Life saving skills and medical education

Dr. K.M. Shyamprasad, Vice-President
National Board of Examinations, New Delhi

Maternal mortality and injuries contribute to more than 20% of all deaths in India. These are largely preventable deaths as it requires medical interventions within a period of 6-36 hours which is mostly not available to populations with high mortality due to these causes. Prevention of anemia and puerperal sepsis, improved surgical interventions and universal access health care services are the solution to the problem. The fifth Millennium Development Goal, signed by 189 countries at the turn of this Century requires that the all signatories work to reduce maternal mortality by 75%. With appropriate interventions this is possible as was done by Sweden and USA a few decades ago and more recently by Romania, Thailand, Malaysia and Sri Lanka. Sweden had a ratio of 300 deaths per 100000 live births, and USA had 600 deaths per 100000 live births in 1935 which was reduced to 20 and 30 deaths per 100000 live births by 1960. Today India has IMR of 440 per 100000 livebirths compared to 50 for Thailand and 120 for Sri Lanka. In South Asia, Afghanistan with a higher MMR is no consolation for India if the political and economic situation of the two countries are compared.

In a similar way injuries as a cause of death and disability is shockingly high for a country which boasts of health care facilities which attract medical tourists. More than 170,00,000 hospitalizations in this country are due to injuries and 11% all deaths are trauma related. Poor access to health care facilities for a majority of the population particularly the poor, is a major cause.

Emergency Surgical Care Services

Lack of health care services in large part of India particularly rural India is well documented. A deeper look at the problem will reveal that even the services that are available are suboptimal. If deaths due to surgical causes are to be reduced the policies and programs should aim at making available, sustainable basic surgical services in rural resource poor health care centers.

Some of the key issues for suboptimal emergency surgical services in rural areas are:

- Poor rural health care infrastructure
- In adequate health care personnel in rural areas
- Lack of emergency life saving skills among health care personnel
- Lack of appropriate legislation to protect health care personnel in emergency situations

Excessive reliance of medical manpower for providing even basic health care needs has been a flaw in our policy. Even in developed countries like USA, rural health practitioners are from a stream different from the medical practitioners. A radical new thinking is required in health manpower development of India. This includes development of skills that are required in emergency situations.

Some essential skills that are required for all rural healthcare personnel are:

- Central venous access
- Endotracheal intubation
- Circumcision
- Recognition and management of pneumothorax
- Control of bleeding- uterine, trauma
- Basic life support
- Prevention of sepsis
- Patient safety

Medical Education and Patient care Skills

The present levels of IMR and MMR were achieved in India nearly 20 years back. There have been several interventions to reduce these health indices without much success. During this period more than 100 medical colleges have been added to the country producing an additional 10,000 medical graduates per year. Even though we are adding 28,000 new medical graduates every year to existing numbers we are not making any difference to the poor health care indices of the country as a whole. There has
been no study or evaluation of the medical education system in the country such as the Flannet Study undertaken by Carnegie Foundation in 1908, to evaluate the skills of medical graduates from medical schools of USA and Canada. One of the substantial observations for the study was “for the past twenty five years there has been an over production of ill trained and uneducated medical practitioners. This has in absolute disregard to the public welfare and without any serious thought to the interests of the public”. It is this kind of evaluation that has led to the improvement of medical education standards in USA and Canada.

In the absence of an evidenced based evaluation one has to go by circumstantial evidence which by and large points to the production of large number of medical graduates and postgraduates with inadequate life saving skills. The system of medical education in this country which prepares the students to pass examinations with very little focus on patient care skills and competencies has led to a situation where medical graduates lack confidence to work independently especially in rural areas. Medical graduates continue to spend time with their books to prepare for postgraduate entrance examinations beyond their graduation and seek practical knowledge much later, which becomes an illusion as facilities for learning skills are limited. They are frustrated and represent a lost opportunity to provide a service and a threat to the health of the nation.

