



ICU Management Course: Critical Care Staffing, Tele-ICU and Outcome Benchmarking

14 – 18 March 2027

Riyadh - KAFD district five-star



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Introduction:

ICU management covering critical care staffing, tele-ICU and outcome benchmarking is a 5-day course for critical care medical and nursing leads and sponsoring hospital executives, ending with an ICU Service Plan for a case hospital. Intensive care units lose capacity and outcomes when admission criteria are vague, intensivist cover is thin at night, nurse ratios slip during peaks and mortality is reported without severity adjustment. Nominees already lead an intensive care unit or sponsor it at executive level and work through case studies built on unit census, rota and outcome data. CoreConcept Training Center delivers this ICU management course.

Course Objectives:

- Size critical care bed requirements by level of care and plan the mix of intensive care, high dependency and step-down beds for a hospital
- Write ICU triage, admission and discharge criteria with a referral pathway and an outreach response for deteriorating ward patients
- Select intensivist coverage and nurse-to-patient staffing models for day, night and peak periods and cost the rota that results
- Design a tele-ICU operating model that defines hub and bedside roles, escalation rules and the data each remote round reviews
- Benchmark unit mortality with APACHE II or SAPS II predicted risk and the standardised mortality ratio, alongside a set of ICU quality indicators
- Prepare an ICU surge plan and an ICU Service Plan that a hospital executive can approve

Target Audience:

- Critical care medical leads responsible for intensivist rotas, admission decisions and clinical governance of the unit
 - Critical care nursing leads accountable for bedside staffing ratios, skill mix and nursing workload in intensive care
 - Hospital executives who sponsor critical care investment, bed numbers and tele-ICU contracts
 - Tele-ICU hub and virtual care leads who coordinate remote monitoring and support for bedside teams
 - Critical care quality and outreach leads who track unit indicators and respond to deteriorating ward patients
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Course Outline:

Day 1: The ICU as a Service and Its Current-State Profile

- Levels of Critical Care From Ward to Organ Support
- ICU Case-Mix Profile by Admission Source and Diagnosis
- Mechanical Ventilation Days and Organ Support Workload Measures
- ICU Occupancy, Refused Admissions and Delayed Discharge Counts
- Unit Current-State Review of Beds, Rota and Outcomes

Day 2: Bed Planning, Admission Criteria and Staffing Models

- Critical Care Bed Requirement Model by Level of Care
- ICU Triage and Admission Criteria With Referral Pathway
- ICU Discharge Readiness Criteria and Step-Down Transfer Rules
- Intensivist Coverage Models From Open Unit to Closed Unit
- Nurse-to-Patient Ratio Models Linked to Patient Dependency

Day 3: Tele-ICU Operations and Severity-Adjusted Benchmarking

- Tele-ICU Hub Models With Continuous and Scheduled Review
- Remote Rounding Workflow With Bedside Escalation Rules
- APACHE II Scoring and Predicted Mortality Calculation
- SAPS II Scoring for Case-Mix Adjustment Across Units
- Standardised Mortality Ratio Reporting With Observed and Expected Deaths

Day 4: ICU Quality Indicators, Outreach and Surge Risk

- ICU Quality Indicator Set With Definitions and Thresholds
- Delirium Screening Audit Using CAM-ICU or ICDSC
- Critical Care Outreach Response for Deteriorating Ward Patients
- ICU Surge Plan With Expansion Tiers and Staff Redeployment
- After-Hours Discharge and Unplanned Readmission Root Causes

Day 5: Case Study on the ICU Service Plan

- Case Hospital Census and Bed Requirement Analysis
 - Staffing Model and Rota Costing for the Case Unit
 - Tele-ICU Coverage Option Appraisal for the Case Hospital
 - Outcome Benchmark Dashboard With SMR and Quality Indicators
 - ICU Service Plan Completion and Executive Panel Defence
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Skills You Will Gain:

- Critical Care Bed Modelling
- ICU Admission Triage Design
- Intensivist Rota Planning
- Critical Care Nurse Staffing
- Tele-ICU Service Design
- Severity-Adjusted Mortality Analysis
- ICU Indicator Monitoring
- Critical Care Surge Planning

Why Attend This Course:

- Deliver an ICU Service Plan for a case hospital to the medical director and the executive sponsor of critical care for approval
- Decide when to open, close or step down critical care beds and when a tele-ICU hub can extend intensivist cover
- Avoid refused admissions, after-hours discharges and misleading mortality comparisons that hide real performance gaps
- Brief bedside nurses, intensivists and outreach staff using admission criteria, staffing rules, indicator definitions and surge tiers

Conclusion:

Back at work, the participant presents the ICU Service Plan to the medical director, the director of nursing and the executive sponsor of critical care. They use it to approve bed numbers by level of care, admission and discharge criteria, the intensivist and nurse staffing model, the tele-ICU coverage option and the surge tiers. After the first quarter under the plan, the unit should compare refused admissions, after-hours discharges, readmissions and the standardised mortality ratio against the baseline and revise the weaker rules.

Frequently Asked Questions FAQ:

What should participants know before the ICU management course?

Participants should already lead an intensive care unit, manage its nurses or sponsor it at executive level, and know how their unit records admissions, ventilation days and outcomes. Bringing an anonymised census extract or recent mortality report helps during the case study.

How does ICU management differ from a hospital-wide capacity or nursing unit management course?

It concentrates on the intensive care unit alone: levels of critical care, admission criteria, intensivist cover, nurse ratios, tele-ICU, severity-adjusted outcomes and ICU surge tiers. Hospital-wide capacity courses manage beds across all wards, and nursing unit courses address general ward staffing and development.

Why does ICU management use APACHE II or SAPS II rather than crude mortality?

Crude mortality rises with sicker patients, so it misleads when units admit different case-mixes. APACHE II and SAPS II give a predicted risk for each admission, and comparing observed with expected deaths through the standardised mortality ratio makes unit comparisons fair.

What do participants take back from the ICU management course?

Participants take back an ICU Service Plan with a bed requirement model, admission and discharge criteria, an intensivist and nurse staffing model, a tele-ICU option appraisal, an outcome benchmark dashboard and surge tiers they can adapt to their own unit.