hers.com, for detailed information on anesthesia books, visit our website www.jaypeebrothers.com, for detailed information on anesthesia books

ISCCM

Celebrating 50 YEARS
Passion, Quality and Innovation in Healthcare Publishing

Administrative Aspects of Critical Care



Abhinav Gupta
Nagarajan Ramakrishnan
Atul Prabhakar Kulkarni

JAYPEE

Contents

1. **Intensivist and Multidisciplinary Team Building** 1
   Kavita Kamineni, Nagarajan Ramakrishnan

2. **Human Capital in ICU** 13
   Suresh Ramsubban

3. **Quality and Performance Improvement in Critical Care** 21
   Abhinav Gupta

4. **ICU Budgeting** 28
   Subhash Todi

5. **Change Management in ICU** 36
   BK Rao, Vinod K Singh

6. **Communications and Conflict Management in ICU** 54
   Martin Jose Thomas, Vandana Agarwal

7. **Negotiations in ICU** 65
   Pradip Kumar Bhattacharya, Nimita Deora, Lata Bhattacharya

8. **Preventing Burnout in ICU Team Members** 74
   Sunil Karanth

9. **Understanding Legal Systems and Terms** 80
   Anirban Hom Choudhuri

10. **Addressing Patient Safety in ICU** 92
    Vijaya Patil, Amol Kothekar

11. **Economics of Intensive Care** 107
    Yatin Mehta, Prashant Kumar, Mukul Manchanda, Meenakshi Kafaltia

12. **Cost Minimization in ICU** 119
    Pradeep Rangappa

13. **The Role of ICU Director** 132
    Atul Prabhakar Kulkarni, Natesh R Prabu

Index *139*

CHAPTER 3

Quality and Performance Improvement in Critical Care

Abhinav Gupta

'Resource-intensive' care of patients in Critical Care Unit, involves not only the staff and doctors, but the equipment and expenditure also. Variation from the protocols and standard practices leads to poor quality and potential for harm. There is increased focus worldwide on reducing this variation by continuous evaluation and assessment of care, with the aim of improving quality and performance, thereby leading to the development of quality initiatives in ICU.

"First do no harm" is an age old adnomination indicating that concept of quality is not new.[1] Quality is defined by the institute of medicine (IOM) 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." Institute of Medicine has defined Quality as safe, timely, effective, efficient, equitable and patient-centered' care.[2]

The intensive care environment is dynamic and complex. At times, changes in practices and protocols are required to be in accordance with the guidelines issued by critical care societies and evidence-based medicine. This creates a challenging task to establish quality and requires meticulous planning to understand quality parameters, establish goals and efforts to follow-up outcomes.

Berwick provided a framework on (i) know what works, (ii) use what works, and (iii) do well what works.[3]

Donabedian is credited to provide the widely used framework in quality—structure, process, outcome.[4] Quality Indicator (QI) are used to measure variations in structure, process or outcome to improve care. Quality Indicators help to understand, compare and improve system. The indicators are flags or pointers, and can identify problems and degree of variation in standard care.

JAYPEE BROTHERS

Structure is defined as the way care is organized. Structural heterogenicity include variations in ICUs, how ICU is integrated into the hospital, the size of the ICU, whether the unit is open or closed, the type and amount of technology available, the number, roles, and responsibilities of ICU staff, nurse patient ratio.

Processes are what we do, or fail to do. This includes adherence to protocols, incorporating guidelines in care, appropriate use of technology, maintaining communication and continuous teaching and training. QI include compliance to protocol, patient's fall rate, medication errors, adverse events, needle stick injury rate, ventilator associated pneumonia rate, central venous catheter (CVC) blood stream infection rate, urinary catheter related infection.[5] Synchronous efforts of clinical and nonclinical processes are required for delivery of high quality critical care. Indian Society of Critical Care Medicine has published quality measurement indices for ICUs.[5]

Outcomes are the results we achieve. Traditionally, the most common aim of treatment in Intensive Care is to improve outcome. QI parameters include Standardized Mortality Ratio, assessing morbidity, family satisfaction, ICU readmission rate, length of stay, assessment of therapeutic modalities and diagnostics.

