



National Board of Examinations - Journal of Medical Sciences
Volume 1, Issue 1, Pages 1–11, January 2023
DOI 10.61770/NBEJMS.2023.v01.i01.001

EDITORIAL

National Board of Examination in Medical Sciences (NBEMS): Current and Future Trajectories — Part-1

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Accepted: 30-December-2022 / Published Online 7 January 2023

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Introduction

NBEMS is registered as an autonomous organization under Ministry of Health & Welfare, Government of India with effect from 01.03.1982 under Societies Registration Act, 1860 and thereafter started its independent functions. Over last 4 decades, NBEMS has been working hard to achieve the objectives mentioned in the Memorandum of Association and Rules and Regulations of NBEMS. The Government of India established the NBEMS with the objective of improving the quality of Medical Education by establishing high and uniform standards of postgraduate examinations in modern medicine on an all-India basis and utilizing existing infrastructure for capacity building. NBEMS at present conducts postgraduate and post-doctoral examination in approved specialities leading to the award of Diplomate of National Board (DNB), Doctorate of National Board (DrNB) Diploma and Fellow of National Board (FNB) respectively. These qualifications awarded by NBEMS in various broad specialities, super specialties and sub-specialties are approved by the Government of India and included in the first schedule of IMC (repealed) Act 1956 / NMC Act 2019. The equivalence of NBEMS qualifications with the corresponding MD/MS or DM/MCh

awarded under the ambit of NMC has also been defined in the above mentioned NMC Act. The examinations conducted by NBEMS provide a common standard mechanism of evaluation of minimum level of attainment of knowledge and competencies of medical specialities. Moreover, intra country and international comparisons are facilitated with availability of common evaluation mechanism.

The dire need of specialists in the country has been long been felt and NBEMS is contributing to a great proportion of this need through its alumni. The NBEMS has accredited more than 1300 hospitals across the country with almost 100 disciplines of modern medicine. NBEMS is contributing more the 13000 DNB/DrNB/FNB seats to the pool of post-graduate, doctoral and post-doctoral seats in the country.

The very basis of creation of NBEMS was to address the issue of uniform standards of medical education across the country. As on date, the NBEMS has successfully established a robust mechanism of uniform accreditation, uniform standardized education and uniform examination in medical disciplines in the country which have been internationally acclaimed (Fig. 1).

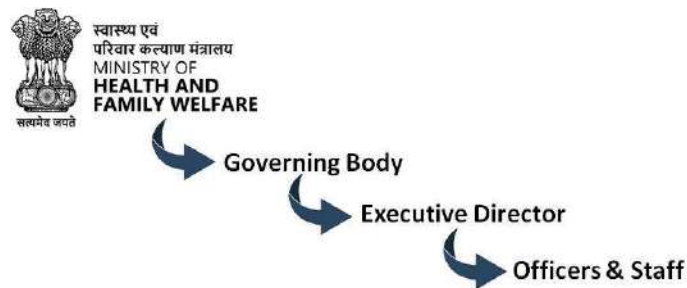


Fig. 1. Organizational Structure of NBEMS

The key objective(s) of NBEMS

- To improve the quality of medical education by elevating the level and standards of postgraduate examinations in modern medicine at the National level.
- To constitute a national resource for assuring quality in evaluation in professional competence in medical disciplines.
- To develop patterns of and to conduct post-graduate examinations ensuring a uniform standard which certifies ability of the candidate thus qualified to practice independently in the specialty.
- To conduct research in methodology of evaluation with a view to designing better methods to evaluate identified areas of professional knowledge, skills and attitudes, and to improve definition of standards of achievement for certification.
- To lay down guidelines and minimum requirements for institutions to be recognised for training of candidates in different specialties.
- To constitute an accreditation committee to evaluate the inspection reports and make appropriate recommendations to the Board (Figs. 2 and 3).

