healthcare system in the Midwest (United States) that created a department focused on operational excellence staffed completely with engineers from outside healthcare. The approach was not focusing on clinical but operational improvements. Finding these experts often requires a non-traditional method for recruitment. The American Society for Quality (ASQ) has a job posting board that is a valuable tool for finding quality professionals who can serve in healthcare.

Six Sigma Opportunities

• Flaws in complex interactions among several individuals:

Complex interaction can involve multiple hand-offs between provider and staff and between departments. For example, orthopaedics is sending a patient to x-ray, the patient says he is here for an x-ray on a shoulder and ends up getting an x-ray of a foot. Extreme case, but you get the point. If we lacked a documented process step and did not have some type of process control, the results could be catastrophic. Any time there is a change in process or direction a process control point must be established to ensure consistency of care and direction.

• Problems at the interface of people with sophisticated technologies, products, and organisational systems:

When there are occasions for individuals to interface with new and everchanging technologies, the opportunity for errors is vast. This is where our subject matter experts, whether Six Sigma or IT professionals, face their greatest challenge. Getting healthcare professionals to utilize new technology is an almost impossible task. The first hurdle we must face is defining the technology, and then we need to explain how that technology will benefit the organisation. Getting healthcare practitioners out of the "that's the way we have always done it" mind set is never easy, but with the right focus and methods the new technologies with proper control can have a significant impact. The case study that follows is one example of how technology improvements and following a Six Sigma path of define, measure, analyse, improve, and control provided one organisation with major improvements to the overall operational health of the organisation.

Opportunity Identified

The healthcare system identified an opportunity to be more proactive in serving their patients by reducing the amount of paper charts used within the system. The basic flow of getting a provider the information needed to consult with a patient involved a courier pulling paper charts and delivering them to a provider's department.

This can require the transfer of thousands of records across many floors within a 150,000-square-foot facility. It also causes a one-day delay in the process. After delivery, medical staff was required to sort through information and 'prep' for the next day's patients. More delay. When the patient arrives for his or her appointment, the provider reviews the paperwork (delay) and begins treatment. They then have to send handwritten notes to be transcribed. Yet another delay in the process of treating patients. Transcribed notes are then added to the patient's record. Delay.

Opportunity Defined

Determine a method to eliminate paper records needed and eliminate need of a courier to deliver records by hand.

Opportunity Measured and Analysed

The costs associated with the delay in process, manual delivery of records, transcription, transcription errors from hand written notes, collection

of records, as well as paper and printing costs, were all calculated. The actual financials are withheld to protect the privacy of the system. However, the cost avoidance and savings were sizable.

Improvements

The system determined electronic medical records loaded, stored, and accessed through tablet PC technology were the most direct and valuable solution. Working with a clinical quality team, business quality team, informatics, and information technology, the type of information along with how it should be presented, how it will be captured from a provider, and how it would be reported was defined. Once the solution was implemented not only were all objectives for the project met, but some unexpected improvements came out. Specifically, the satisfaction of patients showed a marked improvement. This result was attributed to patient satisfaction surveys stating patients were happier to see doctors more focused and spending less time having to seek information from previous visits.

The overall operational impact to the system was considered a major success and has been used as a best practice for implementing electronic medical record technology.

Control

Process controls are in place to review the technology solution and are monitored and reviewed on a continuous basis.

The healthcare industry can benefit greatly from Six Sigma, a disciplined approach to evaluate repetitive process, and the technology solutions that often accompany such improvements.

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