Six Sigma and Modifications to Gain an Efficient Practice

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Practices are inefficient in many areas of processing. Industry has an approach—Six Sigma—that works well. However, this process in its truest approach is not practical to implement in a medical practice. However, the philosophy of continuous improvement and developing an approach in any size medical practice can and will result in improvements. These improve ments will allow staff to focus on more important issues as well as improve the bottom line and cash flow.

Key words: Six Sigma; process improvement; culture; standardization; efficiency; medical practice; operations.

Is your practice as efficient as it could be? Are you concentrating on the processes that make the biggest impact on your practice efficiency? Is there a "standardization" attitude in your practice? Can you either control costs better or manage a way to see one more patient per day? These are legitimate questions that each practice should address. The goal of this article is to offer concepts and ideas that will help you achieve a more efficient practice.

Let's define some terms before we get into the meat of the "process" leading to efficiency.

- *Standardization* is the process of developing and agreeing upon a standard. Some standards are mandatory while others are voluntary. Some standards are *de facto,* meaning a norm or requirement that has an informal but dominant status. Some standards are *de jure,* meaning formal legal requirements.[1]
- *Process* is "a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer."[2]
- *Six Sigma* is "a statistical concept that measures a process in terms of defects."[3]
- *Pain point* is a level of difficulty sufficient to motivate someone to seek a solution or an alternative; a problem or difficulty.[4]

BASIC GROUND-LEVEL NEED

The first step in any move toward increasing efficiency is to have an attitude that efficiency will improve patient care and satisfaction, which will lead to an improved bottom line. This "culture" starts at the top with the physicians and practice leaders understanding and focusing on the effort to succeed through continuous improvement (CI). CI simply put means that you don't have to fix everything perfectly from the start; you identify an area of inefficiency and work to improve it sometimes with very small steps.

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Six Sigma is an approach that has been in existence in industry for many years and has only recently found its way into healthcare. The above definition of Six Sigma advocates the use of statistics to define a baseline or error rate to assist in the removal of defects. Basically, the model

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suggests that you can identify the most defective issue through data, work to improve it, re-measure, and find that you have improved. The goal of Six Sigma is to have only 3.4 defects per million opportunities

Before the practice can pursue the idea of improving efficiency through a model such as Six Sigma, it is worthwhile taking time to review the current methods and processes, especially if the practice has multiple locations. Are things done the same in the satellite office as they are in the main office? Can an employee shift from one office to another and not miss a beat? Standardization, as noted above, identifies "consistency," which is a key to any successful efficiency program. Standardizing the location of the gloves in each exam room can save time and gain efficiency for the doctor who does not have to open every drawer to find them. Front desk staff routinely asking patients if they can *see* their insurance card rather than asking if their insurance has changed will save a lot of denials and cash flow delays.

A MODEL

W. Edwards Deming and other gurus of the total quality management movement have identified that 25% of the work that any employee does is *wasted* either through unnecessary, redundant, or defective efforts. If you truly think about how much time is truly wasted by employees and analyze their daily processes, you will find this is a realistic number.

If we can manage our processes with the philosophy of Six Sigma we will see improvement.

I believe in most practices that it is impossible to develop and implement a full Six Sigma program; however, the philosophy and a couple principles are important and relevant to the practice. When you see 500 new patients a year and have 6500 visits in the practice per physician, that means you would have to be perfect in each visit for 153 years. More to the point is that there are pain points in each process that that can and should be monitored for effectiveness. Cumulatively there may be a million activities per year that each employee is involved with. Even then, a mistake rate of 3.4 is not likely. It is more likely in an automated process than in a human process. The philosophy is "managing the focuses on eliminating defects through practices that emphasize understanding, measuring, and improving processes."[3] If we can manage our processes with the philosophy of Six Sigma, we will see improvement.

Beyond the basic culture, Six Sigma suggests a five-step sequence, "DMAIC," to address the process that you have determined to be defective:

- ***D*efine:** Identify the process and the few factors that can be measured and analyzed.
- ***M*easure:** Select the pain points that are part of the process, and define standards of performance for those points.
- ***A*nalyze:** Define the improvement objectives, and identify the causes for the variation from your targeted standards; gather data or information related to the pain points.
- ***I*mprove:** What are the options or alternatives where it is possible to achieve improvement?
- ***C*ontrol:** Determine your ability to control the targeted changes, and implement those changes.

I like to look at things in a circular fashion (cycle of service) such as the processes identified in Figure 1. These are simple processes in any practice; each one may have several pain points that should be addressed. The key, though, in analyzing any process and in implementation of the improvement step is to recognize that a small change may have an effect on another part of the entire cycle; so care, caution, and awareness will be key in truly implementing and realizing improvement. You will also note in Figure 1 that the goal is to keep things in balance rather than to create an avalanche in the process.

AN EXAMPLE

The first step is to identify a problem that you have. In the example presented in Figure 2, a problem with denied payment for claims has been identified. The percentages in the example reveal that three similar items related to incorrect insurance information gathered at the front desk are responsible for more than 80% of the problems. (Keep the Pareto principle in mind: 80% of the issues are caused by 20% of the items.) The goal then is to take the bigger picture of denials, identify the major areas of cause (pain points), work to fix them, and re-measure in say three months.

