

**GOVERNMENT OF ANDHRA PRADESH
HEALTH MEDICAL AND FAMILY WELFARE (A1) DEPARTMENT**

Memo.No. 3286726/ A1/2026

Dated: 14-08-2026

Sub: Suits - Supreme Court of India - Orders Dt.20.05.2026 of Supreme Court of India in Miscellaneous Application No.1364/2026 in Diary No. 30408/2024 in CA No. 8402/2016 - Recommendations on ICU admission and discharge criteria and comprehensive set of guidelines on functioning of the all ICUs/CCUs - Request to onboard all healthcare facilities onto The Health Facility Registry – Necessary instructions issued - Regarding.

- Ref: 1. Orders Dt.20.05.2026 of Supreme Court of India in Miscellaneous Application No.1364/2026 in Diary No. 30408/2024 in CA No. 8402/2016.
2. From CEO, National Health Authority, Govt of India, Letter no. Do.No.S-12019/89/2020-NHA, dt.06.08.2026.

A copy of the references 2nd cited together with their enclosures is sent herewith to the Director of Medical Education, A.P., Vijayawada, the Director of Secondary Health, AP, Tadepalli and the Director of Public Health & Family Welfare, AP, Vijayawada and they are requested to ensure on boarding of all public and private healthcare facilities in the State onto The Health Facility Registry on priority, with a special focus on facilities with ICU beds and also requested to update their level-wise ICU bed capacity for those facilities which are already verified on HFR at the earliest and furnish compliance report at the earliest.

G.Veerapandian I.A.S
SECRETARY

To
The Director of Medical Education, A.P., Vijayawada.(w.e).
The Director of Secondary Health, AP, Tadepalli. (w.e)
The Director of Public Health & Family Welfare, AP, Vijayawada. (w.e)
Sf/Sc.

डॉ. सुनील कुमार वर्णवाल (भा. प्रा. से.)
मुख्य कार्यकारी अधिकारी
Dr. SUNIL KUMAR BARNWAL (I.A.S.)
Chief Executive Officer

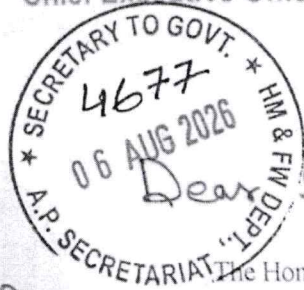


**national
health
authority**

भारत सरकार
Government of India

Do.No. S-12019/89/2020-NHA

Date:06.08.2026



Dear Sir/Madam,

The Hon'ble Supreme Court of India, vide its order dated 20th May 2026 in Miscellaneous Application No. 1364 of 2026 in Civil Appeal No. 8402 of 2016 (Asit Baran Mondal & Anr. vs. Dr. Rita Sinha & Ors.), has issued directions to strengthen ICU and critical care facilities nationwide. Paragraph 9 of the order directs:

"The Central Government shall place before this Court specific details regarding the manner in which an all-India GPS-based tracking system may be established for every medical institution across the country, indicating the facilities available in such institutions as well as the level of ICU available therein. The system should also provide for networking all such institutions through a common website or domain so as to facilitate communication between institutions, particularly where a patient is required to be transferred from one institution to another..."

2. One of the Ayushman Bharat Digital Mission's (ABDM) core building blocks, the Health Facility Registry (HFR), is directly relevant to this direction. HFR is a centralized, verified registry of public and private health facilities across India, including hospitals, clinics, laboratories, imaging centers and pharmacies. Each facility is allotted a unique Facility ID, with its name, geo-location and services offered captured on the Registry for standardization and authenticity of facility data.

3. In compliance of the above orders of the Hon'ble Supreme Court, a feature has been incorporated within the HFR registration process whereby facilities offering In-Patient Department (IPD) services are required to declare their ICU bed capacity across all 3 Levels (both with and without ventilator support). Further, this information may be easily accessed on the Aarogya Setu 2.0 mobile application under "Nearby Health Services" and on the NHPR website (nhpr.abdm.gov.in) via "Know Your Facility" feature.

4. As on 5th August 2026, 2,67,028 Government and 2,74,881 private health facilities stand verified on HFR. However, many verified facilities on HFR are yet to update the number of ICU beds level-wise in their respective facilities. Moreover, it is observed that a considerable number of health facilities across States/UTs, particularly in the private sector, are yet to be onboarded onto the Registry.

5. In view of the foregoing, and in order to ensure compliance with the directions of the Hon'ble Supreme Court, it is requested that all public and private healthcare facilities in your State/UT may be onboarded onto the Health Facility Registry on priority, with a special focus on facilities with ICU beds. Moreover, those facilities which are already verified on HFR may be requested to update their level-wise ICU bed capacity at the earliest.

I look forward to your kind support and cooperation in this important national endeavour.

Kind regards,

Yours sincerely,

(Dr. Sunil Kumar Barnwal)

To,

Addl. Chief Secretary/Principal Secretary/Secretary (Healthy & Family Welfare Department)
All States/UTs

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SUPREME COURT OF INDIA
RECORD OF PROCEEDINGSMiscellaneous Application No. 1364/2026 in C.A. No. 8402/2016[Arising out of impugned final judgment and order dated 05-07-2024
in C.A. No. No. 8402/2016 passed by the Supreme Court of India]

ASIT BARAN MONDAL & ANR.

Petitioner(s)

VERSUS

DR. RITA SINHA MBBS MS (OBST. GYNAE) & ORS.

Respondent(s)

[TO BE TAKEN UP AT 2.00 P.M.]

IA No. 180620/2024 - EXEMPTION FROM FILING O.T.

IA No. 296433/2025 - EXEMPTION FROM FILING O.T.

IA No. 277011/2024 - EXEMPTION FROM FILING O.T.

IA No. 245842/2024 - EXEMPTION FROM FILING O.T.

IA No. 186421/2024 - EXEMPTION FROM PERSONAL APPEARANCE

IA No. 193928/2024 - EXEMPTION FROM PERSONAL APPEARANCE

WITH

SLP(C) No. 38704/2025 (IX-A)

FOR PERMISSION TO APPEAR AND ARGUE IN PERSON ON IA 339141/2025

IA No. 339141/2025 - PERMISSION TO APPEAR AND ARGUE IN PERSON

Date : 20-05-2026 These matters were called for hearing today.

CORAM :

HON'BLE MR. JUSTICE AHSANUDDIN AMANULLAH

HON'BLE MR. JUSTICE R. MAHADEVAN

For Petitioner(s) :Petitioner-in-person
By Courts Motion, AoRFor Respondent(s) :Mr. Shantanu Kumar, AoR
Mr. Sudarshan Lamba, AoRMr. Aravindh S., AoR
Ms. Anika Bansal, Adv.
Mr. Aadithya Aravindh, Adv.Mr. Ankit Roy, AoR
Ms. Mrinalini Ramesh, Adv.

Mr. D. L. Chidananda, AoR

Mr. Sudarshan Singh Rawat, AoR
Mr. Piyush Hans, Dy. AG
Mr. Sunny Sachin Singh, Adv.
Ms. Rachna Sandhi, Adv.

Mr. Prateek Bhatia, AoR
Mr. Dhawal Mohan, Adv.

Mr. Nishe Rajen Shonker, AoR
Mrs. Anu K Joy, Adv.
Mr. Alim Anvar, Adv.
Mr. Santhosh K, Adv.
Mrs. Devika A.L., Adv.

Mr. Shiv Mangal Sharma, A.A.G.
Mr. Saurabh Rajpal, Adv.
Mr. Jayant Singh Chauhan, Adv.
Ms. Nidhi Jaswal, AoR

Mr. Sabarish Subramanian, AoR

Mr. Mangaljeet Mukherjee, Adv.
Mr. Anando Mukherjee, AoR
Mr. Shwetank Singh, Adv.

Ms. Mrinal Gopal Elker, AoR
Mr. Abhimanyu Singh, G.A., Adv.
Mr. Srajan Yadav, Adv.