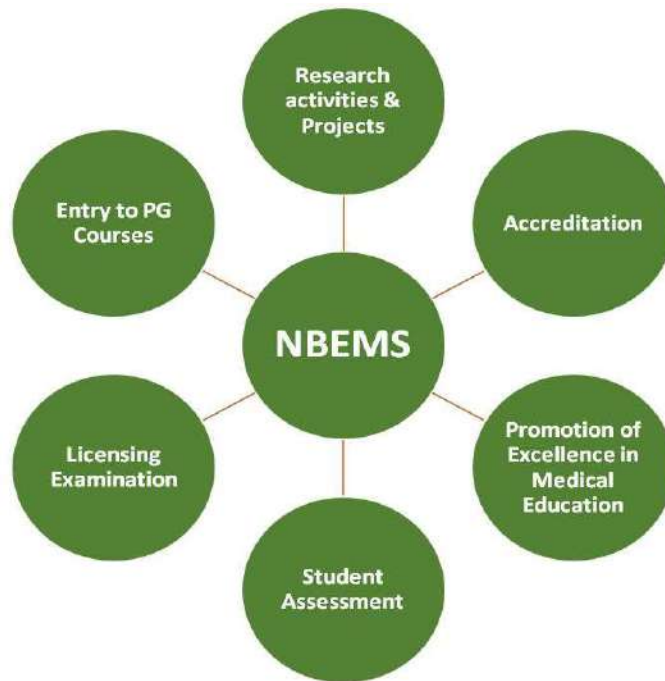


Fig. 2. Scope of functions

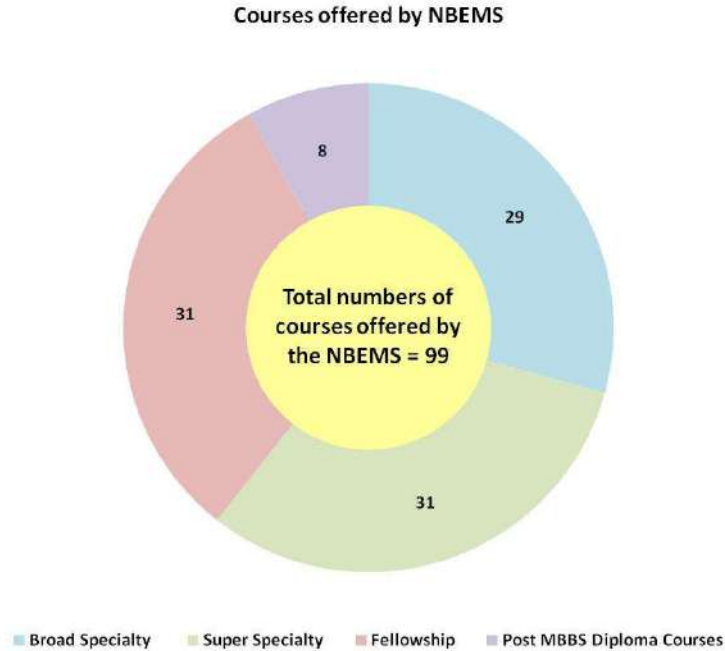


Fig. 3. Courses offered by NBEMS (A total number of courses offered by the NBEMS are 99 which includes 14 courses launched by Hon'ble Union Minister of Health and Family Welfare Dr. Mansukh Mandaviya on the 41st Foundation Function of NBEMS on 14-03-2022).

NBEMS Present Seats Status (Figs. 4-7)

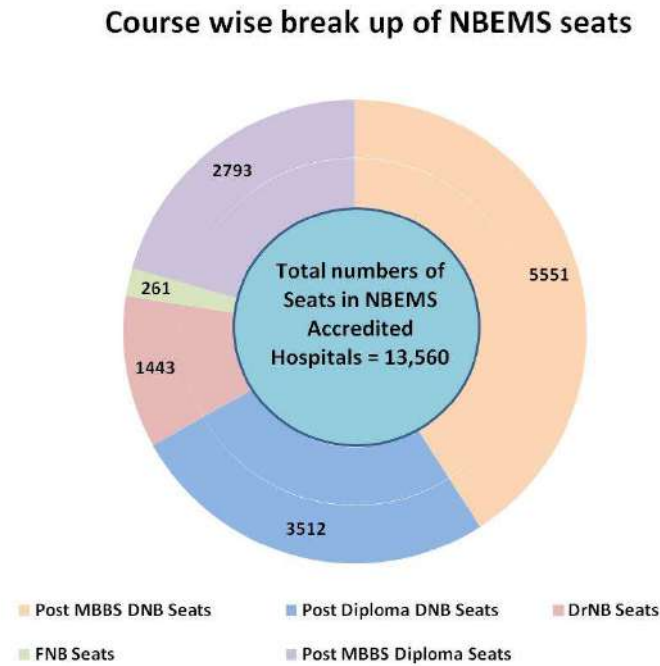


Fig. 4. Course wise break up of Seats in NBEMS Accredited Hospitals (Sept., 2022)

