4.
HRH, ACADEMICS & RESEARCH

Historical research has shown that King Pratap Malla and Malla kings of Bhaktapur and Patan encouraged Ayurvedic system of medicine by asking to prepare books in Ayurveda and creating opportunities for professional training (1).

The Early Years of HRH Training

It has been stated that Dr. Ratna Das Baidya was the first Nepali to have become a doctor as per the news cutting in the local Gorkhapatra newspaper of 20th Shrawan, 1959BS (1902AD). He is said to have done the equivalent of the LMP course in Bengali at Calcutta and came back to work at Singha Durbar at Kathmandu.

During the time of World War I, to cope with the increasing number of wounded army personnel, the British authorities in India started the category of health workers known as Licentiate for Medical Practice (LMP). This four-year course with a pre requisite of Matriculation was conducted at the Campbell Medical School (now National Medical School), at Calcutta and two Nepalese students were enrolled into this. These two who came back after qualification in 1918 were Dr. Devi Prasad Upadhaya and Dr.Ganesh Lal Maskey and whilst the former opted for general practice, the latter did pathology.

Later Dr. Siddhi Mani A Dixit did the matriculation examination in 1914 and passed the MB in 1921 from Medical College, Calcutta. Dr. Yagya Man Baidya also qualified soon after.

In the meantime the LMP course, which became the Licentiate of the Medical Faculty (LMF) was done by most of the Nepali students who went for medical training to India. Following independence in 1947, all the LMF doctors had to do a condensed medical course to be upgraded as MBBS doctors. Nepali doctors with this qualification too, went for upgrading

courses to India. By this time the entry requirement for MBBS became Intermediate Science (ISc).

As far as ladies are concerned Ms. Rajabhai S.K.Chauhan qualified from the Lady Hardinge Medical College at Delhi in 1935 and after marriage to a Nepali came to work in Nepal. Mrs. Rajabhai Rana may therefore be taken as the first Nepali lady doctor.

In the first half of the twentieth century, almost all of the Nepali health personnel were trained in India. The first four Nepali girls to be trained in midwifery were sent to Allahabad in 1928 for the eighteen months training then considered necessary. On their return, they were employed in Bir Hospital.

Health manpower education started in Nepal with the formation of the Nepal Rajakiya Ayurved Vidyalaya in 1933/34 (1990 BS) for the training of baidyas and other categories of ayurvedic personnel (2). The ayurvedic personnel trained here, from the time of its establishment and its incorporation into the Institute of Medicine (IoM) in 1972, can be categorised into three grades viz:

- Baidya Vinod / Madhyama
- Baidya Bhusan / Shastri
- Baidya Ratna / Acharya

Training for compounders and dressers also started in 1934 in the newly opened Civil Medical School. This institution was probably so named as there was a trend in India to train the local people over a period of three to four years, often at the state level in the local language in so called "medical schools". Such health personnel in India were known as Licentiate Medical Practitioners (LMP). In distinction to this, the students trained in the Western type of degree course (MBBS) were produced by the "Medical Colleges" (3).

Health services in the pre World War II Nepal were minimal and confined to some of the bigger towns. Expatriate doctors, mainly from Bengal in India, manned almost all of these. The 238 compounders and 213 dressers, trained within the country by the Civil Medical School over the course of the first thirty years effectively ran the hospitals and smaller units under the supervision of the doctors (4).

Students continued to be sent to India for training. An innovative step was when two Nepali girls were sent to India in 1952 with the idea that they would be utilised as teachers in schools contemplated for middle level health workers (5). Thus a programme for the middle level-nursing workers began

with the formation of a nursing school in 1956 under the Directorate of Health Services, Ministry of Health (MoH). The course was of three and half year's duration and the first intake was of fifteen girls (6). However, because of the existing shortage of nurses, the Development Board of the Bir Hospital in the early sixties, recruited as many as twenty-two Indian nurses (7). Separate school for training another category viz. Health Assistant started in the same year with a two year course. Entry to it was after ten years of basic schooling. This training was started with the idea of having a category of manpower similar to the Licensed Medical Practitioner (LMP) of the British ruled colonial India. Such personnel, after having worked for a few years as health assistants, would be entitled to compete for a place and undergo further training to become doctors. A total of 65 personnel were trained in this scheme.

Soon after this, an AHW School was started under the aegis of the Ministry of Health in 1962 and trained 43 health assistants. Later it was felt that a single training school, producing a category between the health assistant and the compounders and dressers would be more economical. This school went on to train 341 AHWs over the course of the next eight years.

Other institutions for the production of these and other categories came to be established during the course of subsequent years. The training of a cadre to provide midwifery care was started in 1958. Later, a woman's Auxiliary Health Workers Training Programme was started under the Director of Health Services, with the support of USAID (1). This training of three batches produced a total of 43 female health workers. Subsequently, with a view to give it a community focus, this programme was shifted from Hetauda to the hospital compound at Bharatpur. Later it was converted into the training course for ANM category in 1963. Thus the AHW and the ANM came into being in the health care setting of Nepal (8). ANM schools were started subsequently at Biratnagar in 1965 and at Nepalgunj in 1967.

The idea of starting a medical school in Nepal had first been suggested in 1963 by a WHO Assignment Team led by Prof. W.M. Arnott. Later in October 1965, another team from India, led by Dr. PM Bhandarkar, then Surgeon General of Maharashtra State, concurred with this suggestion. Accordingly, a medical school was planned to be constructed during the course of the then current Five Year Plan.

Some months later, in June 1968, a committee headed by Dr. D.N. Baidya was constituted with the objective of starting a medical college that same year with an annual intake of 25 to 30 students. A 5-member team entrusted with this task, travelled to various medical colleges at Berampur,

Ranchi, Lucknow and Benaras in India for familiarisation. Nepalese doctors too were sent for training in the pre-clinical sciences.

Subsequent rethinking brought about the concept of providing rural health services mainly through middle and basic level workers, with the idea that such manpower would be more effective (9). The medical school project was thus temporarily shelved.

Institute of Medicine (IoM)

Up to this period the basic health manpower training institutions within the country were under the Ministry of Health. With the concept of vocational training, a new educational policy was envisaged and implemented. It was in this atmosphere, under the New Education Systems Plan (NESP), that the Institute of Medicine was established in mid-July, 1972 (1st Shrawan, 2028). Thus, the IoM, which had its origins in, the Civil Medical School of 1934 by way of the Health Assistants School of 1956 and the AHW School of 1962 finally reached the existing set up in July 1972 AD (10).

Soon after its establishment, the IoM in an effort to make health personnel education more widespread, started campuses for different grades of health workers, in different parts of the country. At that time there were just four development regions i.e. Eastern, Central, Western and Far Western. The campuses were thus established accordingly as follows:

1. An ANM extension campus Tansen, Palpa - in 1973.
2. An ANM extension campus at Chhetrapati - From 1973-1979.
3. An AHW campus at Birgunj- from 1975.
4. An AHW campus at Surkhet - from 1978.
5. An AHW campus at Tansen - from 1978.
5. An AHW campus at Inarwa - from 1978-1979. This campus in the Eastern development region was reopened as a separate entity at Dhankuta in 1984.
6. A Certificate level Campus, Dharan - From 1978-1979. This campus did not produce any manpower as the first batch was transferred to Maharajgunj and amalgamated with the HA batch there.