A New Paradigm of Skills Training

Reforms to medical education in India are long overdue. If the Millennium Development Goal of reducing Maternal Mortality by 75% is to be achieved, we need other strategies to activate our health human power. Multi skill training, IT based learning techniques are a few suggestions. Many success stories of bringing down MMR especially Thailand, Sri Lanka, Malaysia are due to innovations. Attempts at innovation in training health care manpower have had limited success in countries like Mozambique.

NBE response

The National Board of Examinations has introduced public health related courses in three essential disciplines. The DNB Family Medicine envisages to develop family physician concept which has been lost after specialization has become the career ambition of medical graduates. The DNB in Rural Surgery hopes to create surgical specialist for rural emergency surgical needs. The training of the Rural Surgeon would ensure that he functions as a versatile surgeon dealing with obstetrical emergencies, orthopedic, abdominal and other emergencies. A one year certificate training program in Anesthesia for medical graduates will provide for the anesthetic services in the rural hospitals.

WHO and Emergency, Essential Surgical Care

Surgery has come into the public health domain with the creation of the Emergency and Essential Surgical Care Project under the Essential Technologies Department (www.who.int/surgery). This department will support countries in capacity building to reduce death and disability as a result of injuries, pregnancy related complications and HIV through strengthening basic skills of health providers to manage essential emergency and surgical procedures at resource limited health care facilities.

This team will be responsible for ensuring efficacy, safety and equity in the provision of clinical procedures in surgery, anaesthesiology, obstetrics and orthopaedics, particularly at the district hospital level.

New Initiatives, innovations for change

The coordinated model system for surgical services in peripheral/rural hospitals suggested by World Bank requires the coordination and integration of the following:

- Wireless communication
- Continuing education programs
- Regionalised supply system for essential drugs, equipment and surgical material
- Ambulance services
- Uniform data collection system
- Coordinated ongoing monitoring of quality and outcomes

Wireless communication in India has reached many remote parts of the country. With this infrastructure already in place, putting together a continuing education program based on adult learning pedagogies and methods, Information Technology based tools like virtual libraries and simulation laboratories for skills training will not be too difficult. Much of these material is already available on the internet (www.who.int/surgery). Training programs for trainers and training centres in district hospitals, should be quickly added particularly in states and regions where the health indices are poor. Legislations and regulations to empower the local governments to generate appropriate health care manpower to provide healthcare services in their region is another dire need. The present centralized regulatory structure is to the disadvantage of rural areas.

Surgery has an important role as public health strategy in at least four important areas:

- In the prevention of death and disability in injured patients by the provision of timely expert and complete initial treatment
- In the timely intervention in obstructed labor, in pre and post partum haemorrhage and the other obstetrical complications

✓ In the provision of competent surgery to treat a wide range of abdominal and non-abdominal emergencies

✓ In the surgical care of several elective surgical conditions that have a significant effect on quality of life, such as cataract, otitis media, clubfoot, hernias and hydroceles.

Post graduate medical education in India needs a radical change perspective. A public health approach is essential if the number of preventable deaths are to be reduced in our lifetime.
processes, and re-orient these to meet the colossal medical education and its student recruitment than ever before to look hard at both the design of backgrounds. On these grounds, it is time now more country, and not just with the individual career aspirations of students. More and more students from rural and underprivileged areas need to be recruited into the health system to increase the sync between providers and communities and to retain skilled providers in the primary health care system.

Reorientation: The first call of the profession should be to the health of the people. Photo: K. Murali Kumar

The goal of medical education needs to be synchronised with the public health needs of the country, and not just with the individual career aspirations of students from privileged educational backgrounds. On these grounds, it is time now more than ever before to look hard at both the design of medical education and its student recruitment processes, and re-orient these to meet the colossal health needs of India’s population.