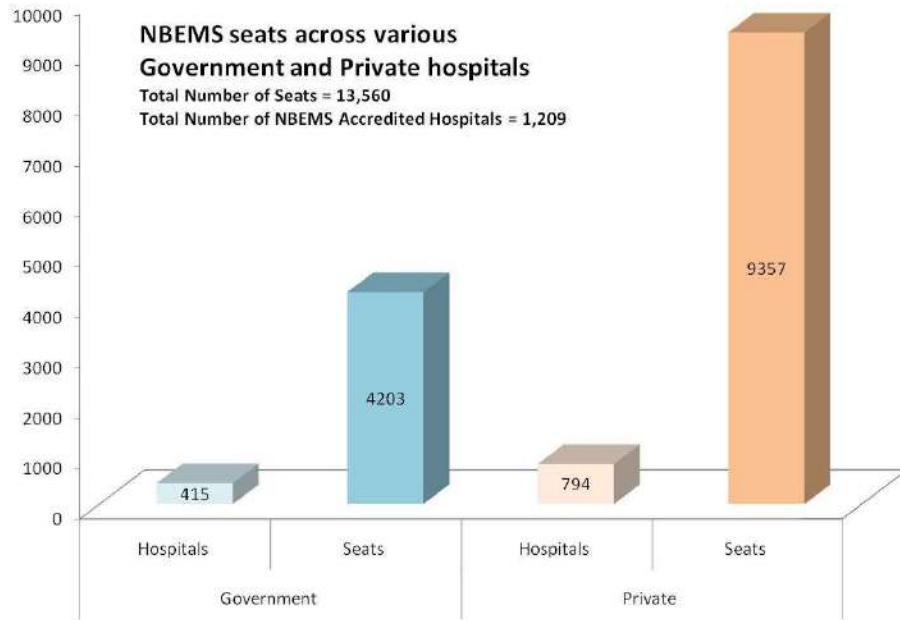


Fig. 5. Break up of NBEMS Seats in Government and Private Hospitals / Institutions