Mr. Naveen Sharma, AoR
Mrs. Swati Bhushan Sharma, Adv.
Mr. S.k. Sharma, Adv.
Ms. Payal Gola, Adv.

Mr. Kamendra Mishra, AoR
Mr. Vinod Kumar, Adv.
Mr. Krishna Pandey, Adv.
Mr. Ashiwan Mishra, Adv.
Ms. Aditi Mishra, Adv.
Ms. Vaidruti Mishra, Adv.
Mr. Suraj, Adv.

Mr. Prasenjeet Mohapatra, AoR

Mr. Amit Kumar, Advocate General
Mr. Avijit Mani Tripathi, AoR
Mr. T.K. Nayak, Adv.
Ms. Marbiang Khongwir, Adv.

Mr. Ram Narayan Mohanty, Adv.

Mr. Aditya Kumar, Adv.

Mr. Z.H. Isaac Haiding, Adv.

Mr. Sameer Abhyankar, AoR

Ms. Yachna Sharma, Adv.

Ms. Arushi Chopra, Adv.

Mr. Shuvodeep Roy, AoR

Mr. Saurabh Tripathi, Adv.

Mr. Deepayan Dutta, Adv.

Ms. Disha Singh, AoR

Mr. Anil Shrivatsav, A.A.G.

Ms. Eliza Bar, Adv.

Ms. Akansha, Adv.

Ms. Anjali Saxena, Adv.

Mr. Kartikeya Rastogi, D.A.G.

Ms. Inderdeep Kaur Raina, Adv.

Ms. Tamanna Kavdia, Adv.

Mr. Rohit Bansal, AoR

Ms. Misha Rohatgi, AoR

Mr. Amulya Upadhyay, Adv.

Mr. Kunal Mimani, AoR

Mr. Parag Chaturvedi, Adv.

Miss Madhulika Upadhyay, AoR

Mrs. Aishwarya Bhati, A.S.G.

Mrs. Madhulika Upadhyay, AoR, Adv.

Ms. Shivika Mehra, Adv.

Mr. Annirudh Sharma-(ii), Adv.

Mr. Abhijeet Pandove, Adv.

Ms. Seema Bengani, Adv.

Mr. Raman Yadav, Adv.

Mr. M.P. Gupta, Adv.

Mr. Rohit Ojha, Adv

Mr. Santosh Krishnan, AoR

Mr. Mrinal Elkar Mazumdar, Adv.

Ms. Indira Bhakar, Adv.

Mr. Tadimalla Bhaskar Gowtham, Adv.
Mr. Krishna Kant Dubey, Adv.
Mr. Harish Pandey, Adv.
Mr. Shashwat Parihar, Adv.
Ms. Priyadarshni Priya, Adv.
Ms. Sansriti Pathak, Adv.
Mr. Varun Chugh, Adv.
Mr. Santosh Ramdurg, Adv.
Mr. Yogesh Vats, Adv.
Mr. Ankit Raj, Adv.
Mr. Shreekant Neelappa Terdal, AoR

Mr. Samir Ali Khan, AoR
Mr. Pranjal Sharma, Adv.
Mr. Kashif Irshad Khan, Adv.
Mr. Shree Pal Singh, AoR
Mr. Mukesh Kumar Maroria, AoR
Mr. Sumeer Sodhi, AoR
Mr. Prashant Singh, AoR
Ms. Mridula Singh Chauhan, Adv.
Mr. Bijender Singh Chaudhary, Adv.
Mr. Hitesh Kumar Sharma, Adv.
Mr. Akhileshwar Jha, Adv.
Mr. Anupam Kumar, Adv.
Mr. Narendra Pal Sharma, Adv.

Ms. Ankita Sharma, AoR
Mr. Arjun D. Singh, Adv.
Ms. Ishika Neogi, Adv.

Ms. Supriya Juneja, AoR

Ms. Swati Ghildiyal, AoR
Ms. Deepanwita Priyanka, Adv.
Ms. Neha Singh, Adv.

Mr. Lokesh Sinhal, Sr. A.A.G.
Mr. Samar Vijay Singh, AoR
Mr. Nikunj Gupta, Adv.
Ms. Sabarni Som, Adv.
Mr. Gaurav Yadava, Adv.
Mr. Aman Dev Sharma, Adv.
Mr. Gaj Singh, Adv.
Ms. Veena Bansal, Adv.
Mr. Tanuj Dixit, Adv.
Ms. Rekha, Adv.

Mr. Pashupathi Nath Razdan, AoR
Ms. Patil Rekha Chandra Gouda, AoR

Ms. Yugandhara Pawar Jha, Adv.
Mr. Siddharth Dharmadhikari, Adv.
Mr. Aaditya Aniruddha Pande, AoR
Mr. Shrirang B. Varma, Adv.

Mr. Pukhrambam Ramesh Kumar, AoR
Mr. Mayank Sapra, Adv.
Mr. Karun Shamra, Adv.
Ms. Anupama Ngangom, Adv.
Ms. Rajkumari Divyasana, Adv.

Mr. Maninderjit Singh Bedi, Advocate General
Mr. Gaurav Dhama, Adv.
Mr. Siddhant Sharma, AoR

Mr. Milind Kumar, AoR
Mr. Raghvendra Kumar, AoR
Mr. Rajiv Kumar Choudhry, AoR

Mr. Sravan Kumar Karanam, AoR
Ms. Srilekha Pujari, Adv.
Mr. Kumar Abhishek, Adv.
Mr. P. Venkatraju, Adv.
Ms. G. Sushmita, Adv.
Ms. M. Harshini, Adv.

Mr. Gopal Singh, AoR

Mr. Vishwa Pal Singh, AoR
Mr. Mukesh Kumar, Adv.
Mr. Srikant Singh, Adv.
Mr. Anurag Pandey, Adv.
Mr. Devendra Saini, Adv.
Ms. Suhani Sumanchna, Adv.
Mr. Shivom Garg, Adv.
Mr. Lakhsya Singh, Adv.

Mr. Saurabh Trivedi, AoR
Ms. Astha Sharma, AoR

Mr. Vsr Krishna, Adv.
Mr. Arpit Shukla, AoR
Mr. V Shashank Kumar, Adv.
Ms. Vva Lakshmi, Adv.
Mr. Alok Jain, Adv.
Ms. Nitika Agarwal, Adv.

Ms. Shivika Mehra, AoR

Ms. K. Enatoli Sema, AoR
Mr. Amit Kumar Singh, Adv.

Ms. Chubalemla Chang, Adv.
Mr. Prang Newmai, Adv.
Ms. Yanmi Phazang, Adv.

Ms. Patil Rekha Chandra Gouda, AoR
Mr. Sabarish Subramanian, AoR

Mr. Mangaljeet Mukherjee, Adv.
Mr. Anando Mukherjee, AoR
Mr. Shwetank Singh, Adv.

Mr. Abhimanyu Tewari, AoR
Mr. Vishnu Shankar Jain, AoR

Mr. Guntur Pramod Kumar, AoR
Ms. Prerna Singh, Adv.
Mr. Dhruv Yadav, Adv.

O R D E R

Heard Ms. Aishwarya Bhati, learned ASG, Mr. Karan Bharihoke learned *Amicus Curiae*, Dr. Nitish Nayak, Dr. Mahajan, Dr. Sarin, Dr. Devi Shetty, Dr. M.M. Chaudhary, Dr. Poonam Bajaj, Dr. Rajeev Joshi and Dr. Bhosle.

2. Ms. Aishwarya Bhati has submitted to the Court a compilation of the action plans received from the States and Union Territories pursuant to the order dated 20.04.2026. However, she submits that the States have indicated that these action plans are tentative since the exercise of gap analysis has yet to be undertaken. The said compilation is taken on record.

3. The Court has had detailed interaction with the parties. Today, the Court is considering what the immediate next step in the exercise undertaken in the present proceedings should be so as to ensure that real and effective measures are implemented on the

ground. A basic structure detailing the minimum requirements which ICUs should possess has been placed before us. As per the agreed procedure, three levels of ICUs have been suggested, namely, Level I, Level II and Level III. There is consensus among the States and the Committee constituted by this Court, and final shape has been given to the said suggestions. We approve the same.