Last access

What is this disconnect? The large numbers of rural and urban poor in the country, who bear the highest burden of mortality and disease, have least access to skilled and well-trained medical care. The medical profession remains urban and affluence-centric while the focus of medical education is on academic excellence with micro-specialisations, at the cost of a public health or social orientation. India lags behind other Asian countries like Sri Lanka, Thailand and China in its levels of maternal mortality (Sri Lanka: 23, Thailand: 44, China: 48, India: 407) and infant mortality (Sri Lanka: 18, Thailand: 29, China: 22, India: 63). These are even higher among the rural and urban poor in India and can be directly attributed to poor health services, especially during pregnancy, childbirth and infancy. At the last round of the National Family Health Survey, only 20 per cent women had received full ante-natal care and only 42 per cent of children (0-24 months) had been fully immunised, the lowest being 11 per cent in Bihar. Around two-thirds of all births in India take place at home - usually assisted by family members or dais rather than by medically skilled birth attendants – and with poor access to emergency obstetric care. We have around 6,40,000 registered doctors today and many are comparable to the best anywhere in the world. We are prominently placed on the global map of medical tourism, thanks to our specialists and super specialists. Sadly, only an estimated 10-15 per cent are available in government agencies in the common public health service delivery system, much less so among the rural and urban poor. According to the most recent government data only 31,480 doctors were in position in rural primary and community health centers (Bulletin on Rural Health Statistics, 2005). Hardly a drop in the ocean for India’s 72 per cent rural population! The large private medical sector also tends to be concentrated in urban areas, and in the ‘better off’ parts of urban areas. A study of Ujjain district (2004) found that 88 per cent of qualified medical professionals were located in urban areas and 72 per cent were practising in Ujjain city itself. In another Delhi study, better qualified doctors were far more likely to be found in affluent neighbourhoods than in the less ‘well off’ ones. All over rural areas in the country, there is an acute shortage of essential specialists – gynaecologists, paediatricians and surgeons. Around 40 per cent positions of specialists are vacant in public rural health centres. The entire hill district of Tehri Garhwal has only one surgeon (a private one) for a population of 0.6 million. In stark contrast, my local yellow pages directory (I live in Gurgaon, an upcoming suburb of New Delhi) listed six general surgeons, 10 obstetricians/gynaecologists, 10 physicians, three psychiatrists/ psychologists and an impressive array of super specialists, all within a radius of about five km. I doubt, however, if any of them would be accessible to the hundreds of migrant labourers and their families that have become a near permanent feature of Gurgaon’s landscape.

So where do the rural and urban poor in India typically seek care when they fall ill? More than a dozen successive studies over the last three decades have highlighted the widespread presence and popularity of private practitioners who do not possess a formal medical qualification or training - the ones whom the medical community calls ‘quacks’. However they are the ones who are accessible and available when needed, and provide to their patients a sense of dignity, continuity and community kinships.

Livelihood issues

Why do rural and underprivileged urban areas have so few formally qualified providers? Understandably, questions of livelihood are critical for all graduates, especially after struggling through five and a half years of an expensive medical education. The opportunity costs and social costs of working in rural areas are too high. For those who set up private practice, better off urban areas offer far better markets and facilities. The public sector is equipped to need skilled and well-trained medical professionals in rural areas, but the hefty wage differential between the public and private sectors does little to attract the best professionals to the public sector. Socially, a rural posting can be extracurricularly isolating and working conditions quite challenging for someone who has spent long years acquiring knowledge and skills in an urban medical institution.

In the words of a medical intern: “Doctors are extremely reluctant to be posted at PHCs for it is literally a professional dead end. There is a fear of sophisticated skills becoming rusty. Also a fear of an academic fade-out due to absence of the stimulating atmosphere that one finds in city hospitals and urban practice.”

Other sore points are the unsatisfactory working conditions, lack of adequate staff and equipment and primitive living quarters. A young female medic said about her heroic attempt to live out a rural posting: “I decided to live in the doctor’s quarters and went to check it out. It was impossible to live in! The place was in total disrepair, there was no electricity and the toilet was quite a distance away from the house.” The trip cost her her job and the public sector lost a precious woman doctor.