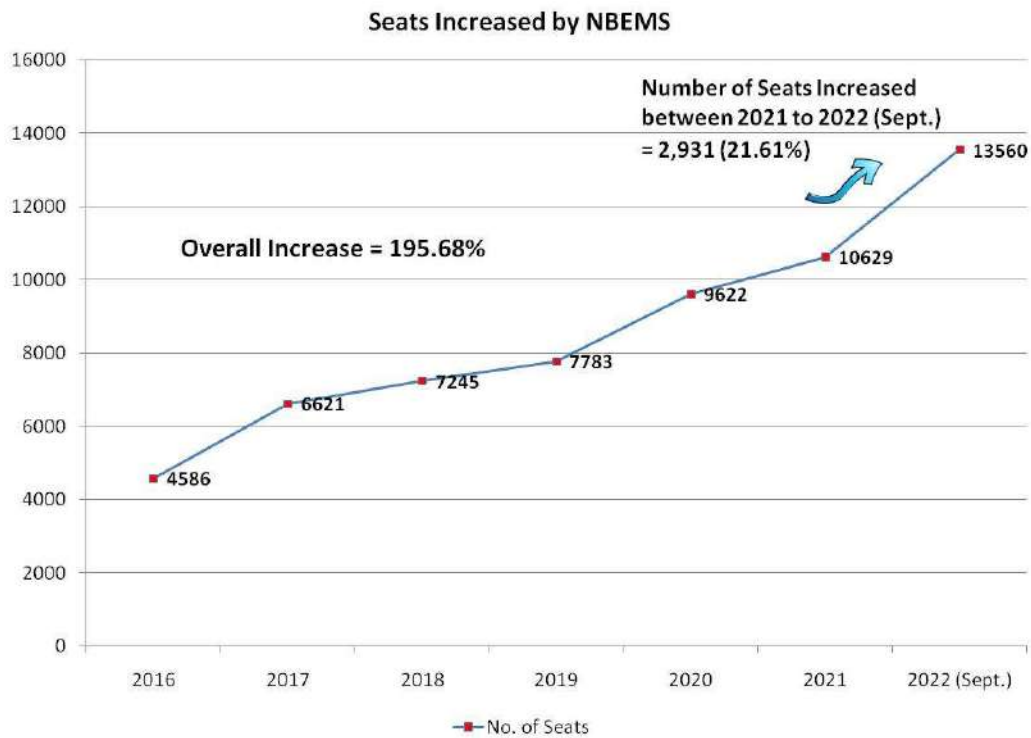


Fig. 6. Enhancement of PG Seats in NBEMS Accredited Hospitals.

