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Essay

ISO standards and the quality concept applied to anesthesia services

Ana Sofía Del Castillo[a,*] *and Norma Sardi*[b]

[a] *Anesthesiologist, MD, Hospital del Niño, Panama City, Panama*
[b] *Pathologist, MD, Hospital Santo Tomás, Panama City, Panama*

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ABSTRACT

Introduction: The quality concept originated and was coined in industry; however, it has been applied to medicine and has constantly evolved in the last few years. In anesthesiology, continuous quality improvement is a must, and some areas should be enhanced through the implementation and development of plans and outcomes assessments.
Objectives: This article discusses in a simple manner the evolution of the quality concept in the area of anesthesia.
Discussion: The quality concept was adopted in health care in the 1900s; however, its application in Anesthesia came about several years later.
Conclusion: Although the Quality Management concept in Anesthesiology came to life a few years ago, it is rapidly developing and gaining acceptance.

Las normas ISO y el concepto de calidad aplicado a los servicios médicos en anestesiología

Palabras clave:
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RESUMEN

Introducción: El concepto de calidad, originado y acuñado a nivel industrial, se ha aplicado a la medicina y ha logrado mantener una constante evolución en los últimos años. Dentro de la anestesiología, la mejora continua de la calidad es indispensable, destacándose áreas a mejorar, implementando y desarrollando planes, y evaluando al final los resultados.
Objetivos: El siguiente artículo presenta de manera sencilla la evolución que ha sufrido el concepto de calidad dentro del área de la anestesiología.
Discusión: El concepto de calidad se incorporó a los servicios de salud desde la primera década del siglo pasado, mientras que su aplicación a la Anestesiología surgió varios años después.
Conclusión: Aunque el concepto de gestión de calidad en anestesiología, surgió hace pocos años, va desarrollándose y generalizándose rápidamente.

Corresponding author at: Apartado 0832-01665, Panamá, Panamá.
E-mail: anasofia113@gmail.com (A.S. Del Castillo).

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Introduction

In today's globalized world characterized by a strong competition, quality models have evolved directed at achieving management excellence, and medical services are no exception. Health care systems strive to provide quality services based on new business management approaches to accomplish economic efficiency by improving medical care services and the training of specialized human resources. The final goal is to achieve a level of excellence in the provision of health care.

Anesthesiology is part and parcel of the medical care system and hence shares this same reality.

This article broadly discusses the specific concepts of quality management applied to Anesthesia.

Discussion

The word *quality* comes the Greek *kalos*, which means good, fit, favorable and beautiful and from the Latin *Qualitatem*, meaning attribute.[1]

The concept of quality may have different definitions and applications, depending on the specific work area. One of the most accurate definitions of quality is: "quality means to meet the customer needs and expectations through the constant improvement of processes and systems and translating these requirements into measurable characteristics at a reasonable cost. Processes are a set of interrelated tangible and intangible inputs that operate and transform themselves to yield the expected result or *output*".[2]

In the realm of health, the quality concept originated early in the past century.

In 1910, Abraham Flexner evidenced the poor quality of medical training in the United States and this led to the closure of 60 medical schools. This event became the first attempt at quality control of medical services.[1] Later in 1916, A. Codman in Massachusetts laid the foundations for the certification of doctors and accreditation of hospitals, and in 1918 he developed the Hospital Standardization Program, whereby only 90 out of 692 institutions were approved.[2]

Quality of care in a hospital implies making sure that the services are provided in the best possible manner, rendering both the provider and the recipient satisfied.[3]

This gave rise to the need to standardize and rationalize the knowledge for measuring the quality of health care.

In response to this need, the International Standardization Organization - ISO was established in 1946, with headquarters in Geneva, Switzerland. This is a Non-Governmental Organization (NGO) with a membership of 160 countries.[4]

The term ISO comes from the Greek work meaning "equal" and is applicable to both the standards and the institution. The goal of the institution is to coordinate the system of international standards. The ISO performs its activities through technical committees, each in charge of a separate area.

During the 1980s, ISO standardized quality management by issuing the ISO 8402 standard and then publishing the ISO 9000 series in 1987. These standards are updated at least every five years to ensure that they are always up-to-date.[5,6] The big innovation of the ISO 9000 standards was the inclusion of the concept 'PROCESSES' adequate to quality management. Within this framework 'processes' are defined as the set of interrelated resources and activities that transform inputs into outputs.[4]

The ISO 9000 family of standards is based on 8 key quality management principles:[4]

- Customer focus
- Leadership
- Involvement of People
- Process approach
- System Approach to Management
- Continuous Improvement
- Factual Approach to Decision Making
- Mutually Beneficial Supplier Relationships

Quality in anesthesia services

The concept of *anesthesia quality management* can be described as the "practice of anesthesia within an appropriate structure, with skilled human resources, thoroughly defined processes and statistically acceptable results, with a view to avoiding mistakes and achieving the maximum patient satisfaction, at a reasonable cost".[2]

In 1985 the Department of Anesthesia of the Harvard Medical School published the Minimum Standards of Monitoring;[7] in October of that same year, the American Society of Anesthesiologists (ASA) set up the Committee for the Standardization of Minimum Care in Anesthesia. The U.S. Institute of Medicine stated in 1999 that human error was one of the most frequent causes of hospital deaths in the U.S., although they clearly stated that in terms of quality, Anesthesiology accomplished the best results.[8]

Quality monitoring of anesthesia services is usually based on the analysis of the events, morbidity and mortality, but these methods lack sensitivity and specificity.[9] Although between 1987 and 1993 the JCAHO (Joint Commission on Accreditation of Health Care Organizations) developed 14 indicators related to the continuous quality monitoring of anesthesia services in the U.S. hospitals, the experts concluded that the indicators established were not specific to assess the quality of anesthesia care.[10]

An indicator is a measure that can be used as a guide for monitoring and evaluating the quality of medical care and to assist with health care activities that are governed by processes.[10,11] Indicators can be divided into several categories; however, the simplest way is to separate them into 3 large groups:[12]

1. Descriptive indicators: indicators that provide descriptive information on an unusual patient care situation leading to potential quality weaknesses.

2. Prescription indicators: these are indicators represented in terms of recommendations or target points.

3. Proscribing Indicators: these are the indicators about actions that should be avoided.

Marenco de la Fuente[11] says that the best structural indicator in an Anesthesiology Service is the portfolio of services provided, based on all the possible health care situations; this

requires that the service should have enough anesthesiologists available, with the required education and adequate physical facilities, including equipment and material, to be able to meet the national and international standards.

Although there are various indicators to indirectly measure quality in an Anesthesiology Service, only through a team approach and the quest for excellence will the patient - who is finally the customer - receive the best care in response to his/her needs.

Conclusions

The purpose of this document was to provide a brief overview on the *Anesthesiology Quality Management* concept, which despite being around for just a few years, has rapidly developed and is now widely used.

Competing Interests

None declared.

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