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Quality Indicators in Intensive Care Units

Essay
Submitted for partial fulfillment
Of the Master Degree in General Intensive Care

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Acknowledgment

First and above all, thanks to **ALLAH**, the source of all knowledge and wisdom who enabled me to complete this work.

I wish to express my sincere appreciation and deepest feeling of gratitude to ***Doctor Gamal El-din Mohammad Ahmad Elewa,*** Professor of Anesthesia, Intensive Care and Pain management, Ain Shams University for his scientific advice, kind father heart guidance, genius supervision and unlimited support he offered me to complete this work.

I am deeply indebted to ***Doctor Sahar Mohammed Talaat Taha,*** Lecture of Anesthesia, Intensive Care and Pain management, Ain Shams University for her inspiration, sincere care and encouragement.

I wish to express my deep appreciation to ***Doctor Dalia Mahmoud Ahmed El fawy,*** Lecture of Anesthesia, Intensive Care and Pain management, Ain Shams University for her kind help, care and encouragement throughout this work.

I wish to thank all Members of Anesthesia, Intensive Care and Pain management department, Ain Shams University for their kind help, kind cooperation and support during my work.

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List of abbreviations

abbreviation	meaning
ADL	Activities of Daily Living
AKI	Acute Kidney Injury
APACHE	Acute physiology and Chronic Health Evaluation
ARF	Acute Renal Failure
BP	Blood Pressure
BSA	Body Surface area
BSI	Blood stream Infection
BUN	Blood Urea Nitrogen
CCU	Coronary Care Unit
CNS	Coagulase Negative Staphylococcus
CPAP	Continous Positive Pressure Airway Pressure
CRBSI	Catheter Related blood Stream Infection
CVCs	Central Venous Catheters
DVT	Deep Venous Thrombosis
ED	Emergency Department
ESICM	European Society of Intensive Care Medicine
FIO2	Fractional Inspired Oxygen
FMEA	Failure Mode and Effect Analysis
GCS	Glasgow Coma Score
HB	Hemoglobin
HCW	Health Care Worker
HME	Heat, Moisture, Exchange

abbreviation	meaning
HMEF	Heat, Moisture, Exchange Filters
HVAC	Heating, Ventilation and Air Condition
ICUs	Intensive Care Units
I:E	Inspiration: Expiration
I.Q	Improving Quality
IV	Intra Venous
LOS	Length Of Stay
MAB	Mean Arterial Pressure
MBC	Minimal Bactericidal Concentration
MIC	Minimal Inhibitory Concentration
MRSA	Methicillin Resistant Staphylococcus Aureus
MV	Mechanical Ventilation
NNIS	National Nosocomial Infection Surveillance
PEEP	Positive End Expiratory Pressure
PICCs	Peripherally Inserted Central Catheters
Q.A	Quality Assurance
Q.D	Quality Development
Q.I	Quality Indicator
Q.M	Quality Measureing
RCA	Root Cause Analysis
SAPS	Simplified Acute Physiology Score
SDD	Selective Digestive Decontamination
SICUs	Surgical Intensive Care Units
SMR	Standardized Mortality Ratio

abbreviation	meaning
SSC	Surviving Sepsis Campaign
TISS	Therapeutic Intervention Scoring System
UK	United Kingdom
VAP	Ventilator Associated Pneumonia
VRE	Vancomycin Resistant Entrococci
VTE	Venous Thrombo Embolism
WBCs	White Blood Cells

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INTRODUCTION

"We can't always cure patients; we can't always correct the problems that brought them to our doors, but we can and always should care for the whole person. Caring will be as important as curing in the overall 'healing environment' that will characterize the healthcare system of the future*"* ***(Brown, 2009).***

Every clinician practicing intensive care medicine aspires to provide high-quality care to his patients. So, the intensivists should recognize the need to develop quality indices for practical use in critical care units. Quality indicators are standards which if upheld, will likely improve the quality of patient care by means of improved safety, better patient outcomes, and greater efficiency ***(Pronovost, 2008).***

Interest in measuring the quality of health care is increasing among both health care professionals as well as managers. To quantify the desired (positive) and undesired (negative) consequences of activities in heath care, measurement of outcome is essential ***(Mainz, 2010).***

The underlying disease of intensive care patients may partly determine outcome of care, but also treatment at the intensive care units will have an effect on outcome. To reduce the

risks of iatrogenic and organizational adverse effects on patient outcome, quality management is important in the intensive care units. Indicators can provide insight in quality of care and guide improvement of care in intensive care units ***(Clemmer, 2009).***

A quality indicator is a screening tool to identify potential suboptimal clinical care. Quality indicators provide a measure of quality of structure, process, and outcome of care, and can serve as instruments to improve health care. Structure indicators are related to the resources and means to be able to give treatment and care. Process refers to the activities related to treatment and care. Outcome is defined as changes in the state of health of a patient that can be attributed to an intervention or to the absence of an intervention ***(Donabedian, 2003).***

AIM OF THE ESSAY

The aim of this essay is to recognize and identify quality indices for practical application in intensive care units to improve the quality of patient care.