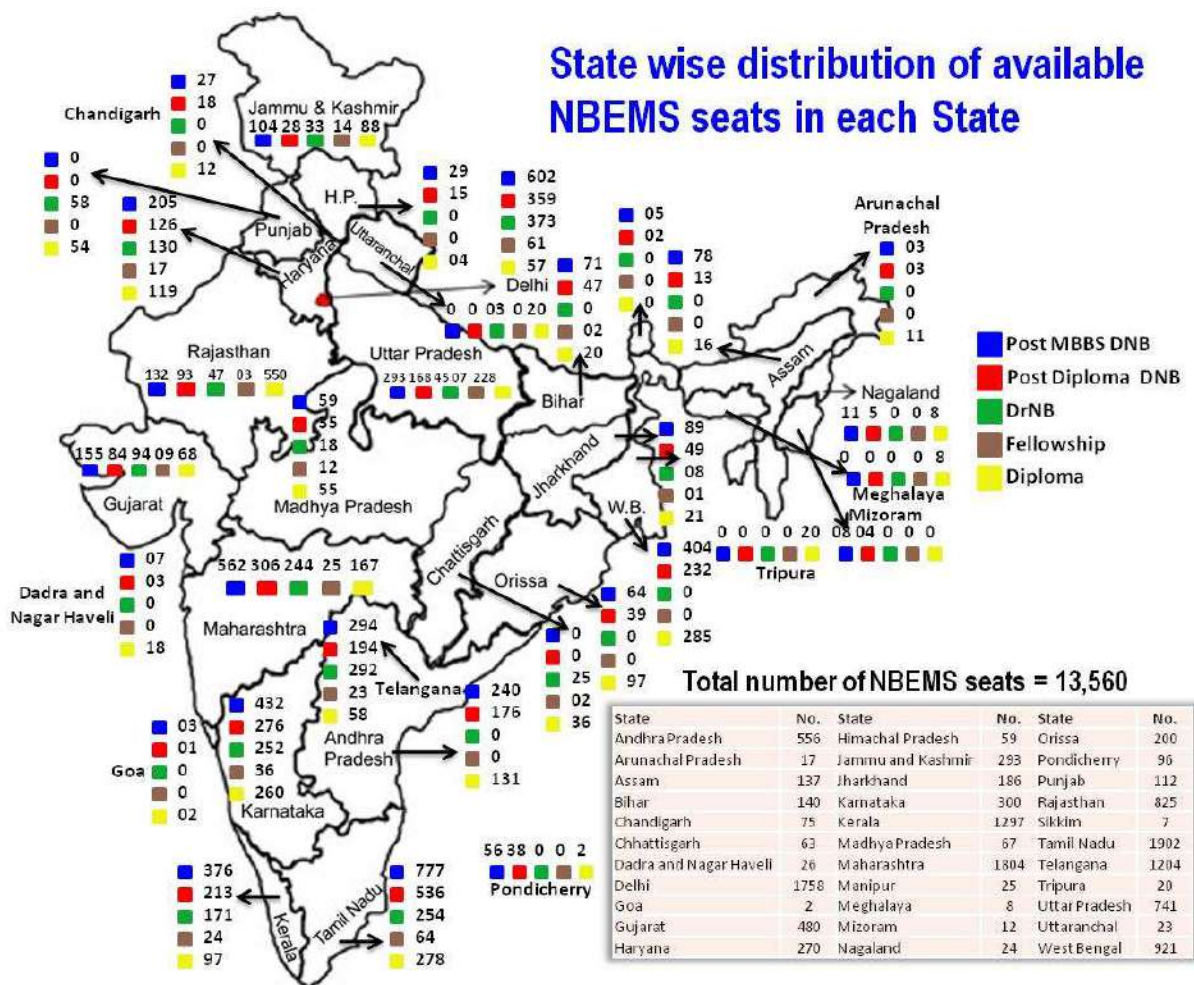


Fig. 7. State wise distribution of available NBEMS seats each Indian state and union territory.

One of the main objectives of NBEMS is to improve the quality of medical education with assurance to quality assessment of capability in medical sciences by establishment of national resource, to ensure a uniform pattern of post-graduate medical examination, research in evaluation methodology, to help and cooperate with the medical institutions with principle evaluation strategy.

Its mission is to use the existing resources and facilitate collaboration of existing medical institutions for the establishment of strong, innovative, low cost post-graduation teaching programme in medical sciences to provide skilled human resources. The vision of NBEMS is to establish the highest standards in medical care and make India a centre of skilled

and specialist doctors with the capability to reduce dissimilarities between urban and rural regions.

Improvement of quality of education

Students are the most important stakeholders. Adequate and relevant training has to be imparted to them in accordance with the curriculum to make them a safe and competent doctor. Some of the measures to be taken by hospitals for improvement of quality of training and education are:

- Allowing adequate hands on experience.
- Availability of adequate education resource material.
- Bedside teaching to be promoted.

- Seminars, lectures and Journal clubs to be held regularly.
- Mock examinations to be undertaken.
- Develop mentor – mentee relationship.
- Promote research and publications; Improvement in quality of thesis.
- Provide an academic atmosphere to attend webinar classes organized by NBEMS.

NBEMS measures for seat enhancement

A. The following steps have been taken by NBEMS for enhancement of NBEMS seats:

- Applications are being invited for all the courses twice a year.
- The application window for submission of applications forms is 2 to 3 months.
- The documentary requirements for the proposed faculty members for DNB courses has been relaxed without compromising on their full-time status. The faculty from the Government Hospitals are being considered for DNB courses on the basis of appointment order. For the faculty in private hospitals, the documentary requirement has been eased and wherever the faculty does not provide Form 26, they have been given an option to submit a Bipartite Agreement / Tripartite Agreement to confirm that they are working in the application hospital on full time basis.

Joint Accreditation

- **Strengthening of Externship model:** It was observed that applications from Government Hospitals for accreditation are

sometimes deficient in case mix. For example, in the specialty of Obstetrics & Gynecology there could be a surplus of Obstetrics load in a given hospital but a sub-optimal Gynecological load. It was observed, that, often applications from Private Hospitals had more of Gynecological cases and less Normal Vaginal Deliveries. NBEMS has come up with a scheme of joint accreditation, in which two hospitals could collaborate by way of MoU to complement each other's case mix. This scheme has the potential to allow many hospitals, hitherto, not participating in PG training now becoming eligible for accreditation.

B. NBEMS is giving opportunity to all accredited departments to apply for seat enhancement (at no extra cost).

- The hospital is required to fill and submit a two page application form for seat enhancement, which can be seen at following link:
- Proforma of seat enhancement (https://accr.natboard.edu.in/online_user/frontpage.php?v=6)
- Application forms would be processed as per minimum accreditation criteria and final decision shall be taken by the competent authority.

Significant steps taken by NBEMS in the last 5 years.

1. The NBEMS has taken proactive steps for conducting various post graduate and

post-doctoral courses and to facilitate accreditation of hospitals, ensuring quality in training. The NBEMS has achieved about 200% increase in the number of training seats in the last six years. In the year 2016 we had 4586 seats which increased to 13560 up to September 2022.