Besides the training programmes for AHW & ANM health workers, which IoM conducted for the MoH, it had six certificate level programmes, in general medicine, nursing, pharmacy, radiography, health laboratory and

traditional /general medicine. Four of these certificate level programmes were of two and half years duration, while nursing and the ayurvedic programmes were both of 3 years after the ten years of basic schooling. In terms of career development, there was to be provision, for a four year "Diploma Level" course in medical sciences at a later date.

These middle levels of medical manpower who would work in the field for specified periods of time, would then be given opportunities to go on to become community oriented physicians at the end of four years of study and one year of internship.

The auxiliary and certificates level programmes at the IoM have also changed from time to time (11). The entry level for auxiliary programmes has varied from an "eight class pass" to a "class ten pass". Some upgrading courses of three months duration were done for the old AHW. Later, post SLC auxiliary course of one year was started for Community Medical Auxiliary (CMA). There were similar grades of workers in Ayurved who were known as *baidyas*. Students who completed this course and then worked in the health field for a specified time would be allowed to take upgrading courses to become Health Assistants at a later stage.

Nursing Programmes.

With the establishment of the IoM in 1972, the certificate level courses in nursing were only conducted at the Mahaboudha Nursing Campus and at the Shanta Bhawan Nurse Training Programme. Subsequent years saw the conversion of the CMA campuses or upgrading of the ANM Campuses so that the net result was the establishment of four additional nursing campuses in the order given below (10):

1981 - Nursing Campus at Biratnagar
1984 - Nursing Campus at Pokhara
1986 - Nursing Campus at Birgunj
1987 - Nursing Campus at Nepalgunj

The Mahaboudha Nursing Campus was shifted in 1986 to the Tribhuvan University Teaching Hospital site, and became the Maharajgunj Nursing Campus. The Shanta Bhawan Nursing Programme became the Lalitpur Nursing Campus on 10th December 1990. A new Nursing Campus was started at Bir Hospital in 1988.

With the stress in community orientation, the certificate level-nursing curriculum was totally revised in 1987 so that nurses would be able to function as staff nurses in hospitals as well as in the rural settings.

+

In 1978, the IoM had started higher grades of study in nursing and medicine. In keeping with Tribhuvan University (TU) policies then, these were referred to initially as "Diploma" level programmes. Subsequently with change with the university policy they became known as bachelor degree programmes in nursing, medicine and ayurved respectively.

The BN or the degree equivalent to BSc nursing was initially a post-basic course of two years in midwifery or community nursing, with major inputs in administration and management and teaching/learning aspects. After a few years, two areas of paediatric and adult nursing were then taken up for study. In later years the nurses trained in the four distinct areas became trainers at the nursing campuses. The Bachelor in Nursing course presently has a common first year and is then separated out into a general hospital type or one in community nursing.

In 1992, following a change in policy the auxiliary courses conducted by IoM were discontinued. It should be noted that from 1993 the entry to certificate level courses has been made to be intermediate science or 10 plus two or equivalent. Entry for Bachelor courses was also this. The reason for this was because of the decision that University education would begin after twelve years of schooling. Consequently a Council for Higher Secondary Education plus another Council for Technical Education for Vocational Training (CTEVT) were established.

NB. Entry to Technician Certificate in nursing continues to be still SLC pass.

Nursing personnel

As far back as 1978, the IoM started higher grades of study in nursing i.e. BN at the same time that the MBBS was started. With stress in community orientation, the certificate level nursing curriculum was revised in 1987 to enable nurses to work not only as staff nurses of the urban hospitals but also in the rural settings. It may possibly be a model in the future.

The Bachelor in nursing course initially had a common first year and was followed by a year of general hospital nursing or one in community nursing at the IoM or at an affiliated campus.

In 1994, the IoM consisted of the three faculties of Medicine, Nursing and Ayurved. The number of programmes, which at one time had reached 24, was reduced to 21, then 19 and subsequently to 24 in 1997 AD (10). With the development of the five regional training centres, the private institutions for ANM and AHW production, the history of training of the basic level under

the IoM was brought to a close. Training of some middle levels continues at present on a reduced scale.

The establishment of the many teaching hospitals without a nursing school of some sort is a cause of worry for the immediate problem is going to be the shortage of nurses that is bound to occur. The number of 280 nurses being trained annually in the nineties was very meagre in terms of the likely increase in hospital beds over the next five years. Are the ANMs who should be working in the rural areas and more specifically with the maternity services going to be utilised here? The current numbers of nurses and ANM as registered with Nepal Nursing Council at the end of 2004 is 5664 and 6161 respectively. The demand for nurses is increasing daily. They are going in relatively large numbers to UK and USA to provide nursing care to the elderly.

What are the contingency plans to tackle the shortage in Nepal? Are they to?

a. Recruit nurses from out of the country.

b. Get Assistant Nurse Midwives (ANM) to work in the hospitals

c. Utilise only nurse aids in such situation.

To meet these demands, the existing training institutions for nurses will have to be expanded and new ones opened in different parts of the country. To lessen the shortage, all the new medical colleges being established have made undertakings to their own nursing schools plus also to train paramedicals:

The nineties also saw the starting of the BN course at the Lalitpur Nursing Campus. The BPKIHS at Dharan started a BSc in nursing with both male and female students. The Pubanchal University has also started a Bachelor grade course in nursing.

In summary the number of boards or institutions supervising the production of different grades of nursing manpower can be as denoted below:

Table. 4.1 Nursing personnel producing institutions and programmes.

Institution	**ANM**	**Prof.. Cert.**	**Post Basic BN**	**BSc Gen.**	**Masters**
CTEVT	35	17*	x	x	

+

Inst. Med.	x	7	2 + 1Bir	1	1
BPKIHS	x	1	x	1	x
Kath. Univ	x	(*DMI)	x	1	x
Purvanchal	x	x	2	x	x
TOTAL	35	25	5	3	1

National Health Training Centre

With the concept of providing an integrated community oriented health services, a number of Regional Training Centres had been started in the different regions of the country at varying periods of time under the aegis of MoH:

Dhankuta	(Eastern Region)	- 1982
Pathlaiya	(Central Region)	- 1982
Pokhara	(Western Region)	- 1982
Surkhet	(Mid Western Region)	- 1982
Dhangadi	(Far Western Region)	- 1990

The categories trained were AHWs, MCHWs and VHWs. The arrangement was for the final examinations of the AHW's to be taken by the IoM whereas the National Health Training Centre took those for the MCHWs and the VHWs.

Following the introduction of the National Health Policy of 1991, a National Training Co-ordination Unit was established in the MoH. Centres for training of AHWs and MCHWs were established at Biratnagar, Janakpur, Rajbiraj (Saptari), Mahendranagar (Dhanusha), Bhairahawa and Nepalgunj. The National Health Training Centre is the end result of the restructuring of the Health Services (12).