Let's take this example of denials processed that are related to front desk activity. The first step was to create a

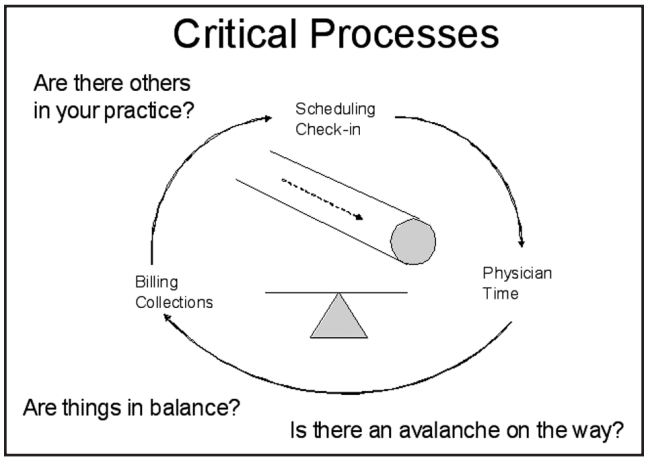

Figure 1. Critical process cycle.

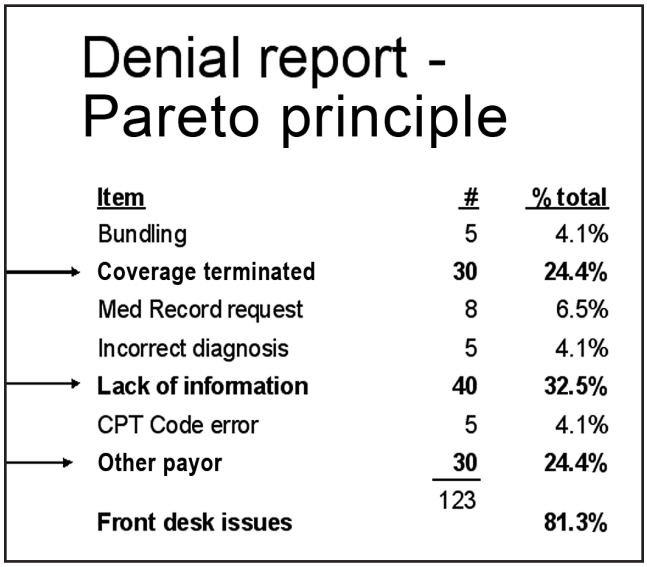

Figure 2. Continuous improvement objective.

team with the responsibility of coming up with solutions to identified pain points. The team included a receptionist, a billing office staff member, and a supervisor. The team first defined the problem, which was that there are an unacceptable number of denials being processed by the billing staff that are a result of errors at the front desk. The team then reviewed the issues and determined that there were statistics available but that more were necessary. The team developed a log to compile more data in an attempt to determine the major pain points, as well as the numbers and percentages of pain points identified. Next the team moved to the analysis stage where they actually watched what happened at the front desk. There the team saw things like continual interruptions from phone calls and patient check in, lack of awareness by the staff of the importance of doing it right the first time, and that there was a problem in getting the information into the computer. The team recalled another principle that states that 85% of the time the issues uncovered relate to systems rather than lack of skills on the part of the employee.

Now that the team had defined the top three reasons for the denials, a strategy was developed to fix them. It was found that there were 45 phone calls per hour handled by the receptionist, and it was determined that that was too many. The team also felt that a card scanner would help in recording the data, eliminating some keystrokes and related issues. And it was determined that staff training on how information flows from one aspect of billing to another was also key.

In the controlling phase, it was necessary to identify who would work on the solution to the phone problem (e.g., install an auto answer system, assign others to assist, etc.), who would order and install the card scanner; and who would develop and conduct the training program and ensure that it was included in the orientation program for all future new employees. These duties were assigned, and actions were taken; and the team further established a goal of 50% reduction in errors within one month and 98% in three months.

Four months later, the team reviewed the data and determined that the efforts were successful. But in the process of reviewing the information, they determined that a new problem had surfaced: there were coding issues causing denials. So the team recommended a medical assistant and a physician join the team to identify the pain points further and to follow the process that worked so well for the initial phase. Thus they were implementing a true CI program. The expected result was improved overall collection percentages and cash flow.

CONCLUSION

Six Sigma is a model or option for the practice to consider. If you truly implemented the process, it would require the creation of leadership, possibly a department; education; refining tools; and a significant effort. In larger business models, it has proven to save $500,000 per "black belt"[3] (trained specialist in Six Sigma), so it has direct benefits. However, in smaller businesses such as most medical practices, it is the philosophy and approach that can be easily implemented to achieve the desired outcomes. The goal then is to have an attitude of improvement, define the pain points, measure as appropriate, analyze, improve, and control to achieve an improved quality of care, patient satisfaction, and bottom line. ■

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