Good health care project essay example

Health & Medicine, Hospital

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Healthcare Project

A recent report from the Centers for Disease Control and Prevention indicates that over the past decade trips to emergency departments (ED) rose 20 percent, while the number of available emergency centers fell by 15 percent. Another study from the American Hospital Association indicated that 62 percent of hospitals feel they are at, or over operating capacity. That number jumps to 90 percent when considering Level 1 Trauma Centers and larger (300+ beds) hospitals.

These statistics are frighteningly familiar to many hospitals and patients. The pressures are mounting, and a faltering economy has swelled the ranks of uninsured -- people who often rely on the local ED for primary care. Countless emergency departments are literally on life support as they try to cope with capacity issues and workforce shortages.

Preparing for or responding to emerging threats such as bioterrorism and SARS only increases the strain on the system. In hospitals across the U. S., EDs face a similar story of delays and dissatisfaction from both patients and clinicians.

Not all the news is bad, however. Some hospitals are finding new ways to overcome the challenges and create safer, more efficient environments. Through a combination of Six Sigma and Lean, hospitals are targeting critical aspects of patient flow, patient access, service-cycle time, and admission/discharge processes. A growing number of hospitals are taking steps to identify and remove bottlenecks or inefficiencies in the system.

As a result, they are seeing a positive impact on patients, staff, and the bottom line. By using the principles you have learned in the Six Sigma Black Belt course we want to decrease 'door to doctor time.

We also want you to decrease the patient’s total length of stay, and decrease in the number of patients who leave without being seen -- those who get tired of waiting and took off. In fact, last year of the 43, 800 patients awaiting treatment, 6. 3% left without treatment--essentially because they were dissatisfied with the wait time.

The nation's emergency care network must remain strong -- not only to maintain its ability to serve basic community needs, but also to ensure it will have the necessary capacity and processes in place to respond quickly during a crisis.

PROJECT CHARTER

This is the first phase of the whole process in Six Sigma Black Belt and Lean Health care project where the problem statement is defined and the major plan is proposed where inefficiencies will be decreased and needs met, of all stockholders. This can be regarded as the “ Buy-In” of the project presented in front of the sponsors.

What is the business case?

Healthcare industry’s demand has been increasing but supply is not met accordingly. With the increase in the number of emergency cases, but a decrease in the emergency centre, the outlook is not great. Quality is decreasing and proper quality is not being provided to all patients because

of reducing emergency centers and shortages in workforce leading to delays in checking and unsatisfied patients leaving the ED.

What is the problem statement?

With the ever-increasing gap between the demand and supply of workforce plus emergency set up needed at the hospitals is troublesome. The percentage of over operating capacity of the larger hospitals and special Level 1 trauma centre is 90%, while that of the patients leaving the hospital without treatment is 6. 3%. These percentages reveal missing revenues, lost status and bad management.

What is the goal statement?

The project will start from next month, November 2014 and will complete before the inauguration of the Level 1 Trauma center in this hospital next year in the month May. The goal is to be able to increase patient satisfaction in terms of their treatments along with increasing hospital’s revenues and reputation.

Goals consist of:

- Decrease in the checkup time by 50% (Increasing Door to Doctor Time)
- Decrease in the patient’s waiting time by 50% (LOS = Length of stay)
- Decreasing the number of patients that leave dissatisfied without getting treatments by 50%.
- Handling workforce shortage by increasing workforce by 25%
- Completing the risk plan along with the communiqué plan within 2 weeks of starting of the project.

- Completing and updating status reports of the project, each step as and when it takes place, for reporting to all the senior board members.

What is the project scope?

This project will include the following:

- Registration process
- ED Flow process
- Discharging of the patients' process
- The estimated planned time needed in the whole process of patient's treatment, which starts with the moment the patient, enters the facility, hospital, and ends when the patient is discharged from the hospital.

Along with these parts of the inside project scope, there are also some features that come in the outside scope. These include:

- Admission and its whole course of action for the patients who were brought in the ER i. e. emergency cases or patients with a severe kind of illness.

SIPOC

We want to view the process from a high level in order to see the major process elements.

SIPOC - Suppliers, Inputs, Process, Outputs, Customer

This includes the inputs and outputs of the whole process so that the key steps in all processes involved will be highlighted revealing the important steps. Further, other steps, which are not many crucial, but are part of the process, will be reported as well. The output will shed light on the patients and their needs, thus if these needs are considered to be the basis of the whole process then the success will increase and quality achieved.

This is an insightful for all parties included, especially the management. SIPOC helps in identifying and acknowledging that who is who and what and how much should be included in the project scope. This will help in making the whole project controllable. So when the suppliers are outlined then the management can define the processes and ask for changes in the supplies accordingly without delays. It goes for the inputs, i. e. when the inputs are defined and pointed out on a single page, the management can easily pinpoint the most important ones from the ones that are less important for a specific process. The processes define the important steps that should be taken for quality enhancing and the outputs define the aims and goals. The output also clearly makes a picture of what may have gone wrong. SIPOC alone cannot help in increasing the quality even 1%, but with the whole project combined it can help and participate in the success of the project altogether.