Inequitable distribution

True, this grossly inequitable distribution of skilled human resources reflects poorly developed human resource policies and the abysmally low level of health spending by the government (0.9 per cent of the GDP), among the lowest in the world. Equally, many would argue, it reflects the lack of a social and rural orientation in medical education and a blind pursuit of academic excellence almost as an end in itself. The highly selective admission procedures ensure that only a small minority of very special students can make it to medical school and once in it, it is only natural for the majority to join the race for specialisations and super specialisations. This has ensured that the ownership of the profession is preserved in the hands of a medical elite who are well equipped for providing a superior quality of care and whose technical skills are highly in demand in urban affluent areas, and especially overseas. The government’s National Commission on Macroeconomics and Health (2005) estimated that almost 50 per cent of graduates from AIIMS have migrated overseas. It is also said that the United States has more Indian psychiatrists than the home country. In a recent study of migrant physicians, the majority felt that physicians in developing countries learn highly specialised skills that they can better utilise in developed countries.

The current model of medical education in India was founded in 1914 on the recommendations of the Crawford Committee, an educational committee set up by William Bentinck. The Committee recommended that medical science in India should be taught in strict accordance with the principles and mode adopted in Europe. The oldest medical colleges in Calcutta, Bombay, and Madras had already been founded as medical schools in mid to late 1800s. Meanwhile, many provincial governments, missions
and private organisations had set up another category of medical schools to train students for the diploma of Licentiate Medical Practitioners (LMP). This LMP course was for three to four years, often in the vernacular and geared to general practice in small towns and rural areas. Around the time of Independence, a couple of landmark developments affected the evolution of the medical profession in India. The First Health Survey and Development Committee set up by the British Government under the chairmanship of Sir J. W. Bhopal, recommended that the licentiate medical courses be abolished and that only one medical qualification - a University degree - should be the portal of entry into the profession. The Bhopal Committee also provided the blueprint for an organised public health system in India, deeply inspired by the welfare state movement in the U.K. and socialist developments in the USSR.

Unfortunately, the Committee did not see a role for indigenous practitioners in the modern health system; consequently a large mass of private practitioners who formed the mainstay of health care in rural areas and small towns were ignored by the new system.

The rest as they say is history! The number of medical colleges in India has grown from 25 in 1947 to 229 in 2005. Medical education has been characterised by specialisations and super-specialisations in the curricular fields. But this expansion has had little impact on public health in the country. India’s successive five-year plans (especially the third and sixth plans) noted this gap and upgraded departments of preventive and social medicine were designed as a counter measure. But these gradually became the basic cadre of basic health care providers. A long and vigorous five and a half year University degree does not have to be the only educational strategy for developing such a cadre or cadre. Shorter courses with stringent quality assurance mechanisms need to be revived and evaluated.

Most importantly, more and more students from rural and underprivileged areas need to be recruited into the health system to increase the sync between providers and communities and to retain skilled providers in the primary health care system. This would also help meet the objective of increasing social inclusion that is currently the hotbed of the reservations issue. Of all professions, the medical profession is most inseparable from its social objectives. The first call of medical education must be to the health of the nation’s people.

The writer is an independent researcher and consultant in public health. This essay was first published in the Hindu Sunday magazine, dated July 23rd, 2006 followed by a second publication in the Business World Online, August 7, 2006.

Suggestions to improve DNB Training and Examination System

Dr. A.K. Thakur, Medical Director
Heart Hospital, Kankarbagh, Patna

At the outset, I congratulate the present executives of National Board of Examination for bringing the revolutionary changes in standardization of training programme and transparency of examination system. The undermentioned suggestions may be worth consideration for further acceleration of the credibility of DNB examination.

- Candidate for the superspeciality should be primarily selected after the centralized screening test. The qualified candidates would appear for final selection before the selection board of institution, they opt for.
- The training should be programmed year wise; like, 1st year - Clinical Cardiology and Non Invasive Investigations. 2nd year - critical care and intervention cardiology. 3rd year - Nuclear cardiology etc. And details of training programme for each year be meticulously prepared and the institution be asked to adapt the same pattern for uniformity in training programme. At the end of every year a set of ten questions (objectives and descriptive) from the centre should be sent to the Director of Institution or should be sent to the centre (DNB central office) for evaluation. Financial burden on this project should be born by the candidate. The question should be set on the pattern of the final examination. This practice would get the candidate acquainted with the pattern of question they are likely to face in the final examination. This should be in addition to the appraiser’s six monthly evaluation.
- I am glad to know that OSCE system in some speciality has received encouraging response. I feel this should be implemented in cardiology without delay.
- For theory, I would suggest that MCQ be the method of evaluation. And in theory & practical assessment, the methods and principle of Americal Board of speciality (OSCE) be incorporated by DNB. If possible, in future the DNB superspeciality examination may be affiliated with American Board of Speciality and Vice Versa.
- Lectures by eminent teachers on different topics of cardiology conducted by the different centres during CME programme or update session may be stored in CD and sent to different centres on payment.