In the wake of this National Health Policy and as a result of direct encouragement from the government, various private institutions of differing capabilities suddenly mushroomed in other parts of the country. The reason for this was the expected shortfall in the lower levels of health manpower and though the IoM was involved in the final assessment of the products, there was initially no time frame as to how long this arrangement will continue. The CTEVT has now taken over the responsibility of running the auxiliary level courses.

+

As of December 2004 a total of 146 institutions had been affiliated by the CTEVT for the training of the basic levels of health manpower such as CMA, ANM etc. Of this number five are the Regional Training Centres of HMG/N for CMA training and the others are all private institutions. Many were opened initially but quite a few of these have closed over the years. There are currently various courses and the number of institutions in which these courses are conducted has increased and are as follows:

Table 4.2 Number of Schools / Auxiliary Courses by Types as of 2004

Course	No. of schools
Community Medicine Auxiliary	81
Auxiliary Nurse Midwife	33
Laboratory Assistant	29
Ayurvedic Assistant	1
Dental Assistant	1
Acupuncturist	1

Health Assistant courses are also being conducted at Bharatpur, Nepalgunj and Dhulikhel. IoM is producing bachelor in Ayurvedic Medicine and Surgery (BAMS), under TU. The Mahendra Sanskrit University is planning to produce different grades of ayurvedic manpower.

Whilst intake requirements vary from a SLC to SLC test passed, the numbers enrolled vary between 20 to 120 per intake at each institution. The course duration varies too, from one year to two years and five months with the certificate issued at the end being labelled as that of a Technical SLC to denote a CMA, ANM or an AHW. Grave concern is being expressed regarding the quality of the products as much deficiency exists in the equipment, training facilities and teachers of these teaching institutions. The inadequacy for practical training, the large numbers being taken in each batch are just two of the causes for further worry. At a lower level a six months PHC course is also in existence.

Institute of Medicine MBBS course & it's Influence

+

The concept of the basic community oriented doctor has been with the IoM since the course of study was started in 1978 and the first batch came out in 1984 (13). Initial opposition to the programme was that this being "WHO inspired and community oriented" would lead to the production of sub-standard medical manpower. The opening of the Japanese aided Tribhuvan University Teaching Hospital helped considerably with the establishment for the training of the MBBS programme. Whilst the initial five batches into the MBBS course were candidates who were middle level health workers, the subsequent entrants have been of two groups viz. those who have an I.Sc. and those who have a health worker's background. However, as from 1999 there are only candidates who have done twelve years of schooling and passed ISc or 10+2.

During the course of the last twenty six years there have been, from time to time, a number of changes regarding entry requirements, the duration of the course, the examination system and the quality of the products coming out at the end of the study period. The general experience is that doctors produced by IoM are more ready to go out to work at rural postings e.g. the district hospitals than doctors who have been produced outside of Nepal. The standards and capability of the IoM produced medical graduates is no longer in doubt as many have been going out to different countries of the world for further training and study.

Community Oriented MBBS Course

When the MBBS course at the Institute of Medicine was started in 1978, there was a great deal of opposition in the sense that what was being envisaged for Nepal was something new, not traditional and something which was not accepted in the world in general. What has happened is that the concepts then advocated e.g. community medicine, problem solving, system wise instruction and integrated teaching have been accepted. Even the Medical Council of India has come up with a number of recommendations, which will have far reaching effects in their country, once suggestions made there are enforced (14). It is noteworthy that these proposed changes are similar to what has already been accepted by the IoM as ideal for implementation. A recent paper on Community Oriented Medical Education (COME) states that IoM has, to a certain extent incorporated these concepts in its teaching learning activities. COME has had a positive impact on the education of physicians in Nepal in that later programmes of MBBS at BPKIHS and KU have taken it up (15). KU has introduced what has been termed the SPICES model type of curriculum, which is based on the principles of:

S – student centred / teacher centred approach

P – problem based / information gathering approach

I – integrated discipline based

C – community oriented / hospital based

E – elective included

S – systematic approach to curriculum planning /apprenticeship based

Present and Future Problems

The MBBS degree of Tribhuvan University, IoM had been recognised by the Medical and Dental Councils of Bangladesh and Pakistan in 1986 and 1987 respectively. Subsequently in 1994 the Medical Councils of both India and also of Sri Lanka accorded recognition. The MBBS and BDS of BPKIHS is recognised by Medical and Dental Councils of India respectively; The MBBS degree of Kathmandu University at the different medical colleges affiliated to it, is also being recognised one by one.

An intimation from the General Medical Council of the United Kingdom in Feb. '98 stated that the MBBS degree of Tribhuvan University is accepted for limited registration. This applies too to the MBBS degrees of BPKIHS and Kathmandu University.

Future Projections and HRH Issues

What must be realised is that the ministry of health has the largest number of government employees. It is roughly about one fifth of all employed by the government.

Considering these facts it is true that health manpower planning exercises have been done in the past. These are specifically:

1. Study in 1978 based on requirements in the public sector and worked out especially for the Fifth Plan Period (1975-80) plus on projections for the Sixth and Seventh Plans i.e. up to 1990. These calculations were for 16 categories of health personnel.
2. Exercise done in 1980 showed that there was a shortage of most categories of staff in the public sector.
3. An interim report of 1982 confirmed that there would be a short fall of all categories of staff till the end of 1990.

+

4. A fairly extensive planning exercise done in 1986, dealt with 12 categories of health staff and verified previous estimates of the shortfall of categories such as doctors, nurses, AHWs, HAs, pharmacists, sanitarians and vaidyas.
5. A master plan for Human Resources for Health (HRH) was prepared in 1994. A more comprehensive document on HRH has now been published.

The massive requirement for various grades of manpower is going to be very acute during the course of the next decade. The demands of the private nursing homes, the medical colleges and the specialist hospitals/ institutes are going to be large. The area of the most acute need is possibly going to be in nursing. As the major requirement of nurses will be in the hospitals that are coming up in the private sector, the authorities have made the starting of a nursing school a compulsory undertaking by these new training or specialised, tertiary care institutions. Though no figures are quoted as optimal ratios, the World Development Report 1993 recommends as a rule of thumb that nurses should exceed physicians by at least two to one. The reality in Nepal is far removed from this. Another recent factor for the shortage is the increased demand for nurses in developed countries such as UK, USA, Canada and Australia.

Though the requirement of the degree level in nursing has not yet been properly worked out, it is likely that the products of the initial years will be utilised as teachers or to man the specialised units in the tertiary care hospitals that are coming up.

Whilst definite plans cannot be made for the future, what cannot be denied is the desire of many students to take up a career in the health field. This is welcome in the context of manpower shortages in this area but there is a fear that excessive production of different grades of manpower may be at the cost of skill and capability. With the policy of liberalisation there has been the granting of permission to open a variety of schools for different grades of manpower. This existing demand has led to an increase in the number of institutions imparting education for service in the health sector.

