

Review Article

Quality improvement in anaesthesiology

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ABSTRACT

In recent times, numerous efforts have been made in the field of medicine to improve the methodology of measuring and reporting the quality of care delivered to patients. Most of these efforts have been executed in the western population, because of an efficient system of Incident Reporting. Quality Measurement in healthcare typically means quantifying processes of care that have a direct relationship to positive health outcomes. Quality in anaesthesia is usually measured by perioperative mortality, morbidity and Incidents. Quality measurement is not only important for the clientele but also for the employer, to make choices and healthcare provider to introspect his performance. It is an effective method of giving feedback to anaesthesiologists, doctors and paramedical staff to address quality issues and bring about improvement. Without Quality Measurement, improvement in quality, if at all, would be expected to be very slow and clientele would be blindfolded in taking important decisions pertaining to health care. The concepts of quality assurance and quality control are rapidly gaining popularity in surgical sciences as the society is heading towards social, technical and clinical advancements globally. In times to come, quality of anaesthesia services will be closely monitored by quality indicators and will become a benchmark for assessment of the healthcare provider and the hospital. At present, the need of the hour is to devise ways and means to measure the quality of care being provided by the healthcare provider and adopt these evolutionary practices aimed at improving anaesthesia delivery services in a medical setup.

Keywords: Clinical indicators, Healthcare provider, Indicator programs, Perioperative care, Quality improvement, Quality measurement

INTRODUCTION

Measurement of performance is the first step towards quality improvement, whether in healthcare or in business. This would imply closely examining and understanding the working of an organization. When author say that anaesthesia practice has become safe, author is mentioning about anaesthesia practice in developed nations. A meta-analysis published in *Lancet* in 2012, mentions that mortality in developing nations is considerably higher than developed nations and has remained so in the last four decades.¹ WHO estimates show that the perioperative mortality rates vary from 0.5-

5% globally. In the African continent the mortality due to surgical interventions is as high as 0.7% (1 in 150) and half of these are avoidable. Safe Anaesthesia is one of the methods of reducing Perioperative Mortalities.²

With the advent of newer anaesthetic techniques, anaesthetic agents and monitoring techniques considerable safety has been achieved, but how does one quantify it and devise ways and means to improve it. Anaesthesiologists have been trying to assess quality of care provided by post-operative patient satisfaction, for which multiple questionnaires have been devised and validated during the course of treatment.^{3,4} So,

measurement of quality of care being provided is very essential. Quality measurement is not only essential for the patient, to decide his choice of doctor, but also for the employer, insurer, researcher and the doctor himself. Quality of care can be assessed and measured with certain quality indicators, which are also helpful in determining the perioperative outcome in anaesthesia practice.

Quality Measurement was introduced first into the Manufacturing Industry and then in 1982 it was introduced into the Healthcare Industry by the Federal Government for its Medicare beneficiaries. The Healthcare Quality Indicator Project (HCQI) was an initiative for the development and implementation of quality measurement indicators in Health care.⁵ Gradually the concept was accepted by other countries and societies and was included in their functioning.⁶ In 1999 the Institute of Medicine (IOM) in its report *To Err is Human: Building a Safer Health Care System* asserted that, "Anesthesia is an area in which very impressive improvements in safety have been made. It stated that the mortality rates in anaesthetic procedures had gone down by 200 to 300%, based on the values of quality measurement of care provided."⁷

The US government has developed the Agency for Healthcare Research and Quality (AHRQ) and the National Quality Forum (NQF) to measure the quality of care being provided by the health care organizations in the country. UK incorporated quality measurement in a very unique way. All healthcare providers have a Quality Account which is maintained by NHS and is accessible to all patients. Before consultation the patient can see the quality of care that was provided by the doctor in the last few years. Any hospital can view the quality of care provided by the doctor before employing him. Moreover, this data is very useful in statistical analysis of critical incidents in the practice.

The Indian scenario is still in the nascent stages. Quality of healthcare was first measured under a WHO project by the Public Health department in Maharashtra in India. The accreditation agency NABH (National Accreditation Board of Hospitals and Health Care Providers), to provide quality healthcare to patients has formulated some Continual Quality Improvement standards but still has not devised any method to measure the quality of care provided by any healthcare institute or provider.

Measuring the quality of care provided in healthcare is complicated. For the past five decades various ways and means have been devised to measure the quality of care provided by healthcare providers.

Donabedian observed that quality of health care can be measured by its structure, processes and outcomes.⁸ From Insurance Claims, Morbidity reports and Health Audits to the more sophisticated ways like Lean methodology, Six sigma, Questionnaires and incident reporting methods

have been adopted by various institutes to measure the quality of care being provided by them.⁹

In a systematic review published in *Anaesthesiology* 2009, "Quality and Safety indicators in Anaesthesia" Guy Haller reviewed 834 articles and 37 indicator programmed to identify clinical indicators to assess quality of care being provided in anaesthesia.¹⁰ He identified 108 clinical indicators out of which 53 were general and were related to surgery or postoperative ward care. Most of these indicators were either outcome (57%) or process (42%) indicators. After identification, field testing was carried out for these clinical indicators in some voluntary hospitals in the US and were found to be of much use. Even after such an extensive review incorporating so many articles from different countries and programmed of various governments, still many anomalies as mentioned in the chart, could be identified.

DISCUSSION

Quality of health care needs improvement in the country. For the healthcare to be efficient, effective, equitable, timely and patient centered measurement of quality of health care provided is required. Lack of resources (Man, Material and Money) and intent by the leadership are some of the main challenges being faced in measurement of quality of health care being provided. Inadequate data collection and vague definitions for incidents also makes quality measurement difficult.

Sometimes the programmes are so difficult that adhering to them adds to the cost or delays delivery of treatment.¹¹ As there is a big overlap with surgery and medicine, identifying anaesthesia specific indicators is another problem. Even if all is done there is a resistance to change from the medical staff, making improvement impossible.¹²

There is a strong demand for improvement in the speciality which is only possible by measurement of quality of care being provided. Measurement is only possible by means of developing quality indicators which can assess the quality of care being provided. Once areas for improvement are identified and opinion of experts incorporated then interventions can be planned, and healthcare providers can be motivated to change to provide best quality of care in their institutes.

As the society heads towards social, technical and clinical advancements, quality measurement and improvement are gaining popularity in the field of medicine. Not only in anaesthesia but also in the field of medicine quality measurement will become mandatory in future. The Indian scenario is at its initial stages and a lot needs to be done to come at par with the world. A dedicated sincere effort needs to be taken by the healthcare provider, societies and the medical setups to measure and improve the quality of care being provided in the country.

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