………The Interactive CME Sessions organized by the National Board of Examinations by using IGNOU satellite were highly appreciated by the DNB students. I may mention that the DNB students from other hospitals also come to attend these sessions.………

Dr. K.C. Mahajan, Chairman
Department of Academics & Research
Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi
have tried to introduce new and super-specialised subjects within their work area. Every year, with an endeavor to explore new horizons, this hospital has tried to include new and better concepts into its functional processes.

The medical sciences are expanding vast. It is very important that the specialists in this sector update themselves with the latest information. Hence, the doctors, nurses, paramedical staff are sent to different parts of the country for regular updates. Also, regular training programmes in form of seminars, CMEs, scientific sessions and workshops are organized for the employees as well as the medical fraternity of the region. An Award of Excellence in Medicine is also given every year to encourage the Medical Fraternity.

As a part of its Human Resource Development Programmes, the hospital has been offering Post Graduate Training in Diploma at National Board in ENT, Surgery, and Medicine since 2000. Shortly, we are going to start DNB in Anesthesiology and Gynecology. Also courses for General Nursing and Midwifery, Nursing and several Paramedical Courses in the areas of Laboratory Technician’s, Radiology, Physiotherapy, Anesthesiology, ICU/ICCU and Dialysis through its Paramedical Institute are being offered by the hospital.

Other programmes

Being into the corporate sector, Down Town Hospital Ltd. realized the high cost of its services towards the underprivileged and poor. The urge to do something for the poor and not so fortunate section of the society led to formation of Down Town Charity Trust in 1997. Apart from doctors, the members of the Trust include Engineers, Educationists and other professionals from various walks of life.

Social Commitment

Under this trust, many health camps are organized in remote areas and many people are provided free treatment as well as medicines. The trust is offering free treatment to poor deprived patients born with cleft lip and palate I collaboration with Smile Train Inc. a New York based NGO. Till date about more than 650 surgeries have been performed absolutely free. The trust has also started its most ambitious project - Shankar Madhab Charity Hospital at Panikhaiti about 17 KMs from our corporate hospital. This would be a 500 bedded multi-speciality hospital with 100 beds free for the poor and the rest at a very nominal cost. Other such activities include construction of a RC bridge over river Bahini at a cost of Rs. 35 lakhs benefitting over 2 lakhs people near the hospital. Deafness Prevention Project Project Madhab Vastra Bank for free distribution of second hand and usable clothes to BPL individuals, Road Safety Projects and Community Health Awareness Programmes.

Choithram Hospital & Research Centre (CH&RC), Indore

Dr. Shikhar Jain, Director Academics & Dr. (Col.) Kamalakar Vaidya, Director Medical Services

Choithram Hospital & Research Centre is a multi/super speciality hospital providing complete range of diagnostic & treatment services under one roof. It was established in 1979 by late Shri Thakurdasji in fond memory of his father Shri Choithramji Pagarni.
Important Events During the Period-
Sept 06 - Oct 06
CME Programme for ENT

CME Programme for ENT was held from 4th to 6th September 2006 at Maulana Azad Medical College, New Delhi. In the CME programme nearly 60 DNB candidates participated. The CME programme was coordinated by Prof. A.K. Agarwal, Dean Maulana Azad Medical College.