Some of these new institutions, which have been sanctioned by the CTEVT, are very substandard and should not be functioning. But they are, and are going to produce workers who will be practising at grass root levels with drugs about which their knowledge is not adequate. What will be the

standard of the doctors, nurses and other categories of health workers produced does not seem to be the worry of the authorities.

Many questions arise regarding the massive shortage of doctors and nurses expected in the future. Is this shortfall going to be solved by importing health workers into Nepal?

Initially the IoM had been producing Basic and Middle level workers from 1972 till 1978 when the MBBS was the first Bachelor programme that was started. In course of time the under mentioned categories of Basic level health workers which had been produced by IoM were stopped.

Basic Level

Assistant Nurse Midwife (ANM)
Auxiliary Health Worker (AHW-Pre SLC)
Community Medicine Auxiliary (CMA)
Baidya (Aux. Level)

The other categories of manpower that have been produced by the IoM are the Certificate, Under Graduate and Post Graduate levels are shown below (10). The certificate programmes were stopped at the IoM in 1998 but the Council produced some of these categories of manpower for Technical Education and Vocational Training (CTEVT). The training of nurses however continued on for the time being. Certificate nursing programmes are also being currently run by Tribhuvan University, BPKIHS and NAMS, which are based at the Bir Hospital. It must be noted that both BPKIHS and NAMS are deemed universities.

As per the MoH website www.moh.gov.np the number and breakdown of persons employed by HMGN or working as volunteers in the health sector at the end of 2004 is as follows:

Doctors	1259
Nurses / Assistant Nurse Midwives	6216
Paramedic / Health Assistant	5295
Village Health Worker	4015
Maternal & Child Health Worker	3190
Pharmacist	21
Pharmacist Assistant	15

+

Ayurvedic Physician	391
Baidya	347
Health Volunteers	
Female Community Health Volunteer	53999
Trained Traditional Birth Attendant	14951

The Medical Schools Situation

In his address at the Acapulco Conference at Mexico in 1986 Dr. V. Ramalingaswami said:

"It was once believed that the best way to get doctors to go to rural areas was to overproduce them, and oversupply the urban areas with them, in the hope that through sheer pressure they would gravitate to peripheral areas—an expensive and wasteful method, which nevertheless seems to have led to better distribution in some cases, while not in others (15).

In terms of numbers the Acapulco document went on to state that overproduction need not lead on to oversupply if there is out-migration. Furthermore any surplus may be due to inadequate existing health facilities or the lack of capacity to absorb the manpower. A comparison made in the document is that of Pakistan and the USA with a low and high physician / one lakh population ratios. Pakistan with 27.1 and the USA with 197.3 both had surplus of physicians but there is a difference in their abilities to absorb the human resources for health existing in their respective countries (16).

Thus whilst there is overproduction at some stage the doctor/population ratio in India of the nineteen eighties was that it had only 24 to 100,000 population in comparison to that for Czechoslovakia which had 270, or 249 in Belgium, over 200 in Sweden, 6 in Benin and 1 in Ethiopia. Whether the health manpower is well distributed or not, whether oversupply and under-utilisation exists in certain areas etc is related to the economic conditions existing plus also to various social and cultural factors. As health needs and demands can be infinite it is felt that a line has to be drawn by the society itself as to what it is willing and able to finance.

The medical course at the IoM was started in 1978. The first batch of IoM's basic community oriented doctor came out in 1984 (13). Initially there was opposition to the programme itself, in that this being "WHO inspired and

community oriented" was going to produce a second class of medical manpower. The hope of those involved in the training of doctors was that the products of the IoM especially those who came from among the middle level workers, would be more inclined when qualified to work in areas where they had spent their early years. It was also felt that as the degree was not universally recognised they would be more likely to stay within the country.

Even in those early years (1980), there was interest by various groups from outside of Nepal to set up medical colleges. Bearing in mind the fact that as the MBBS course of the IoM had just started, the Nepalese authorities were not keen to allow such efforts. Thus it was only in the nineties that it was decided to set up the B.P.Koirala Institute of Health Sciences (BPKIHS) at Dharan with the help of the Government of India. At about this time the idea was mooted that having private medical colleges will not only bring about a boost in the economy but that a good service sector could be created in the health field. Besides decreasing the amount of money being spent outside of the country for the health care of the Nepalese, the government would be providing health services to a substantial portion of the population, at no cost to itself. Thus different medical colleges came into being in the order given in different parts of the country. The fear now is that this should not be overdone !

1. BP Koirala Institute of Health Sciences (BPKIHS), Dharan.

An Act of Parliament on 18th Jan, 1993 started the process for the setting of this autonomous institute, not under any University (17). It was subsequently established on 16th July, 1993. Its first intake in 1994 was of 30 students but this has gradually increased to 75 over the last decade. It is due to increase its intake to 100 students as from the 2005 academic session. There are special provisions for local candidates and also for those from foreign lands paying regular fees. The first phase of the project being completed, the official inauguration of the hospital was done on 9th September 1999. Addition done periodically to the original 150 beds of the hospital has now made it into a 700-bedded complex.

BPKIHS is a Centre for Infectious and Tropical Diseases, has schools of Dentistry, of Nursing and another for Allied Health Personnel. An amendment to the original act has given it the status of a deemed university. A School of Public Health is due to start from the academic year 2005.

2. Manipal College of Medical Sciences (MCOMS), Pokhara (KU).

This college started with its first intake of students in Dec. 1994. In the early stages the Western Regional Hospital was utilised for clinical training.

+

Now however buildings of the new hospital are complete and functioning. With the increased facilities and using the facilities of the Regional Hospital at Pokhara the student intake has been increased to 150 with intakes in August and February in an academic year. There are besides the Nepali students others from SAARC countries and also further afield.

The MCOMS also running courses in Masters grade for the Basic Sciences for both medical and non-medical personnel. MD/MS courses in clinical subjects are due to start in August 2005 also. There is also a nursing school as per the CTEVT curriculum.

3. College of Medical Sciences - Nepal, Bharatpur (KU)

The medical college was allowed to start functioning as from August of 1996 and its first institution day was celebrated on 14th December, 1996. Its ninth intake was in August as with the other medical colleges under Kathmandu University. There is a clause in the agreement of this college by which the Nepalese students account for about 25% of the annual intake. There are also special provisions for local candidates. Currently there are about 25 Nepalese students in each year. Others are mainly from India. Plans are to MD /MS in various clinical subjects from August 2005.

4. Nepalgunj Medical College, Nepalgunj (KU)

This, HMG/N approved medical college has been set up by a group of Nepali entrepreneurs grouped together in a body known as Lord Buddha Educational Academy. The medical college started functioning from December, 1997 with the first intake of 75 students, with an increase to 100 from the following year. It is proposed to start PG studies in certain areas as from August 2005.

A nursing school as per the curriculum of CTEVT is being run.

5. Kathmandu Medical College, Kathmandu (KU)

This medical college too started functioning from Dec. 1997 with a first intake of 75 of which around 33% were Nepalese. The college now has its Basic Sciences set up at Duwakot, Bhaktapur and its clinical set up at Sinamangal. It is currently taking 100 students per year. MD in pathology is running at present and it is planned to start postgraduate studies in other clinical areas as from August 2005. A Bachelor course in nursing is also due to start then.

