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EDITORIAL

Ramping Up India's Critical Care Workforce: Role of NBEMS and the Way Forward

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India has commendably expanded its ICU facilities and critical care beds in recent years. The scaling up continues. High-quality intensive care depends on skilled intensivists, nurses, and support staff. Rapidly developing a critical care workforce has become as important as adding physical ICU beds.

Recognizing India's disease burden, the National Board of Examinations in Medical Sciences (NBEMS) is constantly clambering for specialty training in all fields of medicine, including skill enhancement fellowships (FNB). Respiratory illnesses are a leading health threat. Unsurprisingly, pulmonary medicine and related specialties (e.g., tuberculosis and chest diseases) form a large training pool for critical care. Dozens of medical colleges offer MD or diploma programs in respiratory medicine, collectively producing hundreds of chest specialists annually (for instance, **710** post-graduate seats in "Tuberculosis & Chest Diseases" were listed across India for 2024). This emphasis reflects the high incidence of asthma, COPD, TB, and other respiratory ailments in India. Many of these pulmonary and chest medicine graduates, along with those from anesthesiology and internal medicine, often staff ICUs or pursue further critical care training. However, until recently, there was no dedicated critical care super-specialty pipeline to adequately channel this pool into formally trained intensivists.

NBEMS has stepped in to fill this void, and what more is needed to ensure accessible, quality critical care for India's 1.46 billion people, including large corporate hospitals and specialty centers, now serving as training sites for DrNB Critical Care, spread across the country. This model has allowed quick scaling-up of training capacity.

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Dominant Role of NBEMS in Critical Care Training

A distinctive feature of India's critical care training landscape is the dominant role played by NBEMS in producing specialists. The Medical Council of India (now NMC) only recognized Critical Care Medicine (CCM) as a distinct super-specialty in 2010–2012, & despite recent efforts, there is a constant backlog in the number of DM (Doctorate of Medicine) critical care seats in government medical colleges, remaining limited. This is in sharp contrast to the growing need. NBEMS has responded by massively upscaling critical care training through its DrNB (Diplomate of National Board) programs. Approximately **90% of all critical care specialist training seats** today are under NBEMS (primarily DrNB Critical Care Medicine), with only a small fraction under traditional university DM programs. This essentially means NBEMS is driving nearly all formal critical care training in India.

Notably, many of the NBEMS training programs are based in private hospitals and dedicated critical care centers. Unlike other specialties that are still largely taught in government medical colleges, critical care has seen a rapid expansion in the private sector. NBEMS has leveraged this momentum by accrediting capable private-sector ICUs to run the 3-year DrNB Critical Care residency.

Eligibility for DrNB/DNB in CCM includes MD/DNB in General Medicine, Paediatrics, Respiratory Medicine, Anaesthesia, and Emergency Medicine. Currently, there are 551 DrNB CCM seats in 211 hospitals accredited with NBEMS. Next in the pipeline are courses in FNB Interventional Pulmonology and DrNB Pulmonary Medicine. With the involvement of private critical care centers, trainees continue to get exposure to high-acuity ICUs with modern equipment and a high volume of patients. Overall, roughly nine out of ten new intensivists in India are now products of NBEMS programs – a testament to the crucial contribution of NBEMS in addressing India's need for specialist training in intensive care.

This reliance on NBEMS and private institutions reflects a pragmatic approach to rapidly expanding specialist education outside the traditional. By empowering NBEMS to accredit any qualified hospital (public or private) for specialist training, the country tapped into a much wider network of facilities. **Pulmonary and critical care medicine** training has particularly benefited: many private hospitals with strong pulmonology and critical care departments joined NBEMS's network, increasing training seats in response to the respiratory disease burden. The epidemiological reality – India has a high morbidity of chronic respiratory diseases – is thus directly linked to this training strategy.

Partnerships with the Private Sector and COVID-19 Lessons

India's experience during the COVID-19 pandemic vividly demonstrated the value of public-private partnerships in scaling up both critical care resources and specialist manpower. When COVID-19 struck worldwide, an acute shortage of ICU beds, ventilators, and trained ICU staff was realized. In India, the crisis catalyzed cooperation between the government, NBEMS, professional societies, and private healthcare providers. **NBEMS and private**

hospitals together ramped up the training and deployment of specialists in record time. For instance, numerous private hospitals were roped into the COVID response as dedicated critical care centers, bringing their ICU expertise and staff into the fight. Many of these hospitals also host NBEMS training programs – meaning senior residents and recently qualified DrNB intensivists became a frontline workforce during the pandemic surges.

