
ICU Volume 6 - Issue 4 - Winter 2006/2007 - Management

Quality Management System in the ICU

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Quality Initiatives and Concepts

Established quality and confirmed quality improvement in healthcare are not givens but the result of meticulous efforts. Many healthcare professionals have worked toward quality improvement intuitively for ages, but often without a clear idea of how to proactively set goals and follow up on outcomes. This is particularly true for the intensive care environment, which is inherently complex, prohibitively expensive and constantly changing to keep pace with the fast progression of science and state-of-the-art practice. Unfortunately, while general principles of quality management should be easily understandable for any provider, current systematic quality concepts and terminology may appear vague, mysterious or strange to the practicing clinician.

Unlike some other methods, a quality management system consistent with ISO 9001 standards has a clear dedication to a process-oriented approach that may be easily translated into the common culture, thinking and behavior of healthcare professionals. Because ISO 9001 standards apply to all industries globally, the ISO vocabulary is not particularly user-friendly for healthcare professionals. Nevertheless, healthcare, like other modern industries, provides services, which should be courteous, efficient and effective. An ISO 9001 quality management system can help define and track these qualities in a measurable way.

Quality Management System

Quality management builds on the common steps of management in a circular advance – plan, do, check, act and start again – and includes all activities that a provider carries out to implement a quality policy. It should not require a separate administrative structure but should support and enhance the given organizational structure, with its ordinary pattern of responsibilities, authorities and relationships that control how people perform their functions and interact with one another.

Plan

Essentially, quality is all about meeting performance requirements, such as needs, expectations or obligations which are acknowledged in advance by all stakeholders involved in the process of delivering intensive care services (see figure 1). It may be practical to refer to the requirements of both internal customers (patient, surgery, anesthesiology, hospital administration, etc.) and external customers (insurance payers, suppliers, local or regional society bodies). A quality policy statement describes an organization's commitment to quality. A quality plan explains how a provider intends to apply the quality policy, achieve quality objectives and meet quality system requirements. A quality manual documents an organization's entire quality management system and should be available to employees at all times.

Do

One advantage of an ISO 9001 quality management system is its ability to subdivide, design, describe and measure processes in a modular approach (see figure 2). Processes, whether productive or administrative, use resources to transform inputs into outputs through some kind of work, activity or function. Many processes are interconnected by multiple input-output relationships. Provision of intensive care to the patient is the key process for any intensive care provider. However, many supporting activities can be thought of processes as well: purchasing supplies; documentation and record keeping; writing, providing and updating documents; planning, scheduling and staffing; training and education; internal communication; customer communications with patients and relatives; and many more.

A standard is a documented set of rules that control how people develop and manage services, products, materials, technologies, processes and

systems. ISO refers to standards as agreements, because all parties involved must agree on content and give formal approval before the standard is published. Standard operating procedures (SOPs) control practical processes or activities, including the associated inputs and outputs. An SOP defines the work or activity and explains how it should be done, who should do it and under what circumstances it should be done. In addition, it explains what authority and what responsibility has been allocated, which supplies and materials should be used and which documents and records must be used to carry out the work.

Check

Monitoring of a quality management system is accomplished with internal and external quality audits. Quality audits examine the elements of a quality management system to evaluate how well these elements comply with the local quality system requirements and identify improvement opportunities. Internal quality audits are carried out on a regular basis by the provider's own personnel. External quality audits are conducted by a qualified, independent third party. External quality audits examine the elements and results of the whole quality management system in order to evaluate how well these comply with general quality system requirements, such as ISO standards. Certification and accreditation confirm that the quality management system as a whole complies with these standards.

Act

The executive part of a quality management system mainly consists of corrective and preventive actions. Corrective actions are steps that are taken to remove the causes of an existing nonconformity or to make quality improvements. Preventive actions are steps that are taken to remove the causes of potential nonconformities or potential problems that have not yet occurred. In general, corrective actions solve problems, and preventive actions analyze and manage risk.

Infrastructure and Resources

Quality in healthcare does not come for free. Serious quality efforts require investments in infrastructure, such as workspace, hardware, software and utilities, and resources, such as people, money, technologies and information. Quality management should aim to save resources in the long run without a doctor present, but again the intraosseous route can be used by emergency personnel other than doctors, as can external pelvic compression devices in patients with hypovolemia due to suspected pelvic fractures.

Some special emergency services already do not use specialized doctors on-scene, like the emergency service in the Norwegian off-shore industry. Here, the search-and-rescue (SAR) helicopter service has functioned as a kind of air ambulance for more than 20 years. The medical crew composition is one specially trained anesthetic nurse and one paramedic. When necessary, they can contact doctors who are available on-line for diagnostic and decision support at any time 24/365.

Conclusion

Short on-scene time, combined with simple and safely performed life-saving techniques can be mastered by medical staff other than doctors, given proper training and effective organization. Sending specialized doctors out of the hospital, where many patients rely on their care, is a costly way of using physician expertise. Specialized doctors should be utilized for exerting tight on-line command and quality control of the EMS. Primary care physicians, on the other hand, must take part in the assessment of the emergency patient on-scene, especially in rural settings.

Published on : Thu, 15 Aug 2013