

Medical and Allied Education in Karnataka

*A Status Report of the Study Group on Medical Education in
Karnataka*

Karnataka Jnana Aayoga
(Karnataka Knowledge Commission)
Government of Karnataka

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FOREWORD

Karnataka has witnessed dramatic growth in the number of educational institutions in Medicine, Dentistry, Ayurveda, Nursing and allied disciplines during the last two decades. The Karnataka Knowledge Commission set up a Study Group to evaluate the current status of medical education and make recommendations for the orderly growth of educational programmes in the State, keeping in mind societal needs as well as the advancement of academic medicine and research. The Study Group consisting of experts who are thoroughly familiar with current developments in medical education in Karnataka and at the national level, held wide-ranging consultations with stake holders in the public and private sector in the State besides conducting deliberations on their own. In this Report they have presented a graphic account of the history of medical education in Karnataka and highlighted several important issues in the training of physicians including objectives, methodologies, training of teachers, research, evaluation methods and above all, sensitisation of physicians to community needs. The Report also contains a survey of the current procedures for the selection of students and fee fixation.

The Study Group has done a service by identifying the strengths and lacunae in the existing set-up for medical education in Karnataka and made extensive and far-reaching recommendations which call for changes at the fundamental and practical levels. For example, while they have sought a shift from a paradigm of medicine to a paradigm of health, they have also recommended the correction of geographical disparities in the distribution of educational facilities in the state and the creation of a cadre for public health. The Group and all those who contributed to their endeavour are privileged to submit this Report for the earnest consideration of the Government of Karnataka.

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INTRODUCTION

Under the Knowledge Commission, a study group on medical education was set up to evaluate the current status and make recommendations for strengthening the areas that come under the purview of medical education. At its preliminary meeting, the members of this study group agreed on the need to have a status document capturing important issues in these areas, existing lacunae, and evolve a set of recommendations for improving medical, dental and allied training in Karnataka.

MEDICAL EDUCATION IN KARNATAKA-THE ORIGINS

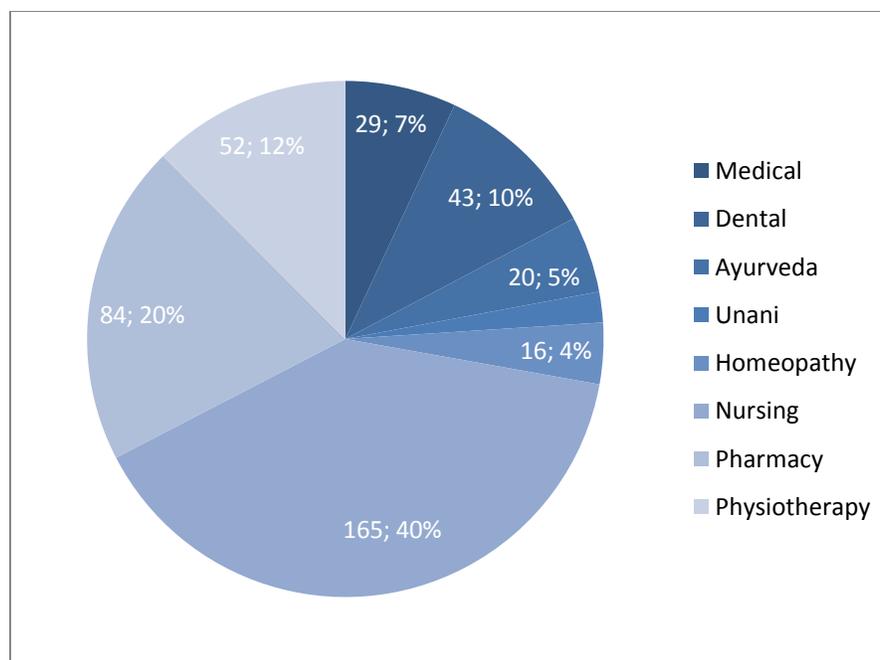
The erstwhile State of Mysore started the medical school in Bangalore in 1917. It was under the control of the senior Surgeon of the Medical Department. A training of four years' led to the Licentiate in Medical practice (LMP) degree. The first Medical College preparing students for the MBBS Course began in 1929 at Bangalore. These two institutions were run for the next six years with common teaching staff. The Medical College was shifted to Mysore in 1930 and the school remained in Bangalore and was subsequently closed in 1956. The Mysore College was expanded in 1940.

The Bangalore Medical College was formed in 1954. Later the Kasturba Medical College at Manipal and the Karnataka Medical College at Hubli were started in 1953 and 1956 respectively. By 1980, there were in all 12 Medical colleges in the state, out of which four were Government and eight were private.

GROWTH IN HEALTH TRAINING INSTITUTIONS

By 1993-94, there were 19 Medical Colleges of which four were Government institutions. By this time there were also a total of 61 Pharmacy colleges including the Government College of Pharmacy at Bangalore and 11 Nursing colleges including the Government Nursing College, Bangalore were functioning in the state. In addition to them, Ayurvedic, Homeopathic and Unani Medical Colleges were set up and have been offering degrees in the respective fields of medicine.

There are as on 29 medical colleges, 43 dental colleges, 20 Ayurvedic colleges, 8 Unani Colleges 16 homeopathy colleges, 165 nursing colleges, 84 pharmacy colleges as well as 52 colleges offering physiotherapy courses.