4. Coming to the next step, from what has been placed before this Court relating to the minimum facilities required for a Level 1 ICU, we find that the same are well-considered and require strict enforcement, both from the point of view of the patient and from the perspective of strengthening the healthcare system so that it is capable of responding to emerging challenges in the future. The Court cannot overemphasize the fact that India today is at a critical position inasmuch as the population is increasing by leaps and bounds while the healthcare system is not able to suitably match the demand, much less provide quality healthcare. It is in this backdrop that the Court has taken up the issue with utmost seriousness. While general health issues may be addressed in a comparatively routine manner and a patient may have multiple options to approach the concerned forum, institution or doctor, the position is markedly different when a person is in a critical health condition. There exists a real dearth and shortage of facilities to ensure that a patient is at least stabilized so as to provide both the patient and the healthcare system sufficient time to undertake follow-up treatment and intervention. In such situations, the most critical and vital facility in any healthcare institution is the ICU, which ensures that patients who appear to

be at the very brink of life are afforded the treatment and medical support available so that their chances of survival are significantly enhanced.

5. At this juncture, we may refer to the submission of Dr. Sarin that the Right to Life is a basic Fundamental Right guaranteed to every citizen and that the State must shoulder responsibility in that regard. There can be no two opinions on this proposition. At the same time, the financial aspect cannot be ignored, as the cost of treatment, particularly treatment requiring specialized care, is extremely high and often unaffordable for a substantial section of society.

6. Having said that, we now proceed to the actual implementation of the suggestions which we have accepted. Accordingly, the following directions are issued:

I. The States and Union Territories shall ensure that the exercise of gap assessment is undertaken and completed within a period of two months from today.

II. Simultaneously, the States shall work out the modalities for putting in place a mechanism for implementation of the minimum standards required for establishing and maintaining an ICU in any institution beginning with Level I.

III. The States shall also come up with suggestions as to how they would ensure that institutions possess at least a Level I ICU meeting the prescribed minimum standards so as to cater to the needs of the local population, particularly during emergencies where the time factor may make the difference between life and death.

7. This exercise shall include exploring possibilities of funding from non-governmental sources such as Corporate Social Responsibility (CSR) initiatives, non-governmental organizations (NGOs) and public donations. We add a word of caution that all such funds shall be deposited in a separate account and shall be utilized exclusively for the purposes of the present exercise and shall not be diverted for any other activity.

8. The States and Union Territories shall also examine whether a standardized model of an ideal ambulance equipped with basic life support systems, including a ventilator, which appears to be the most expensive equipment that even a Level I ICU is required to possess, can be developed. A consequential requirement would be the availability of trained personnel capable of operating such equipment. Accordingly, for the present, the States shall explore modalities for providing at least five such fully equipped ambulances in each district through the State Health Societies, to be partly funded through contributions from the sources indicated in the preceding paragraph. These ambulances shall be kept ready both for transporting persons requiring specialized care to centres where such facilities are available and for facilitating the use of ventilators in medical and healthcare institutions within the district for patients who require ventilatory support merely to sustain life. Such an arrangement would also enable the stabilization of patients within the institution and thereafter permit their transfer, without removal of ventilatory support, to facilities where the required treatment can be provided.

9. The Central Government shall place before this Court specific details regarding the manner in which an all-India GPS-based tracking system may be established for every medical institution across the country, indicating the facilities available in such institutions as well as the level of ICU available therein. The system should also provide for networking all such institutions through a common website or domain so as to facilitate communication between institutions, particularly where a patient is required to be transferred from one institution to another. Such coordination should not be left to the patient's attendants but ought to be undertaken internally between the institutions concerned. This would also assist in the management of patients who are not in a condition to be physically moved and whose treatment can be facilitated through tele-consultation.

10. Learned counsel appearing for the Indian Nursing Council in response to a query from the Court, submitted that the basic nursing course requires every student to undergo hands-on training in an ICU at a hospital where such a facility exists. At this juncture, the Court expresses its surprise as to how institutions are approved or granted permission to commence operations where the institution itself is located at a considerable distance from a hospital possessing a proper and functional ICU. The Court was informed that, under the existing guidelines, such a hospital may be situated up to 30 kilometres away. We are not merely surprised but rather shocked that such a stipulation exists. It is difficult to believe that nursing students would be visiting a facility having an ICU on a daily basis, which is imperative considering

that at the culmination of the course, they are expected to work directly with real patients. Without adequate practical exposure, such responsibility cannot be entrusted to them. At this stage, Ms. Aishwarya Bhati, learned ASG submitted that she would obtain instructions from the Union Ministry of Health and Family Welfare and that the issue would be examined to ascertain whether such a provision indeed exists and, if so, whether it requires reconsideration. We make it clear that ideally, a nursing school or college should be situated within, or be attached to, an institution possessing an ICU, and in any event should not be located beyond a radius of one kilometre from such institution or hospital. The Central Government shall examine the matter and place concrete suggestions before this Court, failing which the Court may be compelled to intervene and issue appropriate interim directions. The Indian Nursing Council is also directed to submit a report with regard to all the approximately 800 nursing colleges across the country falling within its jurisdiction, indicating the facilities possessed by them, their addresses and the distance between such institutions and the hospitals having ICUs to which they are attached.

11. A suggestion was advanced during the course of today's proceedings, which we endorse, that the Central Government should develop and notify a standardized and approved display system indicating whether an institution possesses ICU facilities and, if so, the level thereof.

12. Before concluding, we fully endorse the recommendations of the Committee with regard to tele-consultation and tele-ICU facilities,

as these provide a practical and immediate means of ensuring access to specialized treatment for persons requiring such care. Such systems may obviate the need for physical transfer of a patient to another facility and permit treatment to continue in accordance with medical advice obtained through tele-conferencing. We not only endorse but actively encourage the establishment of such facilities and call upon the Union Government, the States and the Union Territories to ensure that an integrated tele-conferencing grid is created connecting healthcare institutions across India.

13. The States and Union Territories shall submit affidavits, personally affirmed by the heads of their respective Departments of Health, indicating completion of the exercise directed above and setting out the results thereof. The said affidavits shall be filed on or before 31.07.2026, with advance service upon Ms. Aishwarya Bhati, learned ASG, and the learned *Amicus Curiae*, who shall, in turn, circulate the same among the members of the Committee.

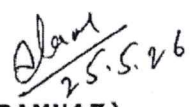
14. Thereafter, we request the Committee to deliberate upon the material placed before it and submit its final recommendations on the issue before the next date of hearing.

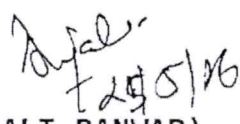
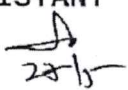
15. Earlier, the Para Medical Council of India had been impleaded as Respondent No.42. Today, we are informed that the functions earlier performed by the erstwhile Indian Paramedical Council are now being discharged by the National Commission for Allied and Healthcare Professions. Accordingly, the National Commission for Allied and Healthcare Professions shall stand substituted in place of the Indian Paramedical Council as Respondent No.42. The vakalatnama filed on behalf of Respondent No. 42 is taken on

record. The Indian Nursing Council and the National Commission for Allied and Healthcare Professions shall submit their respective proposals within a period of three weeks from today, which shall also be placed before the Committee before any final decision is taken.

16. The Court places on record its deep appreciation for the time and effort rendered by the Committee constituted by this Court. We find that a substantial part of the burden of this Court has been shared by the Committee, and their assistance has enabled us to proceed in the matter with greater confidence. We also record our gratitude to the learned ASG and the learned Amicus Curiae for the dedication and commitment displayed by them throughout these proceedings.

17. List on 13.08.2026, at 02:00 PM.


(IRAMNAZ)
COURT MASTER (SH)


(ANJALI PANWAR)
ASSISTANT REGISTRAR


GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

HM&FW Department - Provision of Medical Services – Orders of Hon'ble Supreme Court of India in Civil Appeal No 8402 of 2016 - Classification and Minimum standards for Intensive Care Units in Hospitals - Orders – Issued.