ASSESSMENT OF QUALITY IN CRITICAL CARE

Defining ICU performance involves multidisciplinary approach that includes not only medical science but also ethics, engineering, economics and philosophy. In order to assess quality, the indices are used and these may sometimes be used to evaluate ICU parameters.

There are many reasons for measuring quality in ICU and these include transparency for not only patients but for the staff and all those involved in health care and identifying areas that require improvement. A good quality measure should be reliable, valid, without ambiguity, and relevant. ICU Quality Improvement Program should comprehensively address components of structure, processes and outcomes. There are many organizations that have been entrusted the task of assessing quality. These may be government or non-government agencies. Some of these include Joint Commission that accredits and certifies organizations meeting certain performance standards, Leapfrog Group,[6] that issues safety grades for hospitals, National Quality Forum[7] and Institute for Healthcare Improvement[8] that have been encouraging best practices. In India, National Accreditation Board for Hospitals and Healthcare Providers (NABH) has established some standards for hospitals and accredits hospitals achieving those standards.

JAYPEE BROTHERS

DEVELOPING A QUALITY IMPROVEMENT PROGRAM

Comparisons of health care and aviation Industry are often made as both involve significant risks aiming at a culture of safety and performance. These include checklists, training, crew resource management and analyzing performance. Crew Resource Management involves interaction of team members and the factors influencing their performance. The focus is to modify these faulty systems. Confidence building measures should be in place for the personnel, so that they promptly report any adverse event or' 'near miss'[9] and do not fear any problem that is discovered.[10] Building morale, motivating and caring for well-being of staff plays a significant role in success of an organization.[11] The ICU has potential for errors and stress, if not managed properly. A comprehensive quality improvement environment should be in place for ICUs to decrease errors and ensure a safe and comfortable working environment for staff for better patient outcome.

A multidisciplinary 'quality team' should be the functional unit instead of managerial authority as Quality Improvement is a collective responsibility and not individual responsibility. It is a shared commitment of all the people working in ICU involved in patient care and staff involved in management.[12] A successful quality improvement program requires a series of steps and has the following components:

Leadership and Teamwork

The attributes of a successful leader include commitment and dedication for the success of the program. The leadership convenes a supervisory-level personnel group to identify the errors in the system and do a 'root cause analysis' of problems. One of the examples is the Mortality and Morbidity meetings in the department for reducing errors and improving performance.[13]

Project Selection

The team should avoid ambiguous projects that may lead to discontent and may discourage team members. The execution of a successful project should be the goal and the project should be assessed in terms of feasibility and resources. The project may be related to measurement of any parameter in structure, processes or outcome. In case of smaller ICUs where resources are limited, it may be useful to work upon collective resources of many ICUs. Efforts should be made to simplify the problematic processes, otherwise this just add to the pile of useless exercises done for specific purposes of competing paperwork for the management or accrediting bodies.

JAYPEE BROTHERS

Writing a Business Plan

Before embarking on a project, a carefully drafted business plan needs to be in place that should include the task to be performed, along with resources required, budget and expenditure along with timeline. This should also include challenges and barriers. As this has to be presented to the management and stakeholders for approval and necessary sanctions, it is important to include intended aims and how this will benefit the institution.

Collection and Processing of Data

- Choose denominator or unit of analysis
- Numerator includes the event or outcome of interest. Define the numerator.
- Describe data collection methods and sources
- Statistical methods to be used for analysis
- After analysis, results displayed to ascertain relationships, conclusions drawn and presented in required meetings or forums.

Evaluating an ICU Quality Improvement Program

It is important to evaluate and remeasure the performance parameter studied for its efficacy in improvement, after implementation of change. Some of the useful measures include audits, benchmarking, feedbacks and informal discussions.

A team with able leader, working in a blame free culture, with a comprehensive plan and defined goals, adhering to timeline should have a successful outcome. Administrative support from hospital is of paramount importance to the success of QI project. A successful QI project should lead to better working environment and improved patient care. Similarly, for hospital, should be useful in improving reputation and projection in the market.

Check lists, preprinted order sets, daily order sets including goals of care facilitate successful implementation of the care and changes in clinical practice. Multidisciplinary teams including pharmacists, dietician, microbiologist, respiratory therapists contribute to success of ICU and Quality Improvement efforts.