DENTAL EDUCATION AND SERVICES IN KARNATAKA

The Bhore Committee recommended 1 dentist per 4000 population. Subsequent review by the DCI and other bodies recommended 1 dentist for every 20,000 population.

The first government dental college was started in Bangalore in 1958 with an intake of 5 students. The first private dental college was started in Manipal in 1965. In the next 30 years, there was a spurt of dental colleges in the private sector. As on there are 43 dental colleges in Karnataka with an intake of 2950 as against an All India intake of 22740 Presently about 1200 BDS graduates qualify each year.

Prior to 1996, the dental colleges of Karnataka were affiliated to various different universities in the state. With the establishment of the Rajiv Gandhi University of Health Sciences (RGUHS), all dental colleges except the two at Manipal and Mangalore came under the aegis of RGUHS. One of the objectives was to develop a uniform curriculum, syllabus, training and evaluation of all the dental colleges. Recently many of the colleges, including the Siddharta Dental College, Tumkur, JSS Dental College, Mysore, Yenepoya Dental College and AB Shetty Dental College, Nabgakire have come under deemed university status.

ISSUES IN MEDICAL TRAINING

Since medical institutions have been in existence earlier to the other disciplines, the discussion in the ensuing section is in the context of medical education. Many of the issues concerning medical education are likely to be relevant to other disciplines as well.

- **Objective of undergraduate medical training**

The objective of undergraduate medical training is to train a basic doctor, who is fully conversant with the health problems of the community and is trained in preventive, promotive, curative and rehabilitative aspects of health care. The idea was to produce a socially relevant and acceptable physician. Training is regulated by MCI regulations. The MCI regulations are quite exhaustive; however, they need to be modified, to make them more meaningful and effective. Within the MCI framework, a lot of changes could be brought about in the undergraduate training program.

- **Developing human resources to improve efficiency and effectiveness of health services**

One of the primary objectives of medical training is to produce doctors who will contribute to development of health services at various levels. However, when the existing health services are examined, a vast majority of program officers at the district level have never had any formal training in public health. Being of certain specialties, they do not have an adequate idea of the public health dimensions of diverse diseases. The earlier practice of the Government of Karnataka to appoint DPH trained individuals for government health services has been revoked.

- **Training Methodologies**

Although most professional training bodies including the MCI recommend newer methodologies, most institutions still adhere to conventional methodologies which focus on theoretical knowledge acquisition, rather than focus on skill development, sensitization to the needs of the community and country and a good understanding of policy and programming within the country. Learning by doing and learner-led learning rather than teacher led

teaching have been shown to be very effective methods of pedagogy, particularly within medical education. It is encouraging that concepts of e-learning, e-library are in the process of implementation in the state and the e-library concept of HELINET at RGUHS has been successful. Modules for e-learning and teaching should be developed and supplement classroom teaching.

- **Training of Teachers**

Teachers of medical, dental and allied specialties need to keep themselves abreast of developments within their respective areas to be able to effectively guide their students. In this era of information explosion and access to a huge amount of often conflicting information, the teachers have an added responsibility of helping students develop the art of clinical appraisal, developing evidence based approaches to case management, and encouraging students to develop a much wider appreciation of the subject right from history to recent developments. This necessitates teachers to constantly update their own knowledge and skills.

- **Exposure to research**

Medical research is often a neglected topic in medical colleges. Very often, shortage of medical faculty, over burden of clinical responsibilities, heavy teaching load and lack of research facilities are cited as major limiting factors. Although MD courses mandate a dissertation as part of the course fulfillment, it is noticed that many of the students, since they do not have any experience or exposure to research in their undergraduate training, do not pick up the necessary research and writing skills that will be important in their subsequent academic careers.

- **Evaluation of training**

The final qualifying examination for undergraduate and post-graduate medication is regulated by the MCI norms. However, in many settings, these are still heavily based on theoretical knowledge and assessment of trainee skills is very subjective. There is hence a lack of uniformity across different universities both within the state and within the country. Candidates are not always sure how to prepare, evaluations are often not standardized and this leads to various

problems subsequently and the university from where the candidate qualifies may sometimes be the determining factor for further career opportunities or lack of these.

- **Post Graduation**

As the number of post graduate seats is limited, very few people have the chance to specialize. This leads to a lot of resentment and frustration. Also students are so keen on studying for post graduate entrance examinations that they do not focus on skill building adequately during their internship.

- **Adequate Sensitization to Community Needs**

Adequate and meaningful experience of working in the community will provide the qualified physicians with the skills, interest and commitment to the needs of the community. Such exposure must be carefully planned, properly supervised and the trainee's skills properly evaluated.

SELECTION TO MEDICAL COURSES

The Karnataka Common Entrance Test is conducted since 1984 for the purpose of determining the eligibility / merit, for admission of Karnataka candidates to full time courses in Medical, Dental, Ayurveda, Unani, Homoeopathy, Naturopathy & Yoga, Engineering, Technology and Architecture courses, in institutions within the State of Karnataka. As of 2008, the CET came to be known as the Karnataka Examination Authority, conducting all examinations on behalf of the Education Department of the State.

A parallel entrance test is held by the Karnataka Private Medical & Dental Colleges Association under the name of Consortium of Medical, Engineering and Dental Colleges of Karnataka (COMEDK). This is independent of the government conducted CET and is used to fill management quota seats of certain engineering/medical/dental colleges in Karnataka.