HEALTH MEDICAL AND FAMILY WELFARE (A1) DEPARTMENT

G.O.MS.No. 101

Dated: 29-07-2026
Read the following:-

1. From the Director of Medical Education, A.P., Vijayawada, E file No.2514486.
2. Guidelines for organization and delivery of intensive care services issued Director General of Health Services, MoHFW, Government of India, New Delhi.
3. Orders dt.20.05.2026 of Hon'ble Supreme Court of India in Civil Appeal No 8402 of 2016.

ORDER:-

In the circumstances reported by the Director of Medical Education, A.P. Vijayawada in the reference 1st read above and in compliance of orders dt.20.05.2026 of Hon'ble Supreme Court of India in Civil Appeal No 8402 of 2016, and after careful examination of the matter, Government hereby notifies the Guidelines (**Appended as Annexure**) for organization and delivery of intensive care services in the State of Andhra Pradesh. These guidelines are applicable to all the Government Hospitals and Private Hospitals in the State. The Government hereby issues the following instructions for implementation of above guidelines:

- a. Dr.NTR Vaidya Seva Trust, AP is hereby notified as nodal agency for implementation of these guidelines in the State in Government hospitals and Private Hospitals.
- b. Dr.NTR Vaidya Seva Trust, AP shall develop and operationalize an online portal for ICU regulation and monitoring. The portal shall facilitate:
 - i. Registration of Intensive Care Units;
 - ii. Classification of ICUs according to prescribed levels;
 - iii. Online self-assessment by hospitals;
 - iv. Renewal of registrations;
 - v. Inspection and compliance monitoring; and
 - vi. Maintenance of relevant records relating to ICU services.
- c. Dr.NTR Vaidya Seva Trust, AP shall open a separate account for receiving funds from the Corporate agencies under CSR initiatives and donations from Non Governmental Organizations/ Donors for expansion of existing ICU infrastructure and strengthening critical care infrastructure in Government hospitals.

(P.T.O)

d. The Superintendents of the concerned hospitals shall identify and indent the required medical equipment and infrastructure works based on institutional requirements. Procurement of equipment and execution of related works shall be undertaken in accordance with the applicable procurement procedures and Government guidelines, utilizing the available CSR funds and the donations received from the NGOs/ Donors.

e. The District Medical and Health Officer and District Coordinator of Dr NTRVST shall be nodal authorities at the district level for implementation of above guidelines.

f. The grievance redressal mechanism relating to ICU services shall be administered through the District Medical and Health Officers of the respective districts. In cases of non-compliance with the notified guidelines, appropriate action shall be taken including imposition of penalties in accordance with the provisions of the Clinical Establishments (Registration and Regulation) Act, 2007 and the rules framed thereunder, wherever applicable.

g. Dr.NTR Vaidya Seva Trust, AP shall issue standard operating procedures (SOP) for implementation of guidelines within a week from issue of these orders.

2. Separate instructions will be issued for implementation and monitoring mechanism for the above guidelines.

3. The Director of Medical Education, AP/ Director of Public Health & Family Welfare, AP/ Director of Secondary Health, AP/ Dr.NTR Vaidya Seva Trust, AP shall take necessary action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

G.VEERAPANDIAN
SECRETARY TO GOVERNMENT

To

The CEO, Dr.NTRVST, Mangalagiri, A.P.

The Director of Medical Education, AP, Vijayawada.

The Director of Public Health & Family Welfare, AP, Vijayawada

The Director of Secondary Health, AP, Tadepalli

All the DM&HOs through DPH&FW, AP, Vijayawada.

The Superintendents of all Govt. General Hospitals through DME, AP, Vijayawada

Copy to:

The OSD to Hon'ble Minister (HFW&ME)

The PS to Secretary to Government, HM&FW Department.

SF/SC (E file No. 2514486).

//FORWARDED:: BY ORDER//

SECTION OFFICER

Guidelines for the Organization and Delivery of Intensive Care Services

Section1: Introduction

1.1 Definition

An intensive care unit (ICU) is a dedicated area within a hospital that provides intensive and specialized medical and nursing care, enhanced monitoring, and multiple forms of physiologic organ support to sustain life in patients with acute, life-threatening organ dysfunction.

The hallmarks of an Intensive Care Unit (ICU) are the defining features that distinguish it from routine hospital care. They can be summarized as follows:

1.2 Hallmarks of an ICU

Care for critically ill patients

An ICU provides care to patients with, or at risk of, acute life-threatening organ dysfunction.

Dedicated physical space

A defined geographic area within a hospital designed to concentrate expertise, equipment, and monitoring, for care of critically ill patients.

Intensive and specialized staffing

Care in an ICU is delivered by a skilled, inter professional team, including specially trained Physicians, Nurses, and Allied Health Professionals, with higher staff-to-patient ratios than general wards.

Enhanced monitoring capability

An ICU has continuous and advanced physiologic monitoring capability, which may include noninvasive and invasive monitoring of cardiovascular, respiratory, neurological, and other organ systems.

Organ support technologies

An ICU is equipped with multiple modalities of organ support, such as mechanical ventilation, vasoactive medications, renal replacement therapy, and other life-sustaining interventions.

Capacity for rapid intervention

An ICU provides infrastructure and equipment for immediate assessment, resuscitation, and support in rapidly changing clinical situations.

Integration within the broader health system

ICUs often extend services to the emergency department, hospital wards, operation theaters and post-ICU follow-up areas.

Commitment to quality, education, and improvement

An ICU should be committed to quality improvement, and where resources allow, engagement in education and research, aimed at continually improving outcomes for critically ill patients.

These hallmarks collectively define the ICU as an organized, resource-intensive system focused on sustaining life during periods of severe physiologic instability.

Section 2: Methodology

The following document summarizes the recommendations on various aspects of ICU structure, function and care based on national and international guidelines and recommendations. The expert committee undertook a structured, iterative guideline development process that included multiple face-to-face meetings of a small working group who reviewed the existing guidelines and available medical scientific literature and formulated an initial consensus draft. The draft was subsequently reviewed, modified and edited through further deliberations by other members of the expert committee.

Section 3: Results

This document is intended to help clinicians across various parts of India and across various health care setups to deliver the best possible care to patients in need of intensive care, based on best available resources, and not to replace the clinician's decision-making capability.

In accordance with the available guidelines, different levels of ICU have been described based on availability of infrastructure, health care personnel and severity of illness to be catered to. An ICU can be classified into three levels (Level 1, 2 or 3). Level 1 caters to patients with not more than single organ dysfunction requiring short term care to level 3 meant for critically ill patients requiring multiple organ support. Each section has been classified into mandatory requirements and desirable ones according to the level of ICU described. It is important to emphasize that clinical judgement should be used to determine which level of care would be the most appropriate for a critically ill patient. Also, upon clinical stabilization, when further organ support and/or close physiological monitoring are not required, patients should be stepped down to lower levels of care like ward, high dependency unit or discharged, as deemed appropriate by the treating physician.

3.1 Level 1 ICU

Level 1 Intensive Care Units are intended to provide short-term stabilization, basic monitoring and basic limited support for an organ system.

3.1.1 Infrastructure Requirements

Location

The location of an ICU should preferably be in proximity to the emergency department and operation theatres and should have easy and fast access to imaging and laboratory facilities.

ICU size and infrastructure

Size of an ICU and bed strength can be variable and would vary depending on

variables such as number of beds in the hospital; type of services the hospital delivers (such as surgical specialties, medical specialties, trauma services, emergency services etc) and number of operation theaters etc.

A level 1 ICU is suggested to have 6-8 beds to permit operational efficiency. The physical space around an ICU bed should be sufficient to provide comfortable access to the patient and permit unhindered movement of diagnostic equipment and nursing services.

The facility should meet general infrastructure requirements for an ICU as per standard guidelines issued by the Ministry of Health and Family Welfare (MOHFW).