HEALTH CARE QUALITY CONCEPTS

DEFINITION OF QUALITY:

Quality means doing the right things right the first time. Standards are created when experts are able to understand what the right things are and how the right things are best achieved. So, quality can be said to be, at least in part, compliance with standards. However, when recipients define quality, they judge whether or not the right things are done in ways that meet their own needs and expectations ***(Brown, 2009).***

Harteloh (2003) reviewed multiple conceptualizations of quality and concluded with a very abstract definition: "Quality is an optimal balance between possibilities realized and a framework of norms and values." This conceptual definition reflects the fact that quality is an abstraction and does not exist as a discrete entity. Rather, it is constructed based on an interaction among relevant actors who agree about standards (the norms and values) and components (the possibilities)

QUALITY IN HEALTHCARE:

The quality of health care is on the agenda in most health care systems in response to dramatic transformations of health

care systems, accompanied by new organizational structures and strategies that may affect quality of care ***(Mainz, 2003).*** The Institute of Medicine (IOM) defines quality as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and is consistent with current professional knowledge ***(Medicare, 1990; Fiscella et al., 2000).***

THREE ASPECTS OF QUALITY-THE "MAP":

Quality in healthcare actually has three aspects under whose influence we work:

1. Measurable quality can be defined objectively as compliance with, or adherence to, standards. We assume that quality can be adequately, if not completely, measured-once clinical practitioners define the standards of care under which they can comfortably practice and the healthcare field acknowledges the applicability of what become essentially community standards. Clinically, these standards may take the form of practice guidelines or protocols, or they may establish acceptable expectations for care processes and patient outcomes. Such standards also set expectations for organization performance. Performance measures or indicators are measurement tools. Acceptable compliance with standards is the

basis for granting healthcare organizations licensure and/or accreditation, certification, awards, and, in some cases, reimbursement. At their best, however, standards serve as guidelines for excellence. ***(Brown, 2009).***

2. Appreciative quality is the comprehension and appraisal of excellence beyond minimal standards and criteria, requiring the sometimes even non-articulate judgments of skilled, experienced practitioners and sensitive, caring persons. Peer review bodies rely on the judgments of like professionals in determining the quality or non quality of specific patient-practitioner interactions. Courts of law use expert witnesses to determine whether professional behavior was reasonable or negligent ***(Brown, 2009).***

3. Perceptive quality is that degree of excellence that is perceived and judged by the recipient or the observer of care rather than by the provider of care. Quality as perceived by the patient is generally based more on the degree of caring expressed by physicians, nurses, and other staff than on the physical environment and technical competence. The later two are essential to prevent dissatisfaction but do not necessarily contribute to patient satisfaction. The ideal organization wide healthcare quality strategy is effective in tracking measurable quality while understanding the value and necessity of

appreciative quality and actively fostering perceptive quality ***(Brown, 2009).***

QUALITY ASSURANCE IN HEALTHCARE AND ITS COMPONENT:-

The components of Quality Assurance (QA) are: defining quality (QD), measuring quality (QM), and improving quality (QI).

A. Defining quality: means developing statements regarding the inputs, process, and outcomes standards that the healthcare delivery system must meet in order to achieve optimum health gains for its population. ***(Bornstein, 2001).***

B. Measuring quality: consists of quantifying the current level of compliance with expected standards. Therefore improving quality requires engaging in appropriate methodologies to close the gap between current and expected level of quality. It uses quality management tools and principles to understand and address systems deficiencies and improve or re-design efficient and effective healthcare processes ***(Bornstein, 2001).***

Quality indicators can be used in quality assessment to describe the performance of care or related outcomes and to evaluate whether patient care is consistent with the indicators

based on evidence-based standards of care. However, measuring indicators make it possible to document the quality of care, make comparisons and benchmarking between hospitals, make judgments, support accountability, regulation, and accreditation, quality improvement, and support patient choice of providers ***(Campbell et al, 2002; Mainz, 2003)***.

Clinical indicators can be classified according to the aspects of care they address. Indicators will measure either: Structure (what is needed), Process (what is done) and Outcome (what is achieved or expected) ***(The Australian Council on Healthcare Standards, 2007).***

Donabedian paradigm and its applications in health care quality measurement:-

The Donabedian Model is a conceptual model that provides a framework for examining health services and evaluating quality of care ***(McDonald et al., 2007)***. According to the model, information about quality of care can be drawn from three categories: structure, process and outcomes. Donabedian developed his quality of care framework to be flexible enough for application in diverse healthcare settings and among various levels within a delivery system ***(Andersen et al, 2007).***