Notification No HFW 399 MPS 2005, dated 8/12/2006, Gazette notification authorized Rajiv Gandhi University of Health Sciences to conduct Entrance test for medical and dental degree and diploma seats in Government and Private medical/dental colleges in the state.

Notification No HFW 473 MPS 2008 dated 28/5/2009

Determination of intake and publication of the additional seat matrix of PG Medical Degree and Diploma courses in Government and private medical/dental colleges for the academic year 2009-2010.

Government of Karnataka in exercise of powers conferred under Section 45 of Rajiv Gandhi University of Health Sciences Act 1994, and sub section (1) and (2) of the Karnataka Conduct of Entrance Test for selection and admission to Post Graduate Medical and Dental Degree and Diploma Courses Rules 2006 issued an order reflecting the above seat matrix in post graduate medical and dental colleges.

A consensual agreement has been entered between the Government of Karnataka and the Karnataka Private Medical and Dental College Association in the State (in pursuance of Act 15/2006) for regulating admission to post graduate courses in the professional colleges for the academic year 2009-2010. The breakup of seat allocation is as follows:

- 33% of total seats earmarked as government seats in private non-minority medical and dental colleges.
- 20% of total seats earmarked as government seats in private minority medical and dental colleges in the state.

Of the total government post graduate seats, 30% earmarked for in-service candidates. Out of the 30% post graduate seats available for the in-service candidates the following percentage of seats has been reserved as follows for the academic year 2009-2010.

Department	PG Medical degree	PG Medical Diploma	PG Dental degree
Health and Family Welfare	77%	82%	74%
ESI	10%	10%	10%
Mahanagara Palike	5%	3%	3%
Board and Corporation	2%	2%	2%

Government autonomous institutions of medical/dental sciences	6%	3%	11%
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In pursuant of Section 5 of the Act, as per the consensual agreement reached between the government and private unaided professional educational institutions, 42% of the government seats for medical, 35% for dental in non-minority private unaided educational institutions and 27% of government seats for medical and 25% of government seats for dental in private minority unaided professional educational institutions are earmarked for the candidates selected by KEA to medical and dental courses for the academic year 2009-2010.

SELECTION AND TRAINING FOR DENTAL COURSES AND ATTEMPTS TO ENHANCE DENTAL PROFESSIONAL MANPOWER

- **Training**

BDS and MDS courses are taught as per requirement of RGUHS and DCI norms. The dental course orients its emphasis to clinical training which starts from the III year BDS itself. The DCI has prescribed minimum standards as per the 1993 Act. BDS and MDS curricula which were framed in 1983 have been updated following workshops conducted by the DCI and RGUHS. New regulations for BDS have been developed in 2008 and for MDS in 2009.

The Dental Council of India (1999) aims and objectives of undergraduate training curriculum are as follows:

The dental graduates during training in these institutions should acquire adequate knowledge, necessary skills and reasonable attitudes which are required for carrying out all the activities appropriate to general dental practice involving the prevention, diagnosis, treatment and anomalies of diseases of the teeth, mouth, jaws and associated tissues. The graduate should also understand the concept of community oral health education and be able to participate in the rural health care delivery programs existing in the country. The DCI focuses on the knowledge and understanding, skills and attitudes the graduate needs to develop.

For post-graduation, it outlines the need of various postgraduate courses including:

- MDS to basically produce teachers for the various dental institutions in the country and recommends 10 areas of specialization.
 - Diploma to produce a specialist clinician.
 - Certificate course in clinically oriented courses aimed at producing a specialist clinician in certain areas.
 - MSc to produce teachers in the areas of dental materials and oral biology in order to encourage basic research in these areas.
- **Continuing Professional Education in Dentistry (CPED)**

The DCI recommends CPED in order to:

Improve professional competence among dental professionals by providing opportunity to gain knowledge regarding the scientific background, clinical procedures, material handling and other related fields ultimately benefiting the patients by enhanced competence.

Provide information regarding the latest 'know-how' for better patient management and quality health care by making the professionals acquainted with policy decisions of the DCI and other national bodies.

It recommends execution of the CPED by the DCI, through state dental councils and through the scientific activities of the various specialty and professional associations.

It recommends a grading for CPED accreditation.

The Continuing Dental Education Regulations 2007 was notified by the Government of India on September 13, 2007. The regulations state that while eventually the requirement of CDE points will become essential for licensure, the first phase for 5 years may be construed as voluntary and efforts should be made to involve all practicing dentists registered with the state dental council.

The Guidelines for Meaningful and Effective Utilization of Manpower at Dental Colleges for Primary Prevention of Oro-dental problems in the country (GOI-WHO Collaborative Program 2006-2007) makes the following recommendations:

- ***A greater role of dental college administration in primary prevention by:***
 - ✓ Adopting a population covering 3 PHCs in rural areas.
 - ✓ Coordinating and liaising with local government officials for health promotion and service provision.
 - ✓ MOU between the college and district administration.
 - ✓ Monitoring by the college of the prevention program on a regular basis.
 - ✓ Short and long-term goals with reference to activities planned for oral health promotion in the area.
 - ✓ Faculty development and reorientation programs with reference to primary prevention and community intervention.
 - ✓ Collaboration with other health programs runs by government.
- ***Faculty and student involvement through:***
 - ✓ Having a core group of faculty responsible for the program.
 - ✓ Having faculty from clinical and non-clinical departments.
 - ✓ Involvement in training of health workers in oro-dental prevention awareness generation, identification of common dental problems and awareness.
 - ✓ Training of NSS workers and students.
 - ✓ Multidisciplinary faculty involvement.
 - ✓ Projects awarded to students and community dentistry, demonstrations, group discussions, seminars, clinical work, training in counseling patients.