There should be provision for generator/ UPS back up for emergency power supply.

Proper housekeeping with an emphasis on sanitation should be implemented in the ICU. Storage must be clearly defined to permit easy and quick access to relevant supplies. Such areas should be temperature controlled.

3.1.2 Medical Utilities

Bedside Utilities

- a. Multi para monitor- Each patient bed must have a multi parameter monitor. The monitor should be able to display heart rate, ECG, non-invasive blood pressure, oxygen saturation and temperature.
- b. Medical gas- There should be provision for oxygen supply at the patient bed. There should be at least 2 oxygen outlets per bed.
- c. Suction facility – There should be at least one suction outlet per bed.
- d. Electrical outlets

There should be provision for multiple electrical outlets (both 15 ampere and 5 ampere) at each patient bed to allow multiple equipment to be used in case of emergency. Some of these outlets should be on UPS backup.

e. IV Pumps

a. Infusion pumps

It is desirable to have 2 infusion pumps in a Level 1ICU.

b. Syringe pumps

There must be a minimum of 1 syringe pumps perbed.

Emergency Equipment

a. Crash Cart

There should be a crash cart with emergency medications, airway support equipment along with equipment for manual ventilation.

b. Defibrillator

There should be a defibrillator available in the ICU for monitoring and management of patients.

c. Suction apparatus

There should be provision for a portable suction machine.

d. Invasive Ventilator

There should be provision for at least one ventilator to assist patients needing short term respiratory support. There should be provision for at least one back up ventilator.

e. Noninvasive ventilator

There should be provision for non-invasive ventilation.

f. Emergency oxygen cylinder

There should be provision for supplemental oxygen delivery through an oxygen cylinder.

g. Glucometer

Point of care glucometer should be available.

h. ECG machine (12 channel)

A 12 channel ECG machine should be available.

All equipment should be functional and regularly serviced and maintained as per manufacturers' recommendations. Staff should be trained and competent to use the medical equipment. Appropriate decontamination and sterilization processes should be adopted as per standard guidelines.

3.1.3 Nursing Station

An ICU should have a dedicated space for organizing nursing care services including preparation and dispensation of medications, making treatment and nursing care plans, etc.

3.1.4 Imaging Services

There should be access to imaging services such as x-ray and ultrasound.

3.1.5 Non-Emergency Equipment

a. Wheelchair

b. Patient transport trolley with portable oxygen cylinder

c. Transport ventilator with portable multiparameter monitors, including EtCO₂ monitoring.

d. Over bed table (desirable)

3.1.6 Laboratory Services

The ICU should have access to laboratory services for biochemistry investigations (such as hemogram, kidney and liver function tests, blood glucose, serum electrolytes) and microbiology testing. Arterial blood gases should be available on

round-the-clock basis.

3.1.7 Infection Control

The ICU should implement strict infection control protocols to prevent hospital acquired infections. Relevant guidelines issued by Ministry of Health and Family Welfare and Indian Council of Medical Research should be used to guide infection control policy of the facility and biomedical waste management. There should be hand hygiene stations.

3.1.8 Additional Services

The following services would be required for the working of a level 1 ICU

- a. Pharmacy services: There should be access to a pharmacy
- b. Should have a 24x7 access to blood bank and ambulance services.

3.1.9 Safety

Fire and safety systems and emergency exits should be functional

3.2 Healthcare Personnel

3.2.1 Doctors

ICU specialist

An ICU can be under the care of the following physicians:

1. A level 1 ICU should preferably be under the care of a specialist with a National Medical Council recognized (NMC) postgraduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and with training in intensive care (DM/DrNB) of at least three years with a structured exit exam and certification process.
2. An ICU can also be under the care of a specialist with a NMC recognized postgraduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and a 2 year Post Doctoral Certificate Course or Fellowship in intensive care (PDCC / PDF) or Fellowship of National Board (FNB) in intensive care.
3. A specialist with a NMC recognized postgraduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics/ Emergency Medicine/ General Surgery and a one-year training in Intensive Care can be in-charge.
4. If an ICU specialist with the above qualifications is not available, then an Anesthesiologist, Internal medicine physician, Pulmonary medicine physician, Pediatrician (for care of pediatric critically ill patients), Emergency medicine physician or general surgeon can be in-charge of a level 1 ICU. This is ONLY applicable to level 1 ICU, and not for higher levels of ICU.

5. If an ICU specialist with the above qualifications is not available, then a NMC recognized diploma holder in any of the specialties of Anaesthesia (DA), Thoracic and Respiratory diseases (DTCD) or Pediatric (DCH) with ICU experience of 2 years can be in-charge of a level 1 ICU. This is ONLY applicable to level 1 ICU, and not for higher levels of ICU.

The ICU specialists should devote at least 50% of their professional time in the ICU.

ICU shift duties

The ICU should be manned round the clock by doctors working in shifts. These doctors should have an NMC recognized MBBS degree or more, preferably along with experience of working in an ICU.

Interdisciplinary consultation i.e. access to specialist as per the clinical needs must be available. It would be desirable to have the telemedicine support of an ICU specialist if ICU specialist is unavailable onsite.

3.2.2 Nursing Personnel

Nursing care is an essential and key component of any ICU. Nursing care should be higher than delivered in a ward with a higher nurse: patient ratio. It should be 1:2 to 1:3 for monitored patients depending upon the medical acuity of the patient. It would be desirable to enhance nurse: patient ratio to 1:1 for patients who are unstable or on ventilator. It may be noted that the nurse: patient ratio maybe adapted according to competencies of other allied health personnel as well. Nurses should also be familiar with infection control practices to reduce hospital acquired ICU infections.

3.2.3 Allied Healthcare Personnel

The ICU should have support from various technical support staff as required according to the facility/ hospital such as technician for ABG, portable X-ray along with other machinery and equipment.

3.2.4 Documentation

The ICU should maintain the medical record of the patients including doctor's notes, nursing records, investigation records, consultation records, treatment records etc.

3.2.5 Audit

Periodic audits are desirable.

3.3 Desirable Equipment and Services

While the requirements mentioned above are considered essential, it may be noted that many additional therapeutic and monitoring equipment along with clinical care services may be required for the care of some patients admitted to a level 1 ICU. It would be desirable to have these additional equipment available for use when feasible. A list of some suggested equipment is enclosed below. This list not exhaustive and requirements of many of these equipment in a hospital may vary depending upon the size of the facility, its workload and the clinical expertise and specialty the hospital ICU handles. It is recognized that certain ICUs may be located in remote areas where the scope of services maybe limited due to various logistic

and manpower constraints.

Additional Desirable Equipment and facilities for Level 1ICU

- High flow nasal canula (HFNC)
- Body warming devices
- Sequential compression device [Deep Vein Thrombosis (DVT) prevention pump]
- Access to endoscope, flexible bronchoscope
- Imaging services such as a Computed Tomography (CT) Scan
- Dietician services
- Access to physiotherapy services

Whenever there is a need for enhancing care which requires additional resources that are unavailable in a level 1 ICU, the patient should be transferred to a higher level of care (level 2 or 3 ICU as needed) in ambulances/ transport systems capable of delivering appropriate care to acutely ill patients.

Who should be managed in a Level 1 ICU?

- Patients requiring short-term stabilization and basic support for a single organ system
- Patients who require initial resuscitation before transfer to higher level of care
- Patients with illness requiring close monitoring and greater degree of observation that cannot be done in a ward
- Patients requiring basic interventions to prevent further deterioration in organ function

4.1 Level 2 ICU

Patients requiring more detailed assessment, monitoring and interventions beyond that possible in level 1 ICU should be managed in a level 2 ICU. A level 2 ICU admission is justified for patients with potentially reversible critical illness who require continuous monitoring and active organ support, but do not require advanced extra corporeal or highly specialized tertiary interventions. This can include patients requiring basic monitoring and support of two or more organ systems or advanced support of one organ system or those requiring long-term respiratory support. A level 2 ICU should meet all the requirements of a level 1 ICU and provide additional facilities for advanced levels of care.