The pandemic also led to innovative *stopgap training* measures. Recognizing the limited availability of formally trained intensivists, some states began upskilling doctors from other specialties. In Kerala, for example, over 300 non-ICU doctors and 180 nurses underwent short critical care training to help staff ICUs during the surge. Similarly, the Health Ministry and AIIMS launched online crash courses on ICU management for any doctors willing to learn. These efforts, while not a substitute for full specialist training, were crucial in extending critical care to areas with no intensivists. They underscore how flexible, tiered training models can quickly bolster capacity – an approach that could be institutionalized for future needs.

Private sector participation proved indispensable in other ways as well. Private hospitals provide the majority of healthcare in India (over 65%–75% of health services), and they owned much of the existing ICU infrastructure when COVID hit. During the first wave, some regions struggled to integrate private hospitals, but others succeeded via novel partnerships. For example, **Odisha state partnered with private hospitals** to set up 17 COVID-dedicated hospitals on a *public-private partnership (PPP)* model, essentially renting private ICUs for public use. The government paid these hospitals to ensure ICU beds were available to any patient, regardless of occupancy rates. This PPP approach rapidly added critical care capacity in areas that need it.

The key lesson from COVID-19 is that **leveraging all available resources – especially through public-private collaboration – can greatly accelerate the scaling up of critical care services**. NBEMS already embodies this lesson on the education front by training specialists in private centers. During COVID, this model was extended to service delivery: tele-ICU hubs in metro hospitals remotely supported ICUs in smaller towns, private experts worked in tandem with government hospitals, and fast-track training was given to general physicians. Going forward, these examples make a strong case for continued collaboration. The private sector's agility and capacity, when guided by public health priorities and standards, can help bridge gaps in both critical care infrastructure and human resources. However, to sustain such collaborations beyond emergencies, certain challenges need to be addressed – particularly regarding quality control and equitable access.

Challenges in Ensuring Quality and Access

Relying on a rapid scale-up via multiple institutions (many privately run) poses the challenge of maintaining consistent quality and oversight. As India produces more intensivists through NBEMS and other avenues, ensuring they all meet high standards is paramount for patient safety. There is constant focus on quality and accessible critical care, such as:

Accreditation and Oversight

Robust oversight mechanisms are needed to standardize training quality across the diverse array of NBEMS-accredited hospitals. NBEMS has a curriculum and accreditation criteria, but continuous monitoring is essential to ensure that each training center provides adequate case exposure, faculty, and facilities. Similarly, ICUs across the country (in both public and private hospitals) should be subject to common quality standards and audits. The National Medical Commission and bodies like the Indian Society of Critical Care Medicine (ISCCM) ensure the definition of minimum standards for ICU care and staffing.

Training Standards

A critical care specialist in a remote private hospital should be as competent as one trained in a premier institute. Standardized curricula, like the one NBEMS developed, and examination processes help, but there is also a need for uniform clinical exposure.

- Rotations at high-volume centers,
- Simulation-based training,
- Faculty development programs can help equalize training. Alignment between the university (MD/DM) programs and NBEMS programs would ensure that all graduates meet the same competency benchmarks, and
- Continuous medical education and recertification can further ensure skills remain up to date.

Funding

Increasing specialist numbers and ICU capacity will require greater investment. Critical care is resource-intensive. The **National Health Mission** has aimed to improve access to affordable, quality healthcare, and this mission should explicitly include critical care. This would encourage more medical colleges to start DM Critical Care programs and support state hospitals to hire trained intensivists. Investing in nursing and allied health training for critical care is equally important, as ICU care is a team effort.

Reasonable Distribution of Services

Thus far, most advanced critical care facilities (and trained specialists) are concentrated in urban centers. Bridging this urban-rural gap is a major challenge. It will require creative solutions, like rotation of specialists to peripheral centers, tele-ICU networks, and developing "step-down" high-dependency units staffed by physicians with basic critical care training. Ensuring that the expansion of the workforce translates to **easy access for all segments of the population** – not just those in big cities – is a policy priority. This again may hinge on investments to establish ICU units in district hospitals and improve referral linkages.

Joint Accreditation Programme of NBEMS

Launched in 2023, this programme has the potential to make specialists, both trained and those under training, available at the district level.

Addressing these challenges will require coordinated policy action. Regulations must keep pace with the rapid growth in training programs. Going forward, a strong framework for accreditation, faculty qualification, and periodic review of outcomes (e.g., patient

mortality rates, complication rates in ICUs) can help maintain standards.

The NBEMS motto is that **scaling quantity should not come at the cost of quality**, and strategic support is constantly needed to ensure the two grow hand-in-hand.

The Road Ahead: Recommendations for Scaling Up

India's critical care training programs – primarily driven by NBEMS – have made notable progress in building an expert medical workforce. With the rising demand for ICU services across a nation of 1.46 billion people, these efforts are being regularly upscaled and tailored to India's unique needs.