- ✓ Motivate the students to think on the lines of primary prevention and actively involve them in the activities through field postings, surveys, screening and community intervention.
- **Role of the DCI/Government of India**
 - ✓ UG curriculum to reflect field training experience.
 - ✓ Government to frame policies and strategies for oral health promotion incorporated into the National Health Policy.
 - ✓ National Program on oral health.
 - ✓ State government before issuing essentiality certificates must ensure that colleges are delivering services at the community level and ask for reports twice a year.
- **Enhancement of professional dental manpower at the district and taluk level**

The Government of Karnataka has created nearly 350 posts of dental surgeon with dentists at below taluk, taluk and district levels. However, there is still a significant shortage of manpower and attributed reasons include a large number of qualifying graduates being women and lack of infrastructure at the taluk and below taluk levels.

FEE FIXATION FOR PROFESSIONAL COLLEGES

- Capitation fees collection was in practice in professional colleges till 1988.
- Karnataka passed a bill in 1989 abolishing capitation fee.
- Honourable Supreme Court of India in a landmark judgment in 1993 evolved a system of admission policy and fee making professional education affordable.
- The Supreme Court set up a full bench Fee Fixation Committee.
- Government of Karnataka constituted the Justice Murgod Committee along with subject experts to fix the fee depending on the infrastructure, faculty available in the institution and the expenditure incurred with the motto of equal fee to be paid by all students.

- Government of Karnataka promulgated an Act (Act 15/2006) called the Karnataka Professional Educational Institutions (Regulation of Admission and Fixation of Fee) (Special Provisions) Act 2006.
- Subsequently a consensual agreement signed by the private management and government (COMED K) was approved by the Honourable Supreme Court as guidelines for admission and fees.

- **Fee Structure for Post Graduate Courses**

In the Annexure XIV to Government Order NO HFW 14 MPS 2009, dated 9/4/2009, the fee structure for post graduate students has been fixed as below for 2009-2010 (in pursuant of Section 4 of Act 15 of 2006):

- ***Fee Structure for Post graduate students selected under the 33 % Government seat quota in private medical colleges***

Course	Total Fee (100%)	Fee after reduction of 33%
1. Medical		
a) Degree		
Clinical	Rs. 4,56,000	Rs. 3,05,000
Para Clinical	Rs. 1,14,000	Rs. 76,000
Pre Clinical	Rs. 57,000	Rs. 38,000
b) Diploma		
Clinical	Rs. 3,42,000	Rs. 2,29,000
Para Clinical	Rs. 1,14,000	Rs. 76,000
2. Dental Degree		
Clinical	Rs. 2,34,000	Rs. 1,56,000

- **Fee Structure for Post Graduate Students selected under 20% Government Quota seats in Karnataka Religious and Linguistic Minorities Professional Colleges during 2009-2010**

Course	Total Fee (100%)	Fee after reduction of 33%
3. Medical		
c) Degree		
Clinical	Rs. 3,45,000	Rs. 2,76,000
Para Clinical	Rs. 95, 000	Rs. 76,000
Pre Clinical	Rs. 47,000	Rs. 37,600
d) Diploma		
Clinical	Rs. 2,76,000	Rs. 2,20,800
Para Clinical	Rs. 95,000	Rs. 76,000
4. Dental Degree		
Clinical	Rs. 1,92,500	Rs. 1,54,000

- **Fee Structure for Students in Government Colleges**

Course	Total Fee
1. Medical	
a) Degree	
Clinical	Rs 20,000
Para Clinical	Rs 10,000
Pre Clinical	Rs 5,000
b) Diploma	

Clinical	Rs 20,000
Para Clinical	Rs 10,000
2. Dental Degree	
Clinical	Rs. 20,000

- *Fee Structure For Undergraduate Medical And Dental Courses For The Academic Year 2009-2010*

Courses	Tuition fee in Government colleges	Tuition fee for government seats in non-minority private unaided professional educational institutions	Management Quota Fee for non-minority private unaided professional educational institutions (maximum)	Tuition fee for government seats in minority private unaided professional educational institutions	Management Quota Fee for minority private unaided professional educational institutions (maximum)
MBBS	Rs. 16,700	Rs. 35,000	Rs. 3,25,000	Rs. 35,000	Rs. 3,25,000
BDS	Rs. 14,400	Rs. 25,000	Rs. 2,30,000	Rs. 25,000	Rs. 2,30,000

Reference: Annexure VII to Government Order No HFW 473 MPS 2008, dated 28/05/2009