4.1.1 Infrastructure Requirements

Location

The location of an ICU should preferably be in proximity / with easy accessibility to emergency department and operation theatres and should have easy and fast access to

imaging and laboratory facilities. It should be such that it facilitates interdisciplinary teamwork between various specialties such as medicine, surgery, anesthesiology and radiology. The corridors in the hospital should permit easy patient movement along with equipment both horizontally on a floor and vertically between floors through appropriate lift(s).

ICU size and infrastructure

Size of an ICU and bed strength can be variable and would vary depending on variables such as number of beds in the hospital; type of services the hospital delivers (such as surgical specialties, medical specialties, trauma services, emergency services) and number of operation theaters etc.

A level 2 ICU is suggested to have 8-12 beds to permit operational efficiency. The physical space around an ICU bed should be sufficient to provide comfortable access to the patient and permit unhindered movement of diagnostic equipment and nursing services. A bed space of at least 150-175 sq ft per bed is recommended. ICU beds with features such as adjustability for height, back, legs, side rails, pressure relieving mattress is essential.

One or more isolation rooms would also be desirable in level 2 ICU.

The facility should meet general infrastructure requirements for an ICU as per standard guidelines issued by the Ministry of Health and Family Welfare (MOHFW).

There should be provision for generator/ UPS back up for emergency power supply. Proper housekeeping with an emphasis on sanitation should be implemented in the ICU. Storage must be clearly defined to permit easy and quick access to relevant supplies. Such areas should be temperature controlled.

4.1.2 Medical Utilities

Bedside Utilities

- a. Multiparameter monitor- Each patient bed must have a multiparameter monitor. The monitor should be able to display heart rate, ECG, non-invasive and invasive arterial/ venous pressure, oxygen saturation, respiratory rate, temperature and end tidal carbon dioxide.
- b. Medical gas- There should be provision for central oxygen supply through manifold/ pipeline at the patient bed. There should be at least 2 oxygen outlets per bed. There should be provision for emergency oxygen cylinders as back up.
- c. Vacuum - There should be at least one vacuum outlet per bed.
- d. Compressed air – There should be at least one compressed air outlet at each patient bed.
- e. Electrical outlets
There should be provision for multiple electrical outlets (both 15 ampere and 5 ampere) at each patient bed.
- f. IV Pumps
 - i. Syringe Pumps

There must be provision to permit use of multiple syringe pumps for patient care during emergency. A minimum of 3 syringe pumps per patient bed should

be available.

ii. Infusion Pumps

There must be availability of a minimum of 1 infusion pump per patient bed.

Emergency Equipment

a. Crash Cart

There should be a crash cart with emergency medications, airway support equipment along with equipment for manual ventilation. Availability of difficult airway equipment such as bougie, stylet, supraglottic airway devices and flexible bronchoscope are required. Access to a video-laryngoscope is desirable.

b. Defibrillator

There should be at least two defibrillators available in the ICU for monitoring and management of patients. The defibrillator must have facility for transcutaneous pacing.

c. Suction apparatus

There should be provision for a portable suction machine in an ICU.

d. Invasive ventilator

Provision of invasive ventilation should be available for at least 50% of the total bed strength.

e. Noninvasive ventilator

There should be provision for non-invasive ventilator for at least 50% of the total bed strength.

f. Emergency oxygen cylinder

There should be provision for supplemental oxygen delivery through oxygen cylinders.

g. Glucometer

Point of care glucometer should be available in an ICU.

h. ECG machine (12 channel)

A 12 channel ECG machine should be available in an ICU.

i. Transport ventilator and transport monitor

It should have a transport ventilator and multiparameter transport monitor with EtCO₂ for transfer of patients.

j. Sterile trays with instruments for various procedures

There should be sterile trays with instruments for various ICU procedures like pigtail insertion, chest tube drainage, wound dressing sets, central venous catheter and

hemodialysis catheter insertion sets, cricothyrotomy, percutaneous tracheostomy and others as necessary (as needed by the case mix and type of ICU)..

k. High flow nasal cannula device

One or more high flow nasal cannula devices should be available in a level 2 ICU.

l. Gastro-intestinal (GI) endoscopy

A level 2 ICU should have access to GI endoscopy services.

4.1.3 Nursing Station

An ICU should have a dedicated space for organizing nursing care services including preparation and dispensation of medications, making treatment and nursing care plans, etc. It would be preferable to have a central monitoring station.

4.1.4 Imaging Services

The ICU should have access to imaging services. These include

a. Portable X ray

There should be 24X7 access to a portable x ray machine within the premises.

b. Ultrasound

There should be 24X7 access to ultrasound machine with appropriate probes capable of point of care examination at the bedside.

c. Access to additional imaging services such as CT scan/ Magnetic Resonance Imaging (MRI).

4.1.5 Non-emergency Equipments

a. Wheelchair

b. Patient transport trolley with portable oxygen cylinder

c. monitoring.

d. Over bed table

e. Air mattress

f. Patient warmers

g. DVT prevention pump

4.1.6 Laboratory Services

The ICU should have access to laboratory services for biochemistry investigations (such as hemogram, kidney and liver function tests, blood glucose, serum electrolytes) and microbiology testing. Arterial blood gases and point of care blood glucose testing should be available on round-the-clock basis. Additional point of care tests appropriate for clinical management are desirable.

4.1.7 Infection Control

The ICU should implement strict infection control protocols to prevent hospital acquired infections. Relevant guidelines issued by Ministry of Health and Family Welfare and Indian Council of Medical Research should be used to guide

infection control policy of the facility and biomedical waste management. There should be hand hygiene stations.

4.1.8 Safety

Fire and safety systems and emergency exits should be functional

4.1.9 Additional Services

The following services would be required for the working of a level 2ICU

- a. Pharmacy Services: There should be access to a pharmacy
- b. Blood Bank and ambulance services - It should have access to 24x7 blood bank services and ambulance services for transfer of patients.
- c. Renal Replacement Therapy: Access to renal replacement therapy should be available

4.2 Healthcare Personnel

4.2.1 Doctors

ICU specialist

An ICU can be under the care of the following physicians:

1. A level 2 ICU should preferably be under the care of a specialist with a National Medical Council recognized (NMC) post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and with training in intensive care (DM/DRNB) of at least three years with a structured exit exam and certification process.
2. An ICU can also be under the care of a specialist with a NMC recognized post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and a 2 year Post Doctoral Certificate Course or Fellowship in intensive care (PDCC / PDF) or Fellowship of National Board (FNB) in intensive care can be in charge.
3. A specialist with a NMC recognized post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine/ General Surgery and a one year training in Intensive Care can be in charge.
4. An Anesthesiologist, Internal medicine physician, pulmonary physician/ Pediatrician / Emergency medicine physician having a NMC recognized postgraduate degree (MD or DNB), with an ICU experience of 3 years or more may be considered as an ICU specialist.
5. If an ICU specialist with the above qualifications is not available, then a NMC recognized diploma holder in Anesthesiology (DA), Thoracic & Chest disease (DTCD), or Pediatrics (DCH) with ICU experience of at least 10 years, who spend more than 50% of their professional time in a multidisciplinary ICU may also be considered as ICU specialists, and can be in-charge of a level 2 ICU.

6. Medical professionals trained in super-specialties (NMC recognized) in pulmonary and critical care medicine, anesthesia organ transplant and critical care, or other super-specialties, who spend more than 50% of their professional time in a multidisciplinary ICU may also be considered ICU specialists. Physicians with a super specialty degree practicing exclusively within a single super-specialty ICU may be regarded as ICU specialist for that subspecialty.

All ICU specialists should devote at least 50% of their professional time in the ICU.

ICU shift duties

An ICU should be manned round the clock by resident doctors working in shifts. These doctors should be postgraduates (NMC recognized degree) from anesthesia, medicine, pulmonary medicine, emergency medicine, pediatrics or surgical specialties. Doctors with NMC recognized MBBS degree working under supervision of post graduate doctors can also be posted in shifts along with them. There should be a roster for duties.