+

6. Nepal Medical College, Kathmandu (KU)

This private medical college too started functioning from the 1997/98 session with an annual intake of 75 of which most were Nepalese. The formal opening was on 28th Dec, 1997 on the occasion of HM King's birthday. Whilst the initial plans are to use some of the hospitals of Kathmandu valley, the future hospital of this medical college has been constructed at Attarkhel, Jorpati. Its annual intake of students is now 100.

7. Universal College of Medical Sciences, Bhairahawa (TU).

The Universal Institute of Advanced Studies & Research Inc. established a medical college and hospital at Bhairahawa, near the birthplace of Lord Buddha and which has been granted affiliation by Tribhuvan University. Stated to be the only medical college promoted by Non-Resident Indians, it is officially known as Universal Institute of Medical Sciences, Nepal.

8. National Medical College, Birgunj (TU).

This college, affiliated with TU started classes in 2000 with an initial intake of 60 students and has currently four batches of MBBS students. Its first batch of students has yet to graduate.

9. Kathmandu University Medical School, Dhulikhel, Kavre .

Kathmandu University Medical School (KUMS) was established in 2001 with joint effort of Kathmandu University and Dhulikhel Hospital. It is a not for profit and autonomous programme, established to produce technically competent and socially responsible medical graduates by way of Problem Based Learning (PBL).

10. Janaki Medical College, Janakpur (TU).

This college, which is run by the Ram Janaki Health Foundation, is a private sector undertaking and is based at Ramdaiya Bhawadi, Dhanusha. Its first batch of sixty MBBS students was taken in 2003.

It is noteworthy that five of the private medical colleges are affiliated to Kathmandu University which also has its own medical school KUMS. Tribhuvan University besides its own Institute of Medicine also has three other medical colleges and two dental colleges affiliated to it. Affiliation has also been given to a medical college in the Far Western Region. BPKIHS has its own medical and dental college.

+

National Academy of Medical Sciences. (NAMS)

In July 2004 the Ministry of Health's (MoH) announced the setting up of an autonomous post-graduate National Academy of Medical Sciences (NAMS) based at Bir Hospital. The body responsible for this will be the Valley Group of Hospitals. NAMS is autonomous, has the official status of a deemed university and is currently running PG courses in medicine in a number of government hospitals in the Valley. It is also helping to upgrade the existing 'Diplomas' in the country by offering places to qualified candidates by giving one-year exemption in the Degree courses that they conduct. It is thus the Post Graduate Medical Institute of the Government.

The nursing courses that it runs are a Certificate and a Bachelor level.

Other ventures.

The government has issued letter of intents for starting medical colleges at Mahendranagar, Biratnagar and another at Birgunj.

Besides these, there are other applications for starting medical college at Rajbiraj, and even Kathmandu.

DENTAL COLLEGES.

At one time there was a great shortage of dental surgeons in the country. Over the course of the last decade a number of students have taken us study in this area. A number of dental colleges have been started in the country too.

There are at the end of 2004 a total of 379 dental surgeons of which 150 are male and 229 female. This works out to one dental surgeon for 66,363 individuals of the population.

a. College of Dental Surgery, BPKIHS, Dharan.

Though BPKIHS started its MBBS course in October 1994, the first batch of dental students was only taken in August 1999. Initially the dental college was functioning from the medical complex, but later the College of Dental Surgery had its own buildings and the first batch of students completed the BDS course in 2004.

b. Peoples Dental College, Kathmandu (TU).

A project, which was started with the intention of starting another, medical college at Kathmandu was later established in 1997 as the Peoples

Dental College, affiliated to Tribhuvan University. The first batch of this institution qualified in 2004.

c. College of Dental Surgery, Bhairahawa (TU).

The Universal College of Medical Sciences at Bhairahawa started classes of its first batch of BDS students in what was initially the Dental Wing of the Medical College in November 2001. Subsequently it was changed into the College of Dental Surgery in 2003.

National Requirements for Doctors

It is worth noting that till Nov. 1996, Nepal had just two institutions producing doctors. The sudden spurt of activity to open private medical colleges spurred the Nepal Medical Council to express concern about the quality of graduates to be produced by such health / academic institutions which did not have proper facilities for service nor for training. This had led to widespread concern about standards. The worry is whether there would be enough work for graduates produced as this would lead to under utilisation of doctors in the future. The desire of many young students is to pursue a course of study in the medical or engineering fields within the country has prompted many to try to fulfil their wishes.

Because of the excessive amount of capitation or medical "fees" in India, a recent trend has been for students to go to Bangladesh, Philippines and more recently China where the costs are said to be less. The large number of Nepalese going to the former USSR or to the CIS and some of the newly founded Republics to study medicine have decreased markedly as a result. As standards of medical education vary in different countries and between the public and private institutions in the same country, there is a lot of sorting out to be done. This led to the NMC to propose to the Government to have licensing examinations, which was started in 2002. As of October 2004 it has been held every 3 months to a total of eleven occasions. In the light of all this, the ultimate objective should be to train all the MBBS level doctors within the country itself.

A study of the NMC register for 2004 suggests that out of the 4838 currently registered Nepalese doctors, 3199 are male and 1639 female. Of this perhaps about 500 or so are out of the country studying or working elsewhere. This figure also includes those in Nepal who are retired and not doing any professional work. This means that on a countrywide basis about 4338 doctors are responsible to cater to the health needs of the current population of 25,151,423. There is therefore one doctor for about 5732 of

the population. Of these numbers about 10% or 562 are currently registered as specialists of whom 430 are male and 132 female. There are a total of 379 dental surgeons of which 150 are male and 229 female. There are also about **** expatriate doctors and dental surgeons, who have been given temporary registration and are working within the country. Of this ….. are working in the Basic Sciences Section of different medical colleges and ,,,,, in clinical subjects in different parts of the country.

The current enthusiasm for starting new health manpower producing institutions shows that uncertainties regarding viability of medical colleges are not a deterrent to prospective entrepreneurs. Are institutions of reputable standards being set up? Will there be adequate number of teachers? Queries of this sort are coming to the NMC and the Universities of Nepal.

The scenario for the production of doctors is changing. The current number of about 500 Nepalese students being trained annually in medicine will increase by about 100 within the next three years and more rapidly after that. Is it because the doctor's life is seen to be financially attractive and the profession lucrative? The number of doctors expected to be produced can be deduced from figures of current training as given in Table 4.4 below.