STRENGTHS AND LACUNAE IN THE CURRENT MEDICAL EDUCATION SCENARIO

Strengths
<ul style="list-style-type: none"> ▪ Increase in health institutions in Karnataka with quantitative expansion from both private and government investment. ▪ Establishment of the RGUHS. ▪ Establishment of the State Task Force on Health and Family Welfare 2001. ▪ Formulation of the Karnataka State Integrated Health Policy. ▪ Network of quality HHRD centres in the state (including NIMHANS, ISEC, IISs, NLSUI, IIMB, IHMR, civil society, training and research institutions from the non-governmental sector in Bangalore and similar networks in other parts of Karnataka). ▪ Development of a common entrance test. ▪ Fixation of fee structure. ▪ Development of educational facilities in several allied medical disciplines in the state. ▪ Several notable attempts e.g. by RGUHS to improve training, develop guidelines and streamline evaluation procedures.
Lacunae
<ul style="list-style-type: none"> ▪ Several areas in the state still remain underserved in respect to manpower development in health specialties. ▪ Objectives of medical education still need to be properly realized. ▪ Commercialization (with consequences like corruption, influence of lobbies, fall in education standards, examination malpractice, movement of staff from government to private sector, unethical practices like the same faculty working simultaneously in two colleges and being shown full-time in both. ▪ The excessive preoccupation with seat allocation and fee structure has probably diminished the attention given to the quality of training and supervision. ▪ Different entrance exams for UG and PG by different universities and both central/state leads to difficulties and inconsistencies.

- Curriculum content and pedagogy need to be reexamined and reformulated to be in line with current knowledge and state of art.
- Teachers are not actively encouraged to improve their training skills and there is also a lack of faculty development schemes.
- Evaluation systems also need to be uniform and assess skill acquisition and value based learning rather than only theoretical knowledge.
- Students' exposure to research is far from satisfactory.
- Internship is not optimally used to build up skills and sensitivities to community needs.
- Despite the expansion in training, community medical care is still far from satisfactory.
- Physicians providing medical services in the government sector are poorly trained in public health.
- Schism between the medical education and health directorate and academic isolation of the latter.
- Lack of public private partnerships for training and community care.
- The focus has been primarily on core medical disciplines and needs to shift to Health Human Resource Development (HHRD).
- Many inequities in HHRD leading to underdevelopment of sectors like AYUSH, inadequate training in women predominant health professions like nurses, technicians, MPWs and anganwadi workers.

RECOMMENDATIONS

It is recommended that the scope of the subgroup on medical education and human resource development needs to be expanded from being only a medical education policy to including the entire health team comprising doctors, nurses, pharmacists, dentists, AYUSH and other practitioners, ANMs and multipurpose workers, Anganwadi workers, ASHAs and a range of allied health professionals including technicians and other categories both in the hospital and primary care settings. There needs to be a balance and reorienting in the training of all members in the health team with the same objectives of equity, quality, integrity, social relevance and national health goals.

There is a need for a paradigm shift in the system:

- From an Education paradigm to a Knowledge paradigm.
- From a paradigm of medicine to a paradigm of health.
- To drive agenda of economic development through knowledge.
- To position Karnataka as an innovative and proactive leader of not just reform but also of development.
- To encourage innovative and out of the box thinking using holistic, integrated and multidisciplinary approaches that build on experiences of a wide range of quality HHRD institutions from government sector, private sector, NGO sector and civil society.

Specific areas meriting attention:

The recommendations that follow are with the following objectives:

- Building excellence in the educational system.
- Promote creation of knowledge in all formal and non-formal educational, scientific and knowledge institutions in Karnataka.
- Improve leadership and management of educational and knowledge institutions.

- Promote knowledge applications in different areas through inter-sectoral dialogue.
 - Make government an effective service provider to the citizen.
 - Leverage information and communication technologies to enhance governance and improve connectivity.
 - Devise mechanisms for exchange and interaction between knowledge systems in the global area.
- ***Large parts of the state still underserved***

While it is commendable that the state has approved several health institutions, a glance at the spread of these institutions reveals that the distribution is very inequitable with urban cities like Bangalore, places like Mangalore/Manipal which have had a long tradition of private health institutions are saturated whereas there are several underserved parts of the state. Unchecked and improperly planned expansions should be discouraged and the state needs to have a blueprint of the required health institutions based on the populations in each district, manpower and health service needs. It is a reality that many students go abroad largely because of limited opportunities in the country. Methods of retaining them include enhancement of post graduation, making service in the primary care settings more attractive by improving amenities and remuneration more attractive in this category.

- ***Realizing training objectives***

The Bhole Committee in 1946, has introduced the concept of basic doctor, “social physician”, who is adept in not only providing treatment for ailments, but could be responsible for health promotion and disease prevention.

The MCI also suggests that every medical college must have primary health centres under the direct administrative control of the medical college. It is therefore, suggested that the Government of Karnataka should issue a Government order to Zilla Parishad and village panchayat, so that this transfer of primary health centres becomes a reality.

The undergraduates and interns could be trained more effectively outside the class room, in the community. It is only then they would be able to appreciate the health problems of the people and find solutions for the same.

The training would be mentored and monitored by the faculty and staff of the medical college. The people would continue to receive health care free of cost. Certainly there will be an improvement in the quality of care, with the backup of the medical college.

- ***Selection and Evaluation***

A single national medical entrance can overcome these problems. The timing of post-graduate selection exams is addressed in the recommendation on internship. With more and more deemed universities conducting their own examinations, so many categories of colleges-aided/non-aided, religious, minority etc etc, care must be taken that the process of selection, training and evaluation is not compromised. One too often hears stories of wards being set up overnight for MCI inspection, faculty hopping from one college to another because of institutional needs prior to MCI inspection and the lure of higher remuneration, and malpractice during examinations. This creates an undesirable environment for learning and training, and allows both financial and moral corruption. A single uniform and transparent system is needed, preferably for the entire country.