It is desirable that 1 postgraduate ICU resident along with a graduate ICU resident should care for not more than 12 critically ill patients in ICU.

The ICU specialist should preferably be the administrative in charge of an ICU. An intensivist led ICU is labeled as closed ICU. It is recommended that over a period of time the concept of open ICU should go in favor of closed ICUs.

Interdisciplinary consultation i.e. access to specialist as per the clinical needs must be available.

4.2.2 Nursing Personnel

Nurse: patient ratio in a level 2 ICU should be a minimum of 1:2 to 1:3. It would be desirable to have nurse: patient ratio of 1:1 for patients who are unstable or on ventilator. It may be noted that the nurse: patient ratio maybe adapted according to competencies of other allied health personnel as well. Nurses should also be familiar with infection control practices to prevent and reduce hospital acquired ICU infections. Nurses should preferably be trained and certified in critical care skills such as Basic and Advanced Life Support.

4.2.3 Allied Healthcare Staff

The ICU should have support from various technical support staff including medical lab technicians, radiographers, physiotherapist and technical support for its medical equipment and devices from medical technicians / engineers.

4.2.4 Training and Competency

Staff should be trained in resuscitation, infection control protocols and should receive training for continued professional development. Documentation of staff competencies are desirable.

4.2.5 Documentation

The ICU should maintain all records of the patient pertaining to the ICU care including doctors notes, nursing records, investigation records, consultation records, treatment records, etc.

4.2.6 Audit

Periodic audits are desirable.

Whenever there is a need for enhancing care which requires additional resources that are unavailable in a level 2 ICU, the patient should be transferred to a higher level of care (level 3 ICU as needed) in ambulances/ transport systems capable of delivering appropriate care to acutely ill patients.

5.1 Level 3 ICU

Level 3 ICUs are intended to provide comprehensive multisystem organ support, advanced monitoring and preferably to act as referral centers. Such an ICU should be in hospitals that have multiple medical and surgical disciplines included in its services so that it can provide consultations with various specialties as needed in ICU care. They should have all the facilities of a level 2 ICU along with providing infrastructure for more advanced critical care services. Patients with multi-organ failure requiring advanced invasive monitoring, multisystem organ support and complex critical care therapies, with potential need for long term ICU care should be managed in level 3 ICUs. The following section describes the requirements for infrastructure, devices, staffing and patient-care capabilities required to operate a level 3 ICU safely, which are in addition to the capabilities of a level 2 ICU.

5.1.1 Infrastructure Requirements

ICU Bed and Space

Location

The location of a level 3 ICU should preferably be in proximity/ with easy accessibility to emergency department and operation theatres and should have easy and fast access to imaging and laboratory facilities. It should be such that it facilitates interdisciplinary teamwork between various specialties such as medicine, surgery, anesthesiology and radiology. The corridors in the hospital should permit easy patient movement along with equipment both horizontally on a floor and vertically between floors through appropriate lift(s).

ICU size and infrastructure

Size of an ICU and bed strength can be variable and would vary depending on variables such as number of beds in the hospital; type of services the hospital delivers (such as surgical specialties, medical specialties, trauma services, emergency services etc) and number of operation theaters etc.

A level 3 ICU is suggested to have a 8-12 beds to permit operational efficiency. The physical space around an ICU bed should be sufficient to provide comfortable access to the patient and permit unhindered movement of diagnostic equipment and nursing services. A bed space of 150-250 sq ft per bed is recommended for ease of using different devices at bedside. ICU beds with features such as adjustability for height, back, legs, side rails, pressure relieving mattress would be essential. It would be desirable to have body weight monitoring feature in the ICU bed.

One or more isolation rooms should be available.

The facility should meet general infrastructure requirements for an ICU as per standard guidelines issued by the Ministry of Health and Family Welfare (MOHFW).

There should be provision for generator/ UPS back up for emergency power supply.

Proper Housekeeping with an emphasis on sanitation should be implemented. Storage must be clearly defined to permit easy and quick access to relevant supplies. Such areas should be temperature controlled for all medications.

5.1.2 Medical Utilities

All equipment should be regularly serviced and maintained as per manufacturers recommendations. Staff should be trained and competent to use the medical equipment. Appropriate decontamination and sterilization processes should be adopted as per guidelines.

Bedside Utilities

- a. Multipara monitor- Each patient bed must have a multi parameter monitor. The monitor should be able to display heart rate, ECG, non-invasive blood pressure, oxygen saturation, respiratory rate, end tidal carbon dioxide and temperature along with invasive hemodynamic monitoring and other advanced monitoring as required. There should be provision for cardiac output monitoring.
- b. Medical gas- There should be provision for central oxygen supply through manifold at the patient bed. There should be at least 2 oxygen outlets per bed. There should be provision for emergency oxygen cylinders as back up.
- c. Vacuum - There should be at least one vacuum outlet per bed.
- d. Compressed Air — There should be two compressed air outlets at each patient bed.
- e. Electrical outlets
 - i. There should be provision for multiple electrical outlets (both 15 ampere and 5 ampere) at each patient bed to allow multiple equipment to be used in case of emergency.
- f. IV Pumps
 - i. Syringe Pumps

There must be provision to permit use of multiple syringe pumps for patient care during emergency. At least 4 syringe pumps per patient bed should be available.
 - ii. Infusion Pumps

There must be provision to use multiple infusion pumps if needed for a patient. At least 3 infusion pumps per patient bed should be available

Emergency Equipment

a. Crash Cart

There should be a crash cart with emergency medications, airway support equipment along with equipment for hand ventilation. Availability of difficult airway equipment such as bougie, stylet, supraglottic airway devices, flexible bronchoscope and video-laryngoscope are required.

b. Defibrillator

There should be at least 2 defibrillators available in the ICU for monitoring and management of patients. The defibrillators must have facility for transcutaneous pacing.

c. Suction apparatus

There should be provision for a portable suction machine in an ICU.

d. Invasive ventilation

Provision of advanced invasive ventilation with adult/ pediatric modes is suggested for 60 - 100% of the total bed strength depending on case mix. There should be a provision for back up ventilator.

e. Noninvasive ventilation

There should be provision for non-invasive ventilation for 60-100% of the total bed strength.

f. Emergency oxygen cylinder

There should be provision for supplemental oxygen delivery through oxygen cylinders.

g. Glucometer

Point of care glucometer should be available in an ICU.

h. ECG Machine (12 channel)

A 12 channel ECG machine should be available in an ICU.

i. Transport Ventilator and Transport Monitor

A level 3 ICU should have a transport ventilator and transport monitor for intrahospital transfer of patients. The transport monitor should include EtCO₂ monitoring.

j. Sterile trays with instruments for various procedures

There should be sterile trays with instruments for various ICU procedures like pigtail insertion, chest tube drainage, wound dressing sets, central venous catheter and hemodialysis catheter insertion sets, cricothyrotomy, percutaneous tracheostomy and others as necessary (as needed by the case mix and type of ICU).

k. High Flow nasal cannula device

High flow nasal cannula devices should be available in a level 3ICU.

5.1.3 Nursing Station

It should have a dedicated space for organizing nursing care services including preparation and dispensation of medications, making treatment and nursing care plans, etc. There should be a central monitoring station to view patient data.

5.1.4 Imaging Services

There should be access to imaging services. These include the following imaging modalities

- i. Portable X ray
- ii. Bedside point of care ultrasound with echocardiography
(transthoracic and preferably transesophageal echocardiography)
- iii. Additional imaging services such as CT scan/ MRI should be available
- iv. Advanced imaging technique such as mobile digital radiography and bedside portable CT are desirable.