2. To compensate for the closure of NMC led diploma programs in 8 specialties (Anaesthesia, Obstetrics, Paediatrics, Family Medicine, ENT, Orthopaedics, Ophthalmology, Radiodiagnosis, Tuberculosis and Chest Diseases), NBEMS has initiated post-MBBS diploma seats in all the eight disciplines. This is a significant initiative taken by the NBEMS after consultations with NITI Aayog, NMC and Ministry of Health and Family Welfare (MOHFW). This has been notified in August 2020 and these courses are approved by the MOHFW and scheduled in the first notification of MCI Act 1956. The NBEMS envisages, that, these courses will form the task force in primary health centre and district hospitals of the country. It will also encourage the doctors working in government medical institutions towards skill development & ultimately strengthening the efforts of Government of India in its healthcare reforms. It is noteworthy that during its first year more than 2000 seats have already been awarded.
3. The Fellowship Programme for International Students (FPIS) has been launched in July 2020. This is the first of its kind programme at National level in which NBEMS provides the opportunity to foreign medical graduates to take fellowship courses in India. The NBEMS also placed this programme as part of Prime Minister's "Neighborhood First"

scheme. The official mechanism of MOHFW will help NBEMS to offer and collaborate with SAARC countries via this programme to strengthen India's relationship with its neighbours.

Fellowship programmes for International Students:

- 1) Hand and Micro Surgery
- 2) Maternal and Foetal Medicine
- 3) Infectious Diseases
- 4) Interventional Cardiology
- 5) Minimal Access Surgery
- 6) Paediatric Haemato-oncology
- 7) Reproductive Medicine
- 8) Spine Surgery
- 9) Sports Medicine
- 10) Trauma and Acute Care Surgery

The eligibility criteria to grant a seat for Fellowship Programme for International Students to an accredited department for a particular Fellowship Course is as under:

“Hospitals already accredited for FNB programme in a specialty for two seats for at least three years and have undergone three admission cycles are eligible to apply for training of International Students for the fellowship course in the concerned specialty.”

4. To create new courses / programmes, modifications or updates in existing teaching programmes and to introduce reforms on teaching/training and all aspects of conducting an examination. The NBEMS considers the suggestions made by the stakeholders. The NBEMS has created boards for all specialties which also make their recommendations from time to time.
5. NBEMS has designed the standardized curricula in all specified subjects and

- ensures that the NBEMS teaching/training programmes are streamlined.
6. The NBEMS has added 4 Fellowships and 3 DrNB/ DNB programme in the last few years in the essential areas of clinical care such as critical care, oncology, pain medicine and palliative care.
 7. By reserving seats for serving doctors, it has increased the capacity of healthcare system in India.
 8. Similar efforts are underway to implement the sponsored seat programme to enable NBEMS to further increase the number of training seats.
 9. DNB in Hospital Administration: Considering, that, few hospitals were accredited for a course hospital administration, efforts have been made to enhance the number of seats in this subject, too (Table 1).

Table 1. Eligibility criteria for DNB Hospital Administration

Specialty	Minimum Eligible Qualification(s)	Minimum Experience after PG in Minimum Eligible Qualification	
		Senior Consultant	Junior Consultant
Hospital Administration	Primary Degree MBBS and DNB(HA)/MD(HA)/MD(CHA) or MHM/MHA from deemed/Government recognized universities (full time course)	8 Years	5 Years

The Health Secretary to the Union Government has also augmented the efforts of the NBEMS from time to time. An online meeting was held with the Principal Secretaries of all the States, informing them about the programme. The Diploma Courses have been very successful. Several district and sub-district hospitals are now participating in the Diploma Courses. This has provided specialist manpower to the semi-urban / rural areas, and the patients do not have to travel to bigger cities for quality treatment. Diploma Courses are a boon for the State Government, medical fraternity, students and patients alike.

10. Some of the other achievements of the National Board include:

- Successful processing of all MCQ based examination on Computerized platform
- Computerized Merit based Counseling
- National Web Learning Programme
- Launch of E-Doc Log Book
- Development of online Thesis Evaluation and Thesis Repository
- Introduction of OSCE system in several specialties for final exit examination to reduce the impact of COVID-19 pandemic on NBEMS evaluation process (Table 2).

