



## UPDATE IN INTENSIVE CARE: NEUROINTENSIVISM

### Quality of trauma care and trauma registries<sup>☆</sup>



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#### KEYWORDS

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**Abstract** Traumatic disease is a major public health concern. Monitoring the quality of services provided is essential for the maintenance and improvement thereof. Assessing and monitoring the quality of care in trauma patient through quality indicators would allow identifying opportunities for improvement whose implementation would improve outcomes in hospital mortality, functional outcomes and quality of life of survivors. Many quality indicators have been used in this condition, although very few ones have a solid level of scientific evidence to recommend their routine use. The information contained in the trauma registries, spread around the world in recent decades, is essential to know the current health care reality, identify opportunities for improvement and contribute to the clinical and epidemiological research.

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#### PALABRAS CLAVE

Calidad en cuidados de salud;  
Indicadores de calidad;  
Traumatismos;  
Centros de Trauma;  
Registros;  
Registros de traumatizados

#### Calidad y registros en trauma

**Resumen** La enfermedad traumática es un gran problema de salud pública. La monitorización de la calidad de los servicios prestados es esencial para el mantenimiento y la mejora de los mismos. La evaluación y monitorización de la calidad asistencial en la atención al paciente traumatizado, a través de indicadores de calidad, permitiría la detección de oportunidades de mejora cuya implementación mejoraría los resultados en mortalidad hospitalaria, resultados funcionales y calidad de vida de los supervivientes. Se han usado muchos indicadores de calidad en esta patología, aunque muy pocos tienen un nivel de evidencia científica sólido para recomendar su uso rutinario. La información recogida en los registros de trauma, de importante difusión en el mundo en las últimas décadas, es fundamental para conocer la realidad asistencial actual, detectar oportunidades de mejora y contribuir en la investigación clínica y epidemiológica.

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## Introduction

Traumatism is the leading cause of death in individuals under 45 years of age in most countries, and constitute an important cause of disability, suffering and healthcare resource consumption.<sup>1-3</sup> Although the primary and secondary prevention of injuries may be the most efficient approach for dealing with problems of this kind, healthcare professionals that treat trauma patients and the healthcare system as a whole are obliged to monitor the care provided for trauma victims. Only by knowing what is done and the results obtained can measures for improvement be adopted. Effective monitoring of the quality of the services provided is essential for maintaining and improving such services. This implies the definition of objectives, the monitoring of results with comparisons versus the established standards, evaluation and interpretation of the results obtained, identification of areas that require improvement, and the implementation of corrective actions which in turn can be re-evaluated, thereby completing the continuous quality improvement cycle.

Severe trauma disease is a genuine challenge for the healthcare system, since it constitutes a major public health problem.<sup>1-3</sup> The diversity of presentations involved, the variability of the care provided, the fact that many patients do not receive the recommended care, the frequent errors,<sup>4,5</sup> and the fact that part of the associated mortality is avoidable<sup>6,7</sup> all underscore the need to know the quality of the provided management in order to establish measures for improvement and thus reduce the morbidity–mortality figures and improve the functional condition and quality of life of the survivors.

According to the definition of the International Organization for Standardization, quality is the degree to which the characteristics of a product or service satisfy the purpose for which it was created.<sup>8</sup> This definition conveys two fundamental concepts: (1) the quality of care can be measured; and (2) quality is the degree of compliance with a given objective, and thus depends on how the latter is defined.

According to the World Health Organization (WHO), quality care is defined as the adequate implementation (according to the existing standards) of interventions confirmed to be safe, that are economically accessible to the society concerned, and are able to cause an impact upon the mortality, morbidity or disability rates.

Because of its important incidence, associated mortality and sequelae, severe trauma disease requires adequate monitoring of the quality of the provided healthcare with a view to detecting areas amenable to improvement that can contribute to secure better results and outcomes.

## Quality in trauma care

### Evaluation of healthcare quality

Improvement of the quality of emergency care is a generic objective common to all healthcare systems, particularly when the disease in question has a high incidence. It is important to evaluate quality in order to establish strategies for improvement.

According to the model developed by Donabedian,<sup>9</sup> evaluation of the quality of care has three methodological components or dimensions: evaluation of the structure, evaluation of the care process, and evaluation of the results. Evaluation of the structure is probably the simplest and most objective of all three methods. The structure comprises the minimum characteristics needed to ensure good quality care, though the presence of such characteristics does not actually guarantee quality. In turn, evaluation of the care process, of how care is provided, is currently the most widely used method. It is more complex than the evaluation of structure but is easier to measure than the quality of the results, and what we obtain is an indirect measure of such quality. Lastly, evaluation of the results appears to be the ideal method for measuring healthcare and, although it is highly complex,<sup>10</sup> it is particularly important in disorders characterized by high incidence and severity, such as trauma disease.

Two methods traditionally have been used to assess the care process: medical auditing and monitoring.

Medical auditing is the critical and systematic analysis of the quality of medical care, evaluating healthcare practice on a retrospective basis and by the professionals in charge of providing such care. In 2009, a Cochrane review found no study of sufficient scientific quality to clarify whether auditing in trauma is effective in improving the care of serious trauma patients, or whether it contributes to reduce mortality.<sup>11</sup>

Monitoring in turn is a continuous and planned quality measurement system that makes use of instruments called indicators, for which concrete optimum levels are established. An indicator is a quantifiable and objective parameter that specifies those healthcare activities and results or outcomes whose quality we seek to evaluate. Indicators allow us to detect situations that are problematic or amenable to improvement, and they inform of whether improvements occur and whether such improvements are maintained over time. Monitoring has two components: (1) identification, selection and construction of the indicators; and (2) definition of the monitoring plan (including at least the periodicity with which the indicator is documented, the mechanisms for data collection, and the methods used for interpreting them).<sup>12</sup>

### Quality indicators

An indicator is not a phrase but requires a precise definition of all its terms. The construction of indicators is no simple process and must have a number of sections and a definition: denomination of the indicator, dimension, justification, formula, explanation of the terms, type of indicator, indicator target population, data sources and available standards.<sup>12</sup>

In order to improve patient care and save lives, we need indicators that are accessible, reliable and valid; that can be used to establish reference points for the quality of care; detect success and possible problems; and which follow the trends over time in order to identify imbalances requiring intervention measures. Hussey et al.<sup>13</sup> identified four general characteristics for the evaluation of quality indicators: importance, usefulness, scientific robustness and feasibility.

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