Table 4.3 Annual intakes for MBBS course

Teaching Institution.	Annual Intake.
Institute of Medicine	60
BP Koirala Institute of Health Sciences	100
Manipal College of Medical Sciences	150
College of Medical Sciences - Nepal	100
Nepalgunj Medical College	100
Kathmandu Medical College	100
Nepal Medical College	100
Universal College of Medical Sciences	100
Kathmandu University Medical School	45
National Medical College	100
Janaki Medical College	60

Presently the intake of about 160 students by the two government institutions (IoM & BPKIHS) will produce this number annually. The 9 private medical colleges functioning at present, however about 850 students of which approximately one third are students from outside the

+

country. If one Includes doctors trained outside of Nepal, there will be a minimal addition of about 1000 doctors a year. Of this number the government has trains about 200 doctors as a result of scholarships. As much as 150 will be the scholarships within country at the private medical colleges. If the government makes it mandatory for every one who has had a scholarship in medicine to work for a maximum of one year at a government institution, then the problem of non-availability of doctors at government health institutions will no longer exist. Whilst these doctors will be absorbed in the initial years, the main worry of the NMC and the Nepal Medical Association (NMA) is regards the quality of the doctors produced by the private medical colleges. This applies to some institutions outside of Nepal, where the facilities for training are said to be grossly inadequate.

NMC guidelines lays down that there should be a ratio of 1:7 hospital beds per student. The departments necessary and the breakdown of the 700 beds required for a student intake of 100 students is (18):

Table 4.4 NMC guidelines on beds requirements by speciality

General Medicine	150
Surgery	170
Reproductive Health	100
Child Health	100
Orthopaedics	50
Psychiatry	25
Ophthalmology	25
ENT	25
Skin & STD	25
Dental	10
Emergency / Community Medicine	20
Total	**700 beds**

As per the same guidelines there should be a teacher of Professor, Associate Professor, or Lecturer level for every 15 students in almost all departments except for perhaps skin and STD, dental and forensic medicine. Some Basic Sciences subjects (Anatomy, Physiology) require one faculty for 15 students and some (Biochemistry, Microbiology) one faculty for 25.

What are Rational Requirements?

+

The doctor per population ratio was given in the Health Information Bulletin No. 8 of 1992 as 1:15,800 of the population (19). However about 50% of the doctor population were in the capital. This is simply because of health institutions of larger bed capacity being inside the Kathmandu valley. On top of this the central region of the country had 445 of the 874 government posts for doctors (20). A very rough estimate of hospital beds in Kathmandu valley then (1992) was put at about 2000 out of the total number of about 5000 beds in the whole country at that time.

The general refrain about government services is the overcrowding, long wait and poor services that seems to be the standard. A question that immediately arises is whether the Government supported hospitals and teaching institutions are so overstaffed, that under utilisation of the technical personnel occurs? Considering the relatively smaller numbers of personnel that they employ, are the private and semi-private institutions providing substandard services? Have the nursing and paramedical staff at such institutions been adequately trained in recognised institutions and are they registered in their respective Councils?

The number of doctors working in any community can be shown as per one lakh of the population. In the case of Nepal, at the end of 2004, it is stated that there are on average, 17 doctors per every 100,000 of the population or one doctor for 5732 of the population. In rural areas the ratio is probably 1 per one hundred thousand populations! This ratio will not be immediately changed. It will persist until such time as pay and facilities for living, lodging, and career development for those serving in rural areas is better than for those in the cities. As concession on these matters is seen as "being soft" by the government authorities, it is likely that the manning of governmental posts will never be satisfactory. Proof of all this is evident in the fact that many of those selected for posting in government health institutions out of the capital have not taken up this option. Even the passage of the newly enacted Health Act is not helping much as there is no real enthusiasm to join government services. To try to provide services in the rural areas, HMGN has come with a proposal to send doctors there on contract basis with special facilities.

Future projections for Nepalese doctors registering with the NMC can be estimated. There has been a marked increase every year though substantial number of new graduates are sitting for USMLE and PLAB tests with the hope of going out of the country.

Future Projections of Physicians

+

It is difficult at any time to project accurate figures for the requirements of not just physicians but also other categories of health manpower. This is because there are no certain plans for the future though attempts have been made from time to time. The updated Human Resources Master Plan draft document of June 1995 has made a detailed estimation of doctors and specialists requirements for the government sector, and projections for the future (21). The figures cannot be accurate for serious consideration has not been made of the requirements of the private sector such as nursing homes, private hospitals etc.

With the new medical schools and the new specialised Institutes plus the nursing homes of the urban centres vying for the services of the doctors, there are not going to be very many left for service in the districts as per the intention of the government. The numbers of middle level workers such as nurses, laboratory technicians etc required is not going to be available as there are not enough for the present existing services. The private sector is more attractive than the government one and so the reality that is being faced is that there will be a gross shortage of middle level workers. In such a situation, the planned new institutions will not be able to function and the standards in existing ones will drop because of inadequate numbers of staff. This is being temporarily, partially solved by HRH students in training who do 'on job training' or OJT and contribute to keep the services just functioning. To continue functioning, certain compromises will have to be made, leading thereby to undesirable functioning. Manning of the hospitals in the districts is a bit more difficult. The district health system and the health services at the grassroots level will be functioning with lack of appropriate staff, absence of monitoring and total lack of effective and supportive supervision. Alternative arrangements or options will have to be taken up.

In the context of the country we signed the Declaration of Alma Ata in 1978. Our commitment was to HFA 2000 with determination to provide Primary Health Care. The National Health Policy has been laid down with the stress on the rural areas. When the IoM was established and the community-oriented course was started, the stress was on the concept of "health teams" providing care to the people. Now as developments in Nepal unfolded, the stress has been laid more on the training of physicians with more emphasis on tertiary care. What has happened to the concept of a health care team? It seems to have fallen by the wayside. So too have suffered the teachings of the seventies and eighties when it was said that the "high cost, big buildings, orientation to episodic illness and sophisticated technology" was not suited to developing countries such as ours (22). The stress was to

have been on labour-intensive instead of capital-centred policies. The new catchwords introduced were the "public / private mix in the delivery of health care". The identification of the district as the unit of health care seems another gimmick to pronounce and keep the masses in a world of make believe health care. The presence of a single doctor at the PHC Centre in an electoral constituency does not spell the delivery of primary health care. The health sector reform which has been put into action may help but here too it is the implementation of what has been thought out that is going to show whether the system works or not.

One way however of looking at all this is with a philosophical outlook and saying that the process of decentralisation of health services is on the move. Instead of coming to the capital there are going to be better tertiary care facilities at centres such as Dharan and Pokhara. With facilities a little bit nearer to where people live, incidental costs such as travel, temporary accommodation for attendants have decreased. Hopefully with better facilities within the country, the numbers of the ill that go to India and abroad will also decrease. As far as eye care is concerned patients are coming from India to Nepal and this is a healthy trend.

Coupled with the existing reality of manpower shortages in the health field, there is a desire of many students to take up medicine as a career. This has led to an increase in the number of institutions for imparting medical education. Worries about the direction medical education may take exist as many medical colleges are being opened without really knowing what the country's actual requirements are.

With such a background, the new Nepalese medical graduates produced here are now going out to other countries for further study and training (23). Should this be a cause for worry? Is this a drain of scarce resources that the country cannot afford or a blessing in disguise in that the manpower which the government cannot employ nor the country sustain are going elsewhere? The hope is that they may send remittances back or at least come back to the home country once they retire, where ever they. The introduction of 'dual citizenship' may perhaps be an incentive to them.