Table 2. Courses Launched in 2022

S. No.	Speciality	S. No.	Speciality
1.	Renal Transplant	8.	Onco - Anaesthesia
2.	Andrology	9.	Transplant Anaesthesia
3.	Minimal Access Urology	10.	Trauma Anaesthesia and Critical Care
4.	Paediatric Urology	11.	Head and Neck Oncology
5.	Musculoskeletal Radiology	12.	Bariatric Surgery
6.	Foetal Radiology	13.	Cardiac Electrophysiology
7.	Paediatric Anaesthesia		

- Strengthen the Complaint Redressal Mechanism for its stakeholders (<https://natboard.edu.in/>)
- Preparation of handbooks for trainees of NBEMS in all the courses (<https://natboard.edu.in/>)
- Focus on developing an innovative accreditation system to offer more seats without compromising the quality.
 - In this context, organization of webinar class have been increased further with the help of digital technology
 - With the inclusion of all NBEMS stakeholders and through a consultative mechanism, the NBEMS is committed to its vision and mission through its standard process.
- **NBEMS Reforms, in brief:**
 - Profound trajectory of growth has been witnessed in the last 6 yrs with a quantum enhancement of PG seats from 4000 to 13000 per year
 - Leadership matters & Hon'ble Minister Dr. Mansukh Mandaviya has personally led the pace of current developments.
 - Constant encouragement is received from Advisor health in NITI Ayog Prof. VK Paul & support of officials in the Ministry of Health & Family welfare
 - NITI Ayog expects NBEMS to double up the seats to 25000 in the next 2-3 years.
- Other revolutionary reforms are underway at the time of going to the press.
- **Joint accreditation would be a key scheme in enhancing the PG seats:**
 - Efforts on Skill Laboratory development are at an advanced stage with special emphasis to impart skill-training to NBEMS trainees.
- **Addressing Poor Case mix:**
 1. By Joint accreditation between TWO hospitals, who are independently ineligible to participate in PG training could now collaborate & take candidates for training.
 2. India has 65000 private hospitals & even if 10% of them participate in accreditation through Joint accreditation, it would result in much augmented hospital space for training. Currently we have 1300 hospitals with 13000 PG seats & our conservative estimate is to increase these numbers by 6 times.
- **Constant endeavour:**
 1. To achieve & maintain high standards of training &
 2. To bring uniformity of training across all programmes in each & every speciality

This is being achieved by:

- Live streaming of WEBINARS through NBEMS technology HUB.
- Contribution of course material by 100 specialty boards & 4000 plus specialists' registry of the NBEMS which include:
 - State of the art lectures
 - Seminars
 - COMPLEX Case discussions with interaction with postgraduates & procedural videos in each specialty.

- **Introduction of:**

- Skill enhancing courses through the soon to be commissioned State of the art National Skill Centre.
- Simultaneous, engagement with 25 pre-identified & intensively monitored centres with an equitably distribution across the country.
- Digitally facilitated & App- enabled, Formative Assessment:
- Digitally Enabled Round Books

- **Faculty development programme:**

- **'Training of Trainers'** through Workshops in:
 - Methodology of Teaching & Research through Clinical Trial Units
 - Participation in C.M.Es with credit points
- Performance based incentivization (after approval by G.B.)
- Conferring performance based academic titles of the National Board - at par with the medical colleges
- Regular brain storming sessions, academic & innovative inputs by the recently created Registry of NBEMS faculty

- The NBEMS, has proposed MBBS programmes in private hospitals. On this subject, the Hon'ble Minister held- first round of talk with the CEOs across the country.

Expanding the NBEMS Teachers base:

- **Teacher Eligibility Qualification (TEQ):**
 - NBEMS follows NMC recommendations on TEQ
 - Rapid expansion of PG courses & an increase in number of seats would require a larger pool of experienced teachers

Conclusion

The ultimate aim of the NBEMS is to provide universal access to high-quality health care services. Some proactive steps have been taken by the NBEMS towards universal quality coverage. NBEMS accreditation programme has been successfully implemented in government and private hospital settings. NBEMS is focusing on a strategy to reach all parts of India including rural, urban, sub-urban and remote areas with affordable healthcare system with the security of affordable & quality health care. The main objectives of NBEMS is improve the quality of medical education with an enhanced capacity & by establishing the national resource. Thus, ensuring a uniform pattern of post-graduate medical examination & research in evaluation methodology.