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SPECIAL ARTICLE

# Safety and quality in critical patient care☆

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**Abstract** The care quality has gradually been placed in the centre of the health system, reaching the patient safety a greater role as one of the key dimensions of quality in recent years. The monitoring, measurement and improvement of safety and quality of care in the Intensive Care Unit represent a great challenge for the critical care community. Health interventions carry a risk of adverse events or events that can cause injury, disability and even death in patients. In Intensive Care Unit, the severity of the critical patient, communication barriers, a high number of activities per patient per day, the practice of diagnostic procedures and invasive treatments, and the quantity and complexity of the information received, among others, put at risk these units as areas for the occurrence of adverse events. This article presents some of the strategies and interventions proposed and tested internationally to optimise the care of critical patients and improve the safety culture in the Intensive Care Unit.


**PALABRAS CLAVE**
Seguridad;
Calidad;
Cuidados intensivos

## Seguridad y calidad en la atención al paciente crítico

**Resumen** La calidad asistencial ha ido situándose paulatinamente en el centro angular del sistema sanitario, alcanzando en los últimos años un mayor protagonismo la seguridad del paciente como una de las dimensiones clave de la calidad. La monitorización, medición y mejora de la seguridad y la calidad de la atención en la Unidad de Cuidados Intensivos representan un gran desafío para la comunidad de los cuidados críticos. Las intervenciones sanitarias conllevan un riesgo de que acontezcan eventos o acontecimientos adversos que pueden ocasionar

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en los pacientes lesiones, discapacidades e incluso la muerte. En las Unidades de Cuidados Intensivos, la gravedad del paciente crítico, las barreras de comunicación, la realización de un número elevado de actividades por paciente y día, la práctica de procedimientos diagnósticos y tratamientos invasivos, y la cantidad y complejidad de la información recibida, entre otros, convierten a estas unidades en áreas de riesgo para la aparición de acontecimientos adversos. En el presente artículo se abordan algunas de las estrategias e intervenciones propuestas y testadas internacionalmente para optimizar los cuidados en los pacientes críticos y mejorar la cultura de seguridad en la Unidad de Cuidados Intensivos.


## Introduction

The objective of Intensive Care Units (ICU) is to offer critically-ill patients quality healthcare tailored to their needs, in the safest manner possible. These units constitute one of the main components of modern healthcare systems. There is growing demand for this resource which entails high healthcare costs.[1] Healthcare professionals, nurses and doctors are the two most important elements of ICU, along with technology. They shape the intellectual capital of these structures and constitute determining factors in their management and outcomes, characterising a specific environment that is very different from other hospital areas.[2]

Healthcare quality is gradually becoming central to the health system and in recent years great emphasis has been placed on patient safety as a key dimension of quality. Monitoring, measuring and improving safety and care quality in ICI present a great challenge for the critical care community.[3]

The U.S.A.'s Institute of Medicine (IOM) defined health care quality as ''the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge''. Their document also outlines six care aims: to be safe, effective, patient-centred, timely, efficient, equitable.[4] There are various approaches to the study of healthcare quality, since it entails different meanings for patients, health care professionals, institutions and resource managers.[5]

The safety culture is defined as ''the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management''.[6] It is understood that this culture is a construct that comprises dimensions or subcultures, such as team work, communication and learning. Measuring the safety culture seeks to quantify the strengths and weaknesses in each dimension in order to promote interventions to improve perceptions and attitudes as well as safety incidents.[7]

The most current definition of safety is that of the World Health Organisation, who consider patient safety as ''freedom from unnecessary harm or potential harm associated with health care''.[8] Patient safety refers not only to harm caused but also harm that might have occurred but did not thanks to circumstances that prevented it.

## Incidents and adverse events

Healthcare interventions entail a risk of events or adverse events (AE) that might cause the patient injury, disability or even death.[9] In 1999, the IOM published a study ''To Err is Human: Building a Safer Health System'', in which it was estimated that AE caused by issues associated with a lack of safety were responsible for between 44.000 and 98.000 deaths annually with an attributable cost of around 26 billion dollars, and AE were cited as one of the principal causes of death.[10] Furthermore, healthcare errors erode nurses' confidence in the system and damage health care institutions and professionals, who then undoubtedly become their second victims.[11]

In light of these outcomes, international institutions and organisations consider patient safety a major issue and one with very impacting consequences. From 2001, the IOM has considered safety one of the six key dimensions or attributes of the health services.[4] One of the most representative reactions was that of the World Health Organisation itself, in setting up the International Patient Safety Alliance in 2004. The Alliance is not structured as a programme and has developed major global initiatives.[12]

In our country, the National Study on Adverse Effects (ENEAS) associated with hospitalisation, was the first study designed to determine the incidence of patient safety issues associated with health care in our hospitals. Undertaken in 2005 in 24 hospitals and on 1063 patients, it identified 655 AE, which was an incidence rate of 1.4 AE per 100-day hospital stay, and 42.8% of avoidable cases. Most AE are associated with medication, with nosocomial infection or with a procedure. Fifty-five percent were considered moderate or grave, 31.4% caused an increase in hospital stay, and the death rate amongst patients with AE was 4.4%. Out of all the AE detected, 23 occurred in UCI.[13]

In ICU, if we add to the gravity of the critical patient the complexity of care in a highly technologically advanced environment, together with communication barriers, carrying out a great many activities per patient and per day,[14] the practice of diagnostic procedures and invasive treatments, and the amount and complexity of information received,