Table 4.5 Medical and Nursing personnel in selected SEAR countries (24)

		Physicians	Nurses/Nurse-Midwives	Midwives & Auxiliary Nurses/ Nurse Midwives
Country	Year	Number per 100,000 populations		

+

Bangladesh	1994	18.1	7.7	Not available
India	1991	48[b]	40.2	19.8
Indonesia	1993	11.6	64.6	Not available
Maldives	1993	18.9	13.0	51.2
Myanmar	1994/95	28.4	22.4	23.7
Nepal	1995	5.3	5.4	6.4
Sri Lanka	1994	22.7	73.8	37.0
Thailand	1993	23.5	80.4	87.6

Source: WHO Regional Report 1996
[b] Data for 1992

Post Graduate Studies in Medicine

Postgraduate study programmes run on traditional lines and imported from out of country institutions are mainly adapted towards international recognition, rather than meeting the community needs and local realities. It is also more costly. It was these thoughts, which prompted steps to try to ensure that most of the Nepalese doctors do their postgraduate studies in Nepal.

Postgraduate studies started in the country as early as 1982 with the MD in general practice for those referred to as 'generalists'. The MD(GP) programme of IoM, had the support of the University of Calgary till March, 1995. The course of action followed in subsequent years by the IoM was that the different degree/diploma courses started were as per the requirements of the country and according to priority basis.

The two years M.Sc (PH) was started in 1991 and continued till 1998 when it was converted into a one year MPH.

In the post *andolan* period a number of meetings were held with the object of starting post-graduate studies in a number of specialities. Dr. S.K. Kacker, then Director of the All India Institute of Medical Sciences, came in Dec. 1992 as a WHO consultant to help guide the process. Three programmes, on a much lesser scale than then envisaged, started in 1994. The course of studies was to be done at the valley group of hospitals and the degree awarded would be that of Tribhuvan University.

One of the difficulties about diplomas and degrees is that they mean different things to different people in different countries. The new policy

regarding degrees and diplomas by the MoH is that only doctors with postgraduate degrees will be posted in hospitals, which are centres for postgraduate training. This decision and the establishment of other medical colleges also meant that there is a large requirement of doctors with postgraduate degrees in different specialities.

There should thus be extensive increased efforts to develop our own post graduation facilities. We should be clear that the training we conduct is as per the needs of our country and not just geared for the needs of foreign lands. As there are a total of eleven medical colleges in different parts of the country, there will soon be ample opportunities to do different speciality courses in Nepal. To encourage PG studies within the country, HMG-Nepal could make national postgraduate degree as a minimum criterion for getting government specialist and academic positions (25).

Registration of specialists by Nepal Medical Council at the end of 2004 shows a total of 562 specialists of which 430 are males and 132 females. The other details are as follows:

Subject of Specialisation	Male	Female	Total
Anaesthesiology	24	11	35
Cardiology	32	1	33
Clinical Pathology	12	1	13
Community Medicine / Public Health	5	2	7
Dental Surgery - Masters	9	7	16
Dermatology / Venereology	9	0	1
ENT	17	5	22
Gastroenterology	8	1	9
General Practice	26	3	29
General Surgery	57	3	60
Internal Medicine	34	5	39
Nephrology	3	1	4
Neurology	5	2	7

Obstetrics & Gynaecology	26	52	78
Oncology	3	0	3
Ophthalmology	25	13	38
Orthopaedics	30	1	31
Paediatrics	57	20	77
Pharmacology	2	0	2
Psychiatry	11	0	11
Radiology / Imaging	28	3	30
TB and Respiratory Diseases	1	1	2
Urology	5	0	5
TOTAL	430	132	562

It was perhaps not only in the context of the availability of services but also for facilities to train manpower of various grades that the UML government announced during the time that it was in power from Nov'94 to Sept'95 its intention of the starting of five Institutes:

I. Saheed Gangalal National Heart Centre at Bansbari.

ii. National Institute of Neurology at Bansbari site.

iii. Institute of Child Health to be based at Kanti Children's Hospital.

iv. Institute of Obstetrics & Gynaecology to be based at the Maternity Hospital at Thapathali.

v. National Institute of Medical Sciences to be based at Bir Hospital, Kathmandu for the conduction of Postgraduate, Undergraduate medical (internship) and nursing training.

In May of 1996 the MoH had announced the formation of a special 16 members task force to look into various areas pertaining to health and to submit its report in two months time. The areas to be looked at were:

- the licensing and running of nursing homes.
- the establishment and running of private medical colleges.

+

- the establishment and running of various specialised institutes as announced from time to time.

Bearing all these factors in mind the National Academy of Medical Sciences (NAMS) for postgraduate studies has been started in the capital. It is based in the Bir and the Valley group of hospitals and is a deemed university.

The programmes that it runs for health personnel are those of nursing and PG courses in Medicine / Surgery.

Nursing - Certificate & Bachelor levels
Medicine / Surgery – MD /MS courses.

HRH in Pharmaceutical Sciences

Though the Institute of Medicine had started the manpower training in pharmacy in the seventies, the Bachelor grade manpower had to be trained outside of the country. It was the Kathmandu University, which started the Bachelor, and subsequently Masters in this area. Subsequently IoM also started training in the Bachelor grade. Following the passage of the Pharmacy Council Act the personnel in this areas had to be registered. The numbers registered and their area of work is as follows:

Place of Work	Number of Pharmacists	Number of Pharmacy Assts.
Industry / Laboratory	102	1
Education	15	3
Govt. Service	23	14
Pharmacy	22	19
NGOs	9	1
Others	36	11
TOTAL	207	49

RESEARCH

Health Statistics

+

Nepal, being one of the least developed countries in the world, has many health problems. Statistics about Nepal, vital or otherwise, are hard to come by. The quoted infant mortality rate varies from source to source and from publication to publication. The incidence of diseases and even disabilities, vary markedly from survey to survey. Is it the incorrectness of the methodology or approach or are the figures just "cooked up"? Many researchers, irrespective of the credibility of the principal investigator have to depend on figures supplied by basic grade workers or research teams who have not been adequately trained. Instead of striving to obtain correct figures their whole attitude to the result may be lackadaisical or "this will do". Nepal aside, such practices are known to be prevalent in institutions of greater credibility and learning than those found in the developing countries. The variation of figures makes one doubt the correctness of all the statistics. Are they reliable? Are they true? One wonders if there is any truth in the saying, "Statistics, more statistics, and lies"!

At present there are very few health statistics to boast about. The figures regarding malnutrition are usually those of a survey done in 1975. Very few medical doctors seem to be interested to be involved in research. Is it because it is less lucrative? Even with the increased number of medical colleges there has not been appreciable increase in research.

Health Research

Research in Nepal has been done under various institutions. Perhaps before 1950 it is not likely that much research was done. Research before the sixties may have been regarded as a form of luxury. Accounts of diseases seen by the various Resident - Surgeons at the British Residency do exist.

