

**Name of article:** SMART Prioritization, Responsiveness and Adherence in critical care units for post lockdown normalcy

- **A 2017 article revisited to help Remedial planning for 2020**

**By**

**K.S.Venkatram**

Gap Analyst, 2020

AOEC



This reckoner looks at the aspect of returning to normalcy post-lockdown. With the return from lockdown, the number of cases needing critical care may not be determinable today itself.

The need is to remedially plan for a Principle of Support (Protraction) that permits healthcare providers to enable their ICU(s) and related units for problem solving when today's "government recommended or dedicated" units cannot treat all cases.

In India, the ISCCM (Indian Society of Critical Care Medicine) provides guidance as to what can ensure quality acceptance or quality level improvement in these units. This article would not be complete with a note of appreciation for them.

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## **1: Need for a 2020 sensitized baseline for selecting parameters for quality assurance**

The first step is to question whether a critical care unit is high-intensity (that is high occupancy, high dependency and critical outcome) or whether it is low intensity (not so high dependency and not so intense outcome).

**For remedial planning, we are interested in knowing the high occupancy and high dependency nature of ICU(s) as per the specialty of their connected healthcare providers.**

The next step is to reinstate that an organization's "medical knowledge, scientific knowledge, technological advancement, systems planning, engineering and facility management; model for continual operations, cost of ownership & flexible profit making; social responsibility and philosophy for critical healthcare and wellness" all play an important role in designing quality assurance programmes for these units.

To bridge the gaps that exist in different regions, this reckoner states that there should be a SMART prioritization with focus on **2020 sensitizations** (for remedial planning), common benchmarks, key performance parameters, quality indicators, operational parameters, continual programmes and **hotspot control** of all critical care units.

## 1.1 Common benchmarks?

Every critical care unit (as per its specialty and service model) needs to set certain benchmarks for treating patients for different medical conditions like

- a. Burns
- b. Coronary conditions
- c. Surgical cardiothoracic conditions
- d. Neurological and/or Neurosurgical conditions
- e. Surgical General conditions
- f. Medical Surgical conditions (with major focus, teaching affiliation)
- g. Medical Surgical conditions (all others)
- h. Medical conditions (General), (2020 health concerns)**
- i. Trauma and Emergency services (2020 health concerns)**
- j. Pediatric Medical conditions**
- k. Pediatric Surgical conditions

These benchmarks need to be set or refined depending upon certain macrocosm or microcosm factors such as

- + Provider factors (vision, business model and expertise)
- + Team factors (experts, consultants, house staff, regular staff and other personnel)
- + **Remedial planning factors (with sensitization for 2020 health concerns)**
- + Patient factors (case mix from urban, semi-urban or rural regions)
- + Task factors (life saving role, number of doctors available related to patient rate)
- + Training & Education Factor (for ^parameters described later)
- + **ICU, CCU or NICU environment (correlation for 2020 health threats)**
- + Institute environment or Facility environment

## 1.2 Parameters selection?

Parameters for quality assurance should be selected based on aspects such as:

- + Process foundation
- + Systems and Operations management
- + **Infection Control (relevant for 2020 health threats, nosocomial infections, ventilator associated pneumonia, blood stream infection, UTI infection)**
- + Quality assurance and Safety policy
- + Outcome management (mortality and morbidity)
- + **Human Resource management**
- + **Training, Teamwork and Communications management**
- + Customer Focus (Patient or National health goals satisfaction)

## 1.3 Basis for quality assurance?

The common basis for quality assurance in critical care units is mostly related to:

- + Evidence based medicine
- + **Remedial planning based services**
- + Protocol
- + Guidelines
- + Checklists
- + Bundles (basic bundle, sepsis resuscitation bundle, sepsis management bundle, antibiotic care bundle, **ventilator care bundle (with 2020 sensitizations)**)

## 1.4 Performance parameters?

The common strategy is to define certain common performance parameters (called nominators) and certain basis parameters (called denominators).

### Common performance parameters?

a. Quality indicator for Standardized Mortality Rate or Risk Adjusted Rate (where estimation is done using certain models for prediction like Apache, Saps and MPM)

+ Quality indicator for morbidity parameters (with due consideration being iatrogenic Pneumothorax conditions, 2020 health issues)

+ Quality indicator for incidence of acute renal failure in non-coronary units

+ Quality indicator for Decubitus (pressure related) ulcers

+ Quality indicator for incidences of

a. Patient Fall Rate

b. Medication Error

c. Adverse Events/Error Rate

d. Needle Stick Injury Rate

**e. Reintubation Rate (with correlation for 2020 health issues)**

Note: While deciding on Quality Indicator, each indicator must be defined on the basis of ease of understanding, ease of conformity of practice, acceptability, remedial utilization and routine utility over a period of time.