- ***Need to examine curriculum content and teaching methodologies***

- **Course content**

New courses need to be introduced in humanities, medical ethics, pain and palliative care, care of terminally ill, management techniques, use of computers and software relevant to medical field and history of medicine.

- **Teaching learning methods**

More emphasis should be given to student seminars, group discussions, field visits, integrated teaching and problem based learning.

- **Value based education**

The spirit of community service needs to be inculcated among the future physicians. Students could be encouraged to organize themselves into a coherent, vibrant and motivated group to take up social welfare activities. They could participate in blood donation camps; participate in rescue, relief and rehabilitation during natural disasters; participate in national immunization days, anti-smoking campaigns, visit old age homes, orphanages, schools for the blind or schools for the physically and mentally challenged individuals. These visits would make our students to become more humane and empathetic and certainly would add value to the training.

- **Evaluation**

Periodic internal evaluation and a common nationally applicable scheme of evaluation need to be evolved for each specialty. Professional bodies in conjunction with the MCI must jointly formulate such evaluations. Assessments of candidates must be as objective and fair as possible and focus on assessment of their clinical skills, decision making skills, and how they can safely and effectively manage patients in their care.

- **Research**

During the undergraduate training, we need to equip the students with concepts of research methodology, through well organized orientation programs and faculty mentored research, on the lines of what ICMR has initiated.

- **Faculty development scheme and continuous professional education**

Medical colleges must attract good faculty and retain these faculty members. We suggest that every medical college should have a faculty development scheme in place.

While the colleges follow the MCI regulations for recruiting the faculty members, it is necessary for the institution to create an environment in which the faculty is in a position to take up the responsibility of teaching, patient care and medical research and also instill the values of compassion and care among the students. In short, they become the role models for the students.

Medical teachers should be paid well. It is only then you will attract specialists to join as medical college faculty. Otherwise, there will be a perpetual shortage of medical teachers. Given the fact that medical teachers start their career very late and the complexity of the job functions that they perform in shaping the doctors of tomorrow, it is important that we need to look at the remuneration package that is commensurate with their qualifications, duties and responsibilities.

The following are some of the other recommendations for faculty development;

- ✓ Granting sabbatical leave for pursuing higher studies/professional training
- ✓ Provision for attending national /international conferences and workshops
- ✓ Incentives for research
- ✓ Fast track promotions for deserving faculty
- ✓ Creation of necessary infrastructure for research
- ✓ And more importantly, a scheme of training medical teachers in education technology.
- ✓ Increasing the retirement age to 65 years
- ✓ Increasing the number of post graduate seats in medical colleges especially in basic sciences specialties. This will overcome the problem of faculty shortage that is currently experienced by many medical colleges in the state. The government should give essentiality certificates and also recommend to central government.

▪ **Training of medical teachers**

While it is imperative for every school teacher to acquire a formal qualification of BEd/MEd, such a system is not in vogue for medical teachers. It is therefore essential that every medical teacher recruited in a medical college, should undergo formal training in education technology that would involve teaching learning workshops, student evaluation and framing and drafting medical curriculum.

According to MCI regulations, it is mandatory for every medical college to have a medical education cell to look into the above aspects. However, unless there is a well trained core faculty to conduct teachers' training, medical education cell so created becomes redundant.

As of now, there are five national teachers' training centres for health professionals/medical teachers. The first one was established in 1975 at JIPMER- Pondicherry, followed by AIIMS-New Delhi, PGI-Chandigarh, and Institute of Medical Sciences-Varnasi and CMC Ludhiana. Besides these, some of the good colleges in India have well established medical education department, for example; at KMC, Manipal, the department was established in 1985 and since then has conducted over 100 workshops for the medical faculty; not only for KMC, but also for other institutions both within and outside the state of Karnataka.

It is suggested that the Government of Karnataka, must set up a teachers' training centre for health professionals in the state, which will not only take up training of medical teachers, but also of dental and nursing professionals.

The RGUHS has already promoted the medical education cell and this can be adapted to all HHRD institutions in the state. Short-term training courses in teaching methodology, technology-driven, interactive, participatory and experiential learning approaches should be widely disseminated. The decision on expansion should also be primarily based on faculty availability and sustainability.

- **Evaluation of performance at both UG and PG levels**

While the professional bodies outline the principles and guidelines of evaluation, the fact remains that in a majority of cases, it is largely theoretical knowledge that gets evaluated rather than practical skills, attitude, how 'safe' a physician the trainee will be in practice. Streamlined methods of internal and terminal evaluation need to be evolved, and evaluation needs to be as objective as possible. We need to introduce and promote OSPE and OSCE, in addition to the practice that is being currently followed.

- **Encouraging Medical research**

Even against such odds, meaningful medical research could still be carried out in medical colleges. It is important that every medical college constitute a institutional research committee, consisting of motivated faculty members, to spell out institutional research priorities, review existing research facilities and create additional facilities for research, incentives for faculty conducting research, organizing training programs in research methodology in the form of workshops for faculty, training faculty members in writing a research grant proposal, maintaining and updating a compendium of funding institutions, setting up of institutional review board (institutional ethics committee, institutional animal ethics committee, institutional bio-safety committee), enhancing the library facilities, especially journals and computer software. One of the important areas would be to encourage faculty members to take interest in inducing medical undergraduate students to carry out research, that is, faculty mentor for students.