5.1.5 Non-Emergency Equipment

- a. Wheelchair
- b. Patient transport trolley with portable oxygen cylinder
- c. Transport ventilator with portable multiparameter monitors, with EtCO₂ monitoring.
- d. Over bed table
- e. Air mattress
- f. Patient warmers
- g. DVT Pumps

5.1.6 Laboratory Services

The ICU should have access to laboratory services for biochemistry investigations (such as hemogram, kidney and liver function tests, blood glucose, serum electrolytes) and microbiology testing including for fungi. Arterial blood gases and point of care blood glucose testing should be available on round-the-clock basis. Additional point of care tests appropriate for clinical management are recommended.

5.1.7 Infection Control and safety

The ICU should implement strict infection control protocols to prevent hospital acquired infections. Relevant guidelines issued by Ministry of Health and Family Welfare and Indian Council of Medical Research should be used to guide infection control policy of the facility and biomedical waste management. There should be hand hygiene stations.

5.1.8 Additional Services

The following services would be required for the working of a level 3 ICU

- a. Pharmacy services: There should be access to a pharmacy
- b. Blood Bank and ambulance services - It should have access to 24x7 blood bank services and ambulance services.
- c. Renal replacement therapy (RRT): on-site hemodialysis should be available. CRRT capability is desirable.
- d. Provision for both long-term acute care and palliative care.
- e. Maintain policies for admission/discharge/escalation, infection control, equipment maintenance (such as Annual Maintenance Contract), antimicrobial stewardship, morbidity and mortality meetings, and regular audits of key quality indicators like ICU mortality, device-associated infection rates (VAP, CLABSI, CAUTI), etc.
- f. Advanced respiratory support adjuncts such as nitric oxide delivery and high frequency oscillatory ventilation are desirable.
- g. Centralized real-time patient surveillance (integrated EMR/monitoring) with alarm routing and alerts is desirable.
- h. Access to Extracorporeal Membrane Oxygenator (ECMO) and ECCO2R services is desirable.
- i. Provision to deliver other extracorporeal therapies like plasmapheresis, blood purification services if needed is desirable.
- j. Gastro-intestinal (GI) endoscope- A level 3 ICU should have access to GI endoscopy services.

5.1.9 Safety

Fire and safety systems and emergency exits should be functional.

5.2 Healthcare Personnel

5.2.1 Doctors

Medical leadership & physicians

The ICU in-charge should be an experienced intensivist (preferably full-time) responsible for clinical governance, protocols, training and quality. The ICU should have 24x7 in-house physician coverage by senior residents/registrars and consultants on call (ensuring consultant/intensivist oversight available within defined response time) is needed. It is desirable to have a closed ICU model with intensivist-led care and formal multidisciplinary rounds (daily). For highest acuity centers, 24x7 in-house consultant intensivist presence is preferable.

ICU specialist

1. A level 3 ICU should preferably be under the care of a specialist with a National

Medical Council recognized (NMC) post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and with training in intensive care (DM/DRNB) of at least three years with a structured exit exam and certification process.

2. An ICU can also be under the care of a specialist with a NMC recognized post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine and a 2 year Post Doctoral Certificate Course or fellowship in intensive care (PDCC / PDF) or Fellowship of National Board (FNB) in intensive care can be in charge.
3. A specialist with a NMC recognized post graduate degree (MD or DNB) in Anesthesiology/ Medicine/ Pulmonary Medicine/ Pediatrics / Emergency Medicine/ Surgery and a one year training in Intensive Care can be in charge.
4. An Anesthesiologist, Internal medicine physician, Pulmonary physician/ Pediatrician / Emergency medicine physician having a NMC recognized postgraduate degree (MD or DNB), with an ICU experience of more than 3 yrs may be considered as an ICU specialist. The ICU specialist should practice predominantly in the ICU devoted to the care of critically ill patients.
5. If an ICU specialist with the above qualifications is not available, then a NMC recognized diploma holder in Anesthesiology (DA), Thoracic & Chest disease (DTCD) or Pediatrics (DCH) with ICU experience of at least 10 years, who spend more than 50% of their professional time in a multidisciplinary ICU may also be considered as ICU specialists, and can be in-charge of a level 3 ICU.
6. Medical professionals trained in super-specialties (NMC recognized) in pulmonary and critical care medicine, Anesthesia organ transplant and critical care, or other super-specialties, who spend more than 50% of their professional time in a multidisciplinary ICU may also be considered ICU specialists. Physicians with a super specialty degree practicing exclusively within a single super-specialty ICU may be regarded as ICU specialist for that subspecialty.

The ICU specialists should devote at least 50% of their professional time in the ICU.

ICU shift duties

An ICU should be manned round the clock by resident doctors working in shifts. These doctors should be postgraduates (NMC recognized degree) from anesthesia, medicine, pulmonary medicine, emergency medicine, pediatrics or surgical specialties. Doctors with NMC recognized MBBS degree working under supervision of post graduate doctors can also be posted in shifts along with them. There should be a roster for duties. It is desirable that 1 postgraduate ICU resident along with a graduate ICU resident should care for not more than 12 critically ill patients in ICU.

5.2.2 Nursing Personnel

The nurse: patient ratio should be 1:1 for patients on invasive organ support; 1:2 acceptable for less acuity. Staffing must be adjusted by case-mix. It may be noted that the nurse: patient ratio maybe adapted according to competencies of other allied health personnel as well. Nurses should also be familiar with infection control

practices to prevent and reduce hospital acquired ICU infections. Nurses should preferably be trained and certified in critical care skills such as Basic and Advanced Life Support.

5.2.3 Allied Health Care Personnel

The ICU should have support from various technical support staff including medical lab technicians, radiographers, physiotherapist and technical support for its medical equipment and devices from medical technicians/ engineers. Trained dialysis nurses for providing renal replacement therapy should be available. Trained housekeeping, transporters, security, clerical staff and dedicated infection control nurse are required. Availability of perfusionists is required for ECMO capable centers. Dedicated nutritionist, psychologist / access to palliative care and an ICU data-manager for quality metrics and research are desirable.

5.2.4 Training and Competency

A level 3 ICU should preferably act as a centre for research, training and teaching for intensive care medicine. It may serve as a centre for imparting teleconsultation services for level 1 or level 2 ICUs. Staff should be trained in resuscitation, infection control protocols and should receive training for continued professional development. Documentation of staff competencies & periodic audits are desirable

5.2.5 Documentation

It should maintain a record of the patient pertaining to his care including doctors notes, nursing records, investigation records, consultation records, treatment records, etc.

5.2.6 Audit

Periodic audits should be done.

6.0 Conclusions

These guidelines are to provide suggested minimum standards for intensive care unit infrastructure, equipment, and clinical services, based on the available guidelines and recommendations of national scientific societies and institutions like Ministry of Health and Family welfare, Indian Council of Medical Research, and guidelines and literature published by different national and international scientific societies. They are meant to serve as a general framework to support quality and safety in critical care delivery. While these guidelines broadly outline basic clinical and logistic requirements, institutions and practitioners are encouraged to exceed these minimums wherever feasible in the interest of optimal patient care. These recommendations should be subjected to periodic review and revision, to reflect evolving scientific evidence, technological advances, and best clinical practices. Adherence to these guidelines should be interpreted in the context of available resources, institutional capabilities, and individual patient needs.

Abbreviations:

ABG	Arterial Blood Gas
AMC	Annual Maintenance Contract
CAUTI	Catheter Associated Urinary Tract Infection
CLABSI	Central Line-Associated Bloodstream Infection
CT	Computed Tomography
DNB	Diplomate of National Board
DVT	Deep Vein Thrombosis
ECG	Electrocardiography
ECMO	Extracorporeal membrane oxygenation
EMR	Emergency Medical Response
FNB	Fellowship of National Board
HDU	High Dependency Units
HFNC	High flow nasal canula
ICU	Intensive Care Unit
MBBS	Bachelor of Medicine, Bachelor of Surgery
MRI	Magnetic resonance imaging
MD	Doctor of Medicine
MoHFW	Ministry of Health and Family Welfare
NMC	National Medical Commission
PACU	Postoperative Care Units
PDCC	Post-Doctoral Certificate Course
RRT	Renal replacement therapy
UPS	Uninterruptible Power Supply
VAP	Ventilator-Associated Pneumonia

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