Root cause analysis is the process to identify the cause of the problem or event with an aim to improve processes to eliminate the cause. The purpose is not to assign blame. Root cause analysis should be performed for all sentinel events and is useful in near-miss scenarios. Near miss is an event that has not caused harm but potential to cause injury or ill-health. Sentinel event, is an unexpected occurrence involving death, serious physical or psychological injury, and if temporary, require interventions to sustain

JAYPEE BROTHERS

life. Joint Commission has adopted a sentinel event policy for patient safety by improvement in systems and to prevent any further harm.[14]

Classroom teaching, conferences, meetings are traditional and conventional methods of teaching. Audits with feedback and other modalities should be added to the traditional methods for a more sustainable result. Audit with feedback is a summary of the performance of a health care practitioner that is communicated back to practitioner. Many institutions have started using multisource feedback which involves feedbacks from colleagues, manager, junior staff and patients regarding the individual, that is also communicated to the practitioner. The feedback may be written, oral or electronic, and may include recommendations for improvement.

Sometimes physicians consider any participation in quality improvement effort as nonproductive use of their time and interfering with their autonomy. They may be reluctant to accept improvement in quality as a goal. Involving physicians in quality improvement projects may be inculcate their commitment to quality. Many factors affect the utilization of practice guidelines that include the knowledge that these exist, ease of use and accessibility, local inputs in formatting the guidelines and attitude of doctors to these guidelines.[15]

IMPLEMENT QUALITY: PLAN, DO, STUDY, ACT (PDSA) CYCLES

Plan, do, study, act cycle is one of the tools undertaken to implement quality policy. This should supplement the existing organization structure. The improvement is usually incremental and repeated evaluation and refinements may be required.

Plan

Plan is how a provider is intending to apply the quality policy. This should meet the quality system requirements and achieve quality objectives. All employees should have access to quality manual document. A quality policy statement should describe the hospital's commitment to quality.

Do

This is the ability to subdivide, design, describe and measure processes. The most important process for any intensive care provider is the provision of intensive care to the patient. Documentation, record keeping, planning, scheduling, staffing, communication are all part of these activities. Protocols and Standard Operating Procedures are useful to maintain uniformity and quality while ensuring consistency.

JAYPEE BROTHERS

Check

Internal and External quality audits monitor the Quality management system. Quality audits measures the various parameters of Quality in ICU and compares these with the local quality system requirements to check for their compliance and any improvement in practices or services. Internal audit are carried out by the team usually working in the hospital. External audit is carried out by an independent third party. These audits examine the elements and results and then compare these with general quality system requirements such as ISO standards, NABH, JCI, NICE guidelines. Certification and accreditation is provided to the hospital compliant with these standards.

Act

This is in the form of corrective and preventive actions (CAPA). Corrective actions are essentially removing the cause of nonconformity that is identified during audit or process monitoring. Preventive actions are implemented when a potential source of noncompliance is identified. Corrective actions are solution to the problems that have been identified and preventive actions is to analyze and manage risk to prevent an unacceptable event.

COST OF QUALITY

Quality in healthcare require investments in infrastructure to adhere to existing norms and also resources, that include manpower and technology. Cost of Quality is the method by which the healthcare organization determine the extent to which its resources are utilized for activities that prevent poor quality. The cost of poor quality include—internal failure cost (defect before the service is provided), external failure cost (defect found after service is provided), appraisal cost (cost incurred to determine confirmation to quality requirements) and prevention costs (to minimize failure and appraisal cost).

This information would be useful to organizations to determine the potential savings by implementation of quality improvement processes.[16]

Quality improvement requires a paradigm shift in the working environment and is fraught with challenges. This involves being sensitive to concerns of staff and doctors who may perceive the presentation of data as a threat to their practice and involving them in leadership and quality activities. Developing a system of teamwork, shifting focus on remediation of defects in system rather than remediation of defective workers, reduce complexities[17] in structures and processes, identifying problems, corrective and preventive strategies, audits and management support in quality improvement projects would lead to a sustained improvement in ICU performance, while ensuring patient safety and care.