- **Funds for research**

While every institution sets apart a research fund, there is always a paucity of funds to carry out research. Very often researchers approach ICMR, DST and other national/international funding agencies for financial support. It would be worthwhile if the Government of Karnataka sets up a State Council for Medical Research, on similar pattern as ICMR.

The responsibility of this institution would be to:

- ✓ Set research priorities for the State of Karnataka
- ✓ Allocate research funds
- ✓ Promote interests evinced by research scholars in terms of fellowships
- ✓ Organize training sessions and workshops
- ✓ Set up a central library

- **Source of funds**

It can approach the Central Government, State Government or other national/international donor agencies.

- **Internship training**

The current trend is that the students are too busy preparing for post graduate entrance examination and do not get involved with the clinical rotations at the hospital or their field postings in the community. The Knowledge Commission has suggested a nationwide entrance examination to be conducted soon after the declaration of the final MBBS results. This would form the basis of PG selection. The student would then be in a better frame of mind, to devote him/herself completely to acquire the necessary skills to become a competent physician. It is suggested that Government of Karnataka should hold such examinations during the first fortnight of internship, so that the internship training is taken more seriously by the students. During internship trainees must also be exposed to administrative issues, a critical skill that is hardly ever addressed today.

- **Developing human resources to improve efficiency and effectiveness of health services**

It is therefore, recommended that the DHO and the program officers must have a formal degree/diploma in Community Medicine/Preventive and Social Medicine/Public Health. It is only then that health services will be manned by appropriately trained health professionals.

- **Short-term plan**

Existing district level officers undergo a formal 6 months-1 year training in public health. All the medical officers of the primary health centers should compulsorily undergo a training of 3 months, to get an insight into the practice of public health. These refresher courses/orientation programs are already in vogue in the Indian Administrative Services.

- **Longer-term plan**

It is worthwhile to start a School of Public Health for the state of Karnataka. It could be purely a Government initiative or based on Public Private Partnership model. The School of Public Health would be involved in:

- ✓ Training of existing district medical officers/program officers

- ✓ Induction training of new recruits at the entry level i.e. PHC medical officers
- ✓ Conducting regular MPH program for new recruits as District level officers
- ✓ Training dental and nursing personnel.

The Public Health Foundation of India (PHFI) established two years ago, has already started three Schools of Public Health, one each at Delhi, Ahmedabad and Hyderabad. The proposed School of Public Health in Karnataka could be on similar lines.

- **Creation of a public health cadre**

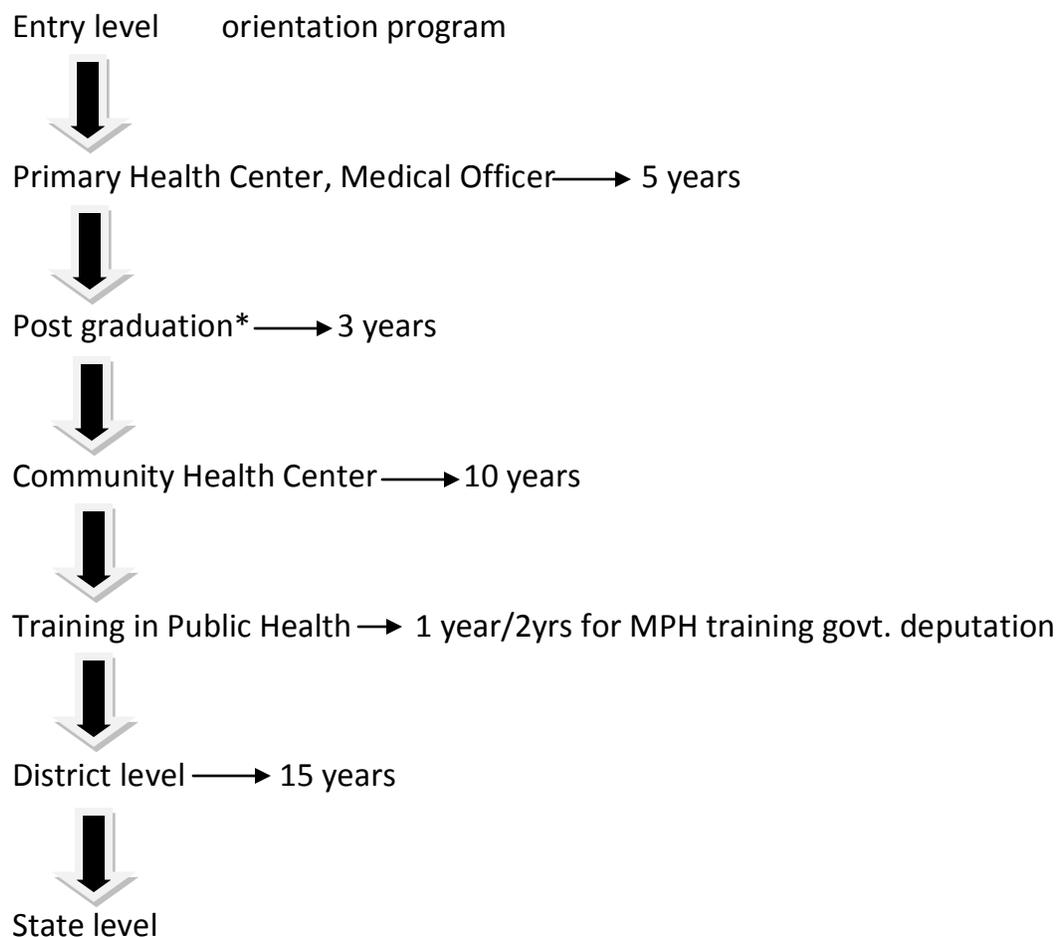
In the current day situation, the following are some of the real life situations with respect to medical officers in the health services:

