Xigma Client Bulletin

Emergency Medicine Quality Operating Systems

What is a Quality Operating System?

Modern day quality operating systems provide an effective means of measuring and controlling quality in the delivery of healthcare services. This discipline is an outgrowth of the Toyota Production System, and has been used with great success in a variety of industries, since the late 1950's.

A typical quality operating system consists of five parts, which includes workplace organization (5S), a quality process system, visual management, quick changeover, and error proofing methods. A key element that's integral to each part of the system is a mechanism for continuous improvement

How Does it Work?

Quality operating systems use specific measurables to assess patient quality of care in the diagnosis, treatment and administrative processes – in real time. As a patient progresses through each process in the ED, they accumulate a quality score, which allows personnel to measure and control quality from arrival in the department until discharge. The system allows staff to quickly identify issues and control the quality of patient care using 5S, visual management and error proofing techniques..

What's Involved In Developing a Quality Operating System?

Developing a quality operating system for an ED usually involves three steps. First, management engineers perform a current state study to analyze process flows throughout the department. Then the engineers work with department staff to create standardized (non-clinical) work instructions, measurables for the quality process, specific 5S, visual management and error proofing techniques, just to name a few. Lastly, the project engineers create the quality operating system "green book", which are the instructions required to operate the system, including quality reporting and the means for continuous improvement.

The development of a quality operating system usually takes anywhere from a total of sixteen to twenty weeks to complete, with approximately three weeks of onsite data collection and observation, followed by several follow up reviews and a final buyoff of the operating system. A separate implementation phase is usually performed after development of the system, by the same project engineers, with oversight provided by department staff and hospital administrators.

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Can It Really Make a Difference?

Absolutely. Why do you think so many people in other industries are using it? That's because there are few other examples of quality systems that work as effectively.

A significant factor related to the use of this system is that it operates in real time, which allows ED staff to monitor and control patient quality during the diagnosis, treatment and administrative processes.
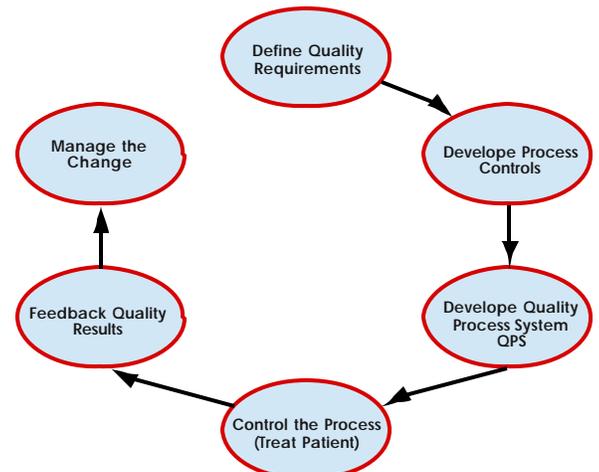
How Much Does it Cost?

The development and implementation of a quality operating system for a typical ED with a patient census of 61,000 cases annually, will range anywhere from $110,000.00 to $170,000 USD. The hospital annual payback rate in savings and/or cost avoidance is usually in a range from 25 to 75 times the cost of the system.
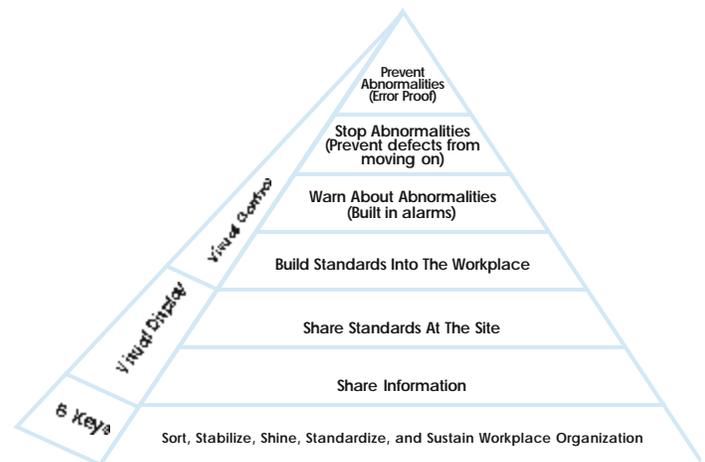
How Do I Go About Getting This Service?

If you're directly involved in managing your department, feel free to give us a call or send an e-mail. We would welcome the opportunity to discuss specifics on the use of quality operating systems and how it may solve problems, lower the cost of services and increase the quality of patient care in your ED.

If you're not directly involved in managing your department, but believe that this may be of interest to those who do, then please forward this information accordingly. Certainly, both you and your patients will benefit.

Define Quality Requirements → Develop Process Controls → Develop Quality Process System QPS → Control the Process (Treat Patient) → Feedback Quality Results → Manage the Change

Quality Operating System Life Cycle

Prevent Abnormalities (Error Proof)

Stop Abnormalities (Prevent defects from moving on)

Warn About Abnormalities (Built in alarms)

Build Standards Into The Workplace

Share Standards At The Site

Share Information

Sort, Stabilize, Shine, Standardize, and Sustain Workplace Organization

Visual Control / Visual Display / 8 Keys

5S and Visual Management Pyramid

For more information on how management engineering and quality operating systems can make a big difference in your emergency department, please contact our sales staff at Xigma Engineering Services, LLC, or e-mail us at sales@xigmaworks.com

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Xigma Engineering Services is more than a consulting company. Our team of engineers and project managers develop unique ideas to solve problems, save time, and lower the cost of delivering healthcare. Then we turn those ideas into reality.