Services

CH&RC is a 350 bedded hospital comprising of 223 general beds, 52 Semi-Pvt., Pvt. 57 Stepdown ICU 14&4 deluxe ward beds. Hospital is running free OPD from 8.00 to 2.00 P.M. & paid OPD from 2.00 P.M. to 8.00 P.M. The hospital has earned the reputation of the best (and economical) hospital in Central India. Strict infection control protocols are observed in all units as per national guidelines.

CH&RC offers a complete range of super speciality services like- Cardiology, Cardio Thoracic & Vascular Surgery, Gastroenterology & Endoscopy, General Health Check-up, Intensive Care Units & Surgical Services, Liver Diseases & Hepatic Surgery, Medicine, Nephrology, Nuclear Medicine, Neurosciences, Neuro Psychiatry, Orthopaedics, Ophthalmology, Oncology, Obstetrics & Gynaecology, Paediatrics & Neonatology, Plastic Surgery, Pathology, Respiratory Medicine & Urology, Burn Care, Dermatology, E.N.T. and Dentistry.

Academics

CH&RC is recognized in six broad specialities for DNB training paediatrics, medicine, surgery, anaesthesia, Obstetrics & gynaecology and orthopaedics and 3 super specialities(gastroenterology, neurology & neurosurgery). Separate Academic, Research & Ethics committees are fully active and functional.

Research Activities

160 research papers have been published including 30 in international medical journals in last 20 years.

National Conferences


Community out reach programme

More than 50 camps in rural & urban areas and Urban Health dispensary for the last 30 years.

Main Achievements

- Number of patients seen in OPD 1,25,000 per year.
- Number of admitted in the hospital 15,000 per year.
- More than 5,000 operations per year.
- More than 50 Lacs spent as charity for the poor people every year.
- More than 300 Neuro Surgery cases every year.
- Till date 1,100 open heart surgeries have been done.
- Till date more than 1,000 ERCP have been done.
- More than 400 renal transplants have been done since 1986.
- Independent Renal Transplant ICU, in addition 17 bedded medical & surgical ICU.
- 24 beds in NICU & 8 Beds in PICU recognized for level 3 critical care.

Workshop at Manglore

Workshop for examiners and DNB (orthopaedics) candidates was organized at K.S. Hegde Medical College, Manglore from 13th to 14th October 2006. In that workshop 22 faculty members and 71 DNB candidates participated.
Important Events During the Period- Sept to Oct 06

Interactive workshops with DNB faculty and candidates

Prof. A. Rajasekaran, President-NBE along with Dr. A. K. Sood, Executive Director- NBE, visited the state of Kerala between the 26th and 29th of October’ 2006. During the visit, Orientation Workshops for the DNB Coordinators & HODs of Accredited Specialties were conducted first, in Trivandrum on 26th October and then in Kochi on 28th October’ 2006. Both the workshops were very well attended. For the Trivandrum workshop, held in the Kerala Institute of Medical Sciences auditorium, around 50 members participated from the Hospitals located between Tiruvalla and Trivandrum. More than 100 Faculty members from Thrissur and Eranakulam districts attended the second workshop at Kochi, which was conducted at the Amritheshwari Hall of Amrita Institute of Medical Sciences, Kochi. A third Orientation Workshop will be conducted shortly in Kozhikode for the Hospitals located in North Kerala. Each Workshop concluded only after an ‘Open House’. The Interactive Sessions the Board officials had with the participants, facilitated a positive exchange of views between the Board and the Accredited Hospitals. It also gave the Accredited Hospitals an ideal opportunity to discuss their problems with regard to the conduct of DNB training programmes.

The President & the Executive Director during their tour of Kerala, also visited Kerala Institute of Medical Sciences, Trivandrum; Jubilee Mission Medical College, Thrissur; Amala Institute of Medical Sciences, Thrissur; Malankara Orthodox Syrian Church Medical College, Kolenchery; Lakeshore Hospital & Res. Centre, Kochi; Amrita Institute of Medical Sciences, Kochi and met their Faculty members and DNB trainees.

Virtual Library
NBE is planning to have the facilities for virtual library at New Delhi for the benefit of DNB students.

Simulation Lab
In order to provide facilities for skill training, NBE will have simulation lab at New Delhi in near future.