A table format will be much more feasible here.

Baseline sigma (approximate value)

According to the baseline sigma, the value will show the originality state of the sigma before applying the improvements for better functioning of the processes. To find out the improvements one needs to know the original conditions of the whole process, especially the output.

According to Six Sigma, “ A Baseline Measurement is needed to determine the exact starting point for each project contract primary (Y) and secondary metrics (Y's).”

The condition (a 2 state one) is that the patient will either leave or stay for getting checked. Here the Units = 43, 800 patients that come in the hospital

every year (Data taken from the case provided).

The defect rate is 6. 3%, which equals to 2, 759 patients that leave the hospital without being checked by the doctor or physician because of the reasons already mentioned above (Data taken from the case provided).

As the opportunity is 1 hence after calculating the result through the basic formula, we get 63000 DPMO. This value equals to the 3. 03 sigma. According to the chart available, this value of sigma equals to the dissatisfied (or also called the defective) customer experiences per million (The analysis done based on the information provided in the Excel sheet).

Pareto Chart for Analyzing

After calculating the cumulative percentages through the excel sheet, by using data provided, by entering a formula (also saved in the excel sheet), the output was entered in the data to form the Pareto chart. Here, the 20: 80 % ratio is seen through the law, which states " significant few versus the trivial many". Based on information provided by those who entered the hospital, the following reasons were stratified for leaving:

- Got tired: 6
- Not necessary: 4
- People Waiting: 4
- Doctor Treatment: 3
- Staff Treatment: 2
- Environment: 2
- Went Elsewhere: 1
- Ignored Me: 1
- Too Expensive: 1

- Had to Leave: 1

(Also completed in the excel sheet)

Expected Variation Analysis

During the past month, the patient wait times were logged and noted within this document. All figures are in minutes with a wait time operational definition of the patient entering the ED facility until brought into an ED room. All values are rounded to the nearest minute.

- Average wait time: 21. 1935484 minutes
- Standard Deviation: 6. 9013011
- Range of Expected Variation
- Lowest Point: 0. 4896451
- High Point: 41. 8974517
- Histogram to determine Normal Distribution is nearly normally distributed as shown on the following histogram by the bell curve.

Stem and Leaf Diagram:

The Stem and Leaf diagram saves the real data values compared to the histogram. To get an image of the distinction in wait times over the past 70 days, it can be determined by this diagram, if flexible cause variation is there.

The values over the past seventy days are indicated within this document as shown below:

The above Stem and Leaf diagram shows that this data is not normally distributed. So giving a suggestion will be that the project team should wait times of forty minutes and more as their center of attention. The number of

wait times is fairly evenly distributed at the point of > = 40 minutes and < 40 minutes.

Improving DOE (Design of Experiment)

The Design of Experiments (DOE) approach has been prescribed to assuredly understand a change considering the variables that affect Wait Times. The task group conceptualized five conceivable explanations behind the postponement to incorporate the following:

- Staff size
- Order of treatment
- Treatment method
- Tracking software
- Waiting room temperature

The factors for all experiments were:

The breakdown of the experiments is as follows:

Staff Size of 8:(7+28+26+6)/4 = 16. 75

Staff Size of 16:(9+25+8+28)/4 = 17. 50

These results are presented in charts below:

In view of the fact that the purpose is " Less is better" when the variable under consideration is wait times, the following steps should be accomplished:

- Without delay make an alteration to room temperature from the 68 degree setting to reach further relaxed surroundings. Based on the DOE data, it has the major noteworthy impact of a reduction in wait times.

- Commence prioritizing the patients because this has also lessened the average wait time.

Scatter Diagram

Objective:

The team is certain there is a correlation between the volume of patients, and patients who Leave Without Treatment (LWT). If there really IS correlation with the set of data, the attention will be directed to determine how to improve the process considering the cause-effect relationship between the X's and Y's. If there is no correlation evident in the set of data, the team will have to go back to the drawing board.

With the data provided, construct a scatter diagram to see if they are right, their hypothesis is correct.

Correlations exist for 1. 0 to -0. 7 with a strong negative association

Correlation exists for -0. 7 to -0. 3 with a weak negative association

The Scatter Diagram does not point out any correlation with a correlation coefficient of . 2256432 (very weak) and is positive.

XmR Chart for Control

Here it is assumed that the improvements have been made through using the Six Sigma processes and techniques, thus reducing the wait time for the patients, both who are coming or visiting the first time and also the patients that have been coming to this hospital previously thus it is not their first time visiting here.

Now the need or requirement is to make sure that the successful

implementation is good to go in the near and far off future as well thus the phrase “ the plates are still spinning”.

The Upper Control Limit (UCL) and Lower Control Limit (LCL) are indicated that show that continuous improvement is essential.

Conclusion:

The above given project is an explanation of the best way to handle a healthcare project. We need to understand that management and properly maintained system is the key to success in all sort of systems, be ir small or, big.