- Many opt for the health services with tremendous reluctance and as his last option.
- Most very often do not stay at the designated primary health center.
- They evince very little interest during their work often leading to suboptimal work performance.
- They are often of urban backgrounds and are lured by city life.
- They have had little exposure during their under graduation to rural health services and poorly sensitized about the health needs of people in rural areas.
- They have a feeling of social isolation.
- They are not in a position to pursue their post graduate studies and over a period of time, it gets difficult for them to get into academics.
- Salaries are not very attractive.
- There is a constant comparison to colleagues working in urban areas who do not have to face the hardships they do.

The following are the suggestions which would attract young, bright, city bred medical students to opt out for rural health services.

- Graded promotions and change of stations.
- Preference to do post graduate courses on Government deputation.
- Enhanced remuneration package of these doctors vis a vis those who work in the urban areas.

In short the working conditions should be so good, such that the young doctor does not hesitate to join rural health services, as he is assured of a better pay package, opportunity to do post graduation and a better future.



if we create good service conditions with attractive salaries and options to do post graduation, we would be able to attract competent and committed doctors for the rural health services.

- **Encouraging public private partnerships**

The state government has encouraged partnerships between government hospitals and private institutions to network and provide care to the community. One such example is the network between the KMC Manipal and the Government Hospital at Udupi for the training of undergraduate and postgraduate students, while simultaneously providing services through the staff of the medical college. Successful Public Private Partnership can result in better training for students, improvement in quality and healthcare and also benefit the students of Karnataka. The KMC model needs to be replicated in other parts of the State.

- **Setting up a Karnataka Health Human-power Commission**

A state level co-ordination committee with inter-sectoral representation to plan an integrated comprehensive health system and primary health care oriented HHRD policy.

This committee could work on a networking principle and bring together comparative advantages and competencies of existing partners.

It should initiate and promote programmes that are more holistic, integrated and comprehensive and include existing practitioners of all systems and allied health professionals at all levels. It should address all issues raised by the National Education Policy for Health Sciences 1989.

- **Setting up a Karnataka Public Health Education Network**

All education for health resources in the state from government, private and civil society must be brought together. The Swasth Karnataka network is an example. A much larger network needs to be formed which can identify public health education opportunities in the country and to which various health staff can be sent for training. The focus must be on new and innovative modules of training, new topics and themes and include areas also mentioned in the NRHM task force on Medical Education report at the national level which includes:

- Communication skills
 - Management Skills
 - Behavioral Sciences and health
 - Ethics and Human Rights
 - Sensitization to AYUSH
 - Rural orientation training package in the existing curriculum
 - Community health practitioner including nurse practitioner courses
 - Certificate courses for MBBS doctors for one year in community health, rural surgery, child health, women's health.
 - This network needs to be closely liaised with the RGUHS and Directorates of Health Services and Medical Education.
- **Health Promotion Network for Karnataka**

The existing initiatives such as:

- The health education department in the Directorate
- Associations and trusts involved in health promotion
- Networks of CBOs and NGOs involved in health system development
- NGOs involved in community monitoring programs of the NRHM in the states and NGO networks need to be involved.

The health promotion network should execute health promotion campaigns, strengthen ongoing activities and focus on greater use of local folk media, general media and information technology to reach the rural and disadvantaged sections of the state.

LESSONS FROM THE NATIONAL KNOWLEDGE COMMISSION RELEVANT TO HEALTH HUMAN RESOURCE DEVELOPMENT IN KARNATAKA

The specific recommendations made by the National Knowledge Commission in order to 'convert knowledge into human capabilities and skills and not just provision systems' are very relevant to expanding medical and allied health specialties in Karnataka and include the following:

- Resource inventory of all creative, health, health education and health training innovations at micro level in the state to aid macro level policy
- Critical external reviews of existing courses using indicators such as equity, quality, integrity, gender, access, appropriateness, inter-sectorality, multi-disciplinarity and community relevance as indicators
- Strengthening and supporting system level up scaling of effective innovations by taking them to the district as pilot projects and finally to the state level as policy and system
- Supporting evidence based health policy and health system research and dialogue with enhanced multidisciplinary competence
- Addressing the knowledge to field action gap
- Integrating all aspects of health human resource development at all levels
- Moving beyond the concept of medical and health service to the paradigm of holistic health
- Urgent areas of enquiry are integration of AYUSH with public health, decentralization of health system decision making, strengthening of public health consciousness in academia and in the community, promoting multi-disciplinarity in health and moving beyond reductionistic biomedical techno-managerialism
- Countering market distortions in health policy and commercialization of HHRD.