## Basic parameters that decide need for quality assurance in service levels?

- + Number of admissions
- + **Number of remedial referrals or admissions**
- + Total patient days in unit (occupancy)
- + **Ventilation days (with correlation for 2020 health issues)**
- + Central venous and arterial line days
- + Urinary catheter days

With this highlight, it needs to be said that programmes for Remedial or Continual Quality Assurance in critical care units are best designed when they address both aspects that is the **Need for Quality** (controlled or reduced errors of best practice omission) and the **Need for Safety** (minimum or near zero errors in commissioning the unit).

## Common operational parameters?

- + Length of stay of patients and/or of remedial referrals
- + Individual interaction rate (per day)
- + ICU, CCU or NICU readmission rate (with correlation for 2020 health issues)
- + Compliance to protocol (with due consideration of safety in the organizational management model, the monitoring and prevention of incidences due to failed planned action and also due to wrong plan of action)

## **2. Guidelines to developing a Quality assurance programme for critical care units**

- a. There should be focus on standardization, discontinuous and continuous improvement and innovation (where the quality assurance is based on evidence based medicine, remedial planning based services protocols, guidelines, checklists and bundles)
- b. Parameters need to be developed, remedially planned, validated or revalidated in the same unit and then in different units along a similar or dissimilar case mix
- c. Key Performance Indicators (KPIs) can be developed by disciplined evaluation of need / remedial need or by using references to hospitals in other zonal regions or even to hospitals in other zones The principle being maximum impact with minimum data collection setbacks
- d. There should be effort to minimize standard deviations, where there is well-planned effort to correlate quality or improvement of process with outcome
- e. Small-scale improvements should be planned via SGA(s) (Self Group Activities or Quality Circles) for relevant specialties
- f. Continual excellence in quality should be planned via self-initiated projects (or SIP(s)) to address gaps, ramifications due to lack of adherence, areas of concern, cost of quality, correlation of process and outcome, need for remedial planning and last of all sustainable revenue generation
- g. Well-planned maintenance programmes for facilities, systems and equipment that are part of the critical care department

### 3. Potential improvements

The common expectation is that most quality level improvements can be planned via a Plan-Do-Check (Validate or re-validate)-Act cycle.

With expert-aided involvement in the setting up, the remedial setting up, the commissioning, the operating and maintaining of critical care units, the endeavor to achieve the following two-fold outcome will become simpler.

**3.1 Accelerated performance and Quality of services**, where there is mindfulness for health, growth and immunity of people via a PAN India post lockdown vision. The next section called Hotspot Control reviews the need to think ahead for terrarium demands that exist and may further emerge in the future.

**3.2 Reduced probability of error of omission or error of commissioning**, where there is reduced severity of gaps, lack of correlation of process with outcome

### 4. Hotspot Control for terrarium demands (2020 health threats)

This vision includes the following:

+ **Building of a Green corridor that connects ICU(s), CCU(s) and NICU(s)**, where it is easier for people living in zones or relocatable zones to avail of critical care.

+ **Formulating a programme that identifies locations needing new or improved intensity critical care services** (via a remedial survey, or via analysis of trends), and thereon registering needs and availability in a icuPortal, which can thereon help authorities and organizations use a 4-fold approach that is:



**Assess** needs – **Accelerate** planning and remedial planning for hotspot control, conventional design, programmed design & implementation of suitable units – **Propel chain of operations** to commission, continually operate and deliver critical care services – **Deploy sustainable critical care units** that work according to well-established guidelines.

+ This icuPortal can also thereon help in improving universal strategic knowledge amongst healthcare providers working in different settings, where 2020 sensitization and focus is given to

Vital availability and capacity management

The Quality of Service model

Criteria management

Technological advancement for advisory systems that ensure Service Quality provisioning, Critical path management, N-Operations consistency and Inter-corridor messaging to locate, relocate or refer patients as part of rapid action methodologies that can help save lives and ensure quality & sustainable performance.

### **Toolkit offerings for healthcare**

+ AOEC offers toolkits for a Quality Management System (QMS) and Environment Management System (EMS) for Mission Health solutions, healthcare and community development.

For more information, contact the author at [venkataoec@gmail.com](mailto:venkataoec@gmail.com) or on +919342867666.