JAYPEE BROTHERS

REFERENCES

1. Chelluri LP. Quality and performance improvement in Critical Care. Indian J Crit Care Med. 2008;2(2):67-76.
2. Committee on Quality of Health Care in America. Crossing the Quality Chasm: A new Health System for the 21st Century Washington, DC: National Academy Press, 2001.
3. Berwick DM. Health services research and quality of care. Med Care. 1989;27:763-71.
4. Donabedian A. The quality of care. How can it be assessed? JAMA. 1988;260(12):1743-8.
5. Ray B, Samaddar DP, Todi SK, et al. Quality indicators for ICU: ISCCM guidelines for ICUs in India. Indian J Crit Care Med. 2009;13(4):173-206.
6. The Leapfrog Group. The Leap Frog Group fact sheet. Available at http://www.leapfroggroup.org/about_us/leapfrog-factsheet (Accessed 10th February, 2018).
7. National Quality Forum. Safe practices for better healthcare: a consensus report. (Available at: http://www.qualityforum.org/txsafeexecsumm+order6-8-03PUBLIC.pdf. (Accessed February 10, 2018)
8. Institute for Healthcare Improvement. Critical care. Available at http://www.ihi.org/IHI/Topics/CriticalCare/. (Accessed 10th February, 2018).
9. Spencer FC. Human error in hospitals and industrial accidents: current concepts. J Am Coll Surg. 2000;191:410-8.
10. Milakovich ME. Creating a total quality health care environment. Health Care Manage Rev. 1991;16:9-20.
11. Kapur N, Parand A, Soukup T, et al. Aviation and healthcare: a comparative review with implications for patient safety. JRSM Open. 2015;7(1):2054270415616548. (Accessed 10th February, 2018).
12. Mc Laughlin CP, Kaluzny AD. Total quality management in health: making it work. Health Care Manage Rev. 1990;15:7-14.
13. Pierluissi E, Fischer MA, Campbell AR, et al. Discussion of medical errors in morbidity and mortality conferences. JAMA. 2003;290:2838-42.
14. The Joint Commission. Sentinal Event Policy and Procedures 2017. Available at: https://www.jointcommission.org/sentinel_event_policy_and_procedures. (Accessed 16th February, 2018)
15. Cabana MD, Rand CS, Powe NR, et al. Why don't physicians follow clinical practice guidelines? A framework for improvement. JAMA. 1999;282:1458-6.
16. Grace L D. The ASQ Quality Improvement Pocket Guide: Basic History, Concepts, Tools, and Relationships. ASQ Quality Press, 2013: 62-5 (Available at: https://asq.org/quality-press. (Accessed 10th February, 2018)
17. Garland A. Improving the ICU. Chest. 2005;12(6):2165-79.

JAYPEE BROTHERS

r detailed information on anesthesia books, visit our website **www.jaypeebrothers.com,** for detailed information on anesthesia books, visit our we

Administrative Aspects of Critical Care

This book is a comprehensive guide to management aspects of critical care services. This book deals with all aspects of a life of the Director or In-charge of unit starting from personal problems such as physician burnout to managing interpersonal relations in the unit, other hospital staff as well as the management of the hospital. The management of economic aspects of the critical care unit is the quality benchmark in making outcomes better through patient focused care. A must read for all Intensivists!

Abhinav Gupta MD DNB FNB EDIC has worked as Principal Consultant, Critical Care, Medanta—The Medicity, Gurugram, Haryana, and the Additional Medical Superintendent and Head of Intensive Care, School of Medical Sciences and Research, Sharda University, Greater Noida, Uttar Pradesh, India.



Nagarajan Ramakrishnan AB (Int Med) AB (Crit Care) AB (Sleep Med) MMM FACP FCCP FCCM FICCM FISDA is presently working as the Director, Critical Care Services, Apollo Hospitals, Chennai, Tamil Nadu, India.



Atul Prabhakar Kulkarni MD (Anesthesiology) FICCM PGDHHM is presently working as Professor and Head, Division of Critical Care Medicine, Department of Anesthesiology, Critical Care and Pain, Tata Memorial Hospital, Mumbai, Maharashtra, India.



Available at all medical bookstores or buy online at www.jaypeebrothers.com

JAYPEE BROTHERS
Medical Publishers (P) Ltd.
www.jaypeebrothers.com

Join us on facebook.com/JaypeeMedicalPublishers

Shelving Recommendation
ANESTHESIA

ISBN 978-93-5270-474-3