A survey of sorts regarding malaria in Kathmandu valley was done with the support of USOM in 1950. A more detailed health survey of Nepal was done in 1965-66 with the support of the University of Hawaii and the Dooley Foundation. It is a milestone of research activity in Nepal. Subsequent to this, some medical research work was done by some teams, which usually got permission from the Nepalese government as a result of some sort of tie up with the existing infrastructure existing, to enter Nepal. Such tie-ups were either with the TU's Research Centre for Applied Science and Technology (RECAST), TU's Centre for Nepal and Asian Studies (CNAS) or the National Council of Science and Technology. Universities or other institutions in their home countries in turn usually supported the expatriate

researchers. They did their research and went back. The results were published in the West.

With the formation of the various institutions and research centres of Tribhuvan University, a new method of research operation came into being. Any expatriate wanting to do research had to get the concurrence of the concerned institute e.g. medicine and the research section of Tribhuvan University. It was at this time suggested to the researchers that they should publish their findings in Nepal, besides in their own countries.

At that point in time if any local Nepali was motivated enough to do research, he could get some support in one of the under mentioned ways :-

a. Through university funds, allocated to the institute. Though relatively limited, one had to have proper proposals and so there were not many who applied.

b. From National Council of Science and Technology

c. From WHO

   i. SEARO origin. Said to be relatively easy to obtain but in reality not so.

   ii. Geneva originating Tropical Diseases Research. In special areas like malaria, leprosy, kala-azar and schistosomiasis. Institutional support provided, but not many applications.

d. From USAID funds. Know of cases who applied, were short-listed but later did not succeed.

Again, operational research was encouraged during this period of the early seventies. It usually centred around the benefits of integrated health service delivery vs. uni-purpose vertical health services delivery concept. A national effort in the form of the Nepal Fertility Survey (NFS) with the support of the University of California at Berkeley took place in 1976. During all these years and subsequently, USAID has been involved in various types of research in conjunction with the FP/MCH Project of HMG Nepal.

In late seventies workshops were held at Kirtipur under the aegis of TU to try to kindle interest in research. It might have generated some but not enough. This led to the IoM conducting a workshop with WHO support on Research Methodology in Sept. 1982.

+

The Royal Nepal Academy of Science and Technology (RONAST), was established in 1982 and was then the responsible body for scientific and technological research, policy and planning (26). Then with the setting up of RONAST a new chapter was started. The giving of certain awards by RONAST to young scientists in the medical field generated some interest to think in terms of research and of its subsequent publication. At the present time the medical profession, like other branches of science is represented by two doctors also. The recent second National Conference in July, 1994 saw adequate participation by the medical profession.

Research Activities

One thought about research in this part of the world is that it is a luxury and should not be undertaken until health service problems have been solved. The contrary view says that research is necessary to enable those trying to solve the problems to accomplish more with fewer resources. This should be the thought that is prevalent in Nepal if we are to make any headway in the future.

Nepal is a virgin territory as far as research is concerned. We do not, for example have standard figures regarding the health status of the Nepalese. Answers are lacking for many of the biomedical and public health problems in the country. It is for this that both the IoM and the Ministry of Health have at various times, in unison or separately brought out lists for suggested areas of research. Such lists have varied slightly and the most recent one put out by the NHRC is given later in this chapter.

Of the research conducted so far, it may be said to have been influenced by the Nepal Medical Research Committee. This seven-member body was formed on 15th April, 1982. This was to be the National Focal Point on Health Services Research and the fact that the Health Secretary was the Chairman meant that it was directly under the Health Ministry. Later in September 1982, this committee was expanded to 10 by including members from other areas related to health, e.g. Ayurved, Pharmaceutical etc. Later an Ethical Review Body (ERB) was formed. Its function is to review the project proposals submitted to NMRC from an ethical point of view.

The function of NMRC is to encourage research, help in making proposals and elicit funding, help in publishing and disseminating results. It has held workshops directed towards solving these problems. Whilst some increase of research activity has taken place, it is not adequate. The

undertaking of research and publishing of findings should be encouraged to a much greater extent, especially in areas outside the capital.

Whilst research conducted locally has been helped by the National Council of Science and Technology (NCST) and RONAST, a number of research projects underway have been supported by various overseas organization or institutions, e.g. WHO, IDRC, JICA and so on.

As mentioned earlier, most of the research done in Nepal, especially those supported from outside are not published within the country. Even local researchers would give preference to this, for this is the only way that the work conducted is noticed. From 1985 the Health Learning Materials Centre of the Institute of Medicine, which is the first WHO Collaborating Centre within Nepal, started collecting articles related to Nepal and formed a Resource Centre and Data Bank. It has brought out a number of volumes of the Annotated Health Sciences Bibliography of Nepal covering the period from 1950 onwards. The usual excuse that access to recent research reports is not available is no longer valid with the Internet, Medline and other options that are now available. . More recently some of the Nepalese medical journals are being excerpted outside and have been given ISSN numbers. Hopefully, the trend to print within the country will increase. In 2004 both the Journal of Nepal Medical College and the Kathmandu University Medical Journal were listed in Index Medicus and PubMed. This has come as a great boost to print within the country.

Current Problems

A problem that is always stated is lack of financial support. This is perhaps just a question of which comes first – the chicken or the egg? Unless the proposal is sound and put forth well, it will not ensure support. Even with this there is limited likelihood.

Unfortunately, investment in health research is lacking in the Third World. Its problems like TB, ARI, STD and injuries have really not been researched. To give an example, foreign multinational companies have not really bothered to do research in diseases such as schistosomiasis and kala-azar. Research on epidemiology, health information systems, management and misuse of drugs are lacking. The reason may be that health is such a low priority in development plans that allocations to it are meagre and funds are limited to tiding over the day-to-day problems. Because of this state of affairs, the pharmaceutical industries do not have adequate incentives to invest in health.

+

Future Priorities and Plans

A new chapter was started with the establishment of the Nepal Health Research Council as an autonomous body on 29th April 1991, as per the Nepal Health Research Council Act of the same year. It should facilitate the encouragement, organization and conduction of research activities in this country for its objectives are stated as follows (27):

- Promote a health research culture within health and related sectors with special emphasis on the young scientists.
- Maintain ethical, scientific and technical standards in health research.
- Update the research priorities and establish national health research agenda.
- Coordinate research within health and related sectors and avoid duplication.
- Evaluate and promote the utilisation of research findings in policy development and service delivery.
- Fund and facilitate researchers to enhance their research skills.

In the November of its first year of functioning, the Nepal Health Research Council did a review of research done between 1986 to 1991 (28). This type of action by the Nepal Health Research Council was long due.

May, 1995 saw a new set of office bearers for the Nepal Health Research Council. The new team brought out a booklet listing the Health Research Priorities for Nepal. These are listed in twelve groups as given below (29):

1. **Health Systems Research - Aimed at improving the process of providing health care**
   a. Distribution of need for health and health related services.
   b. Nature of needed health and health related services.
   c. Distribution and availability of health and health related services.
   d. Financing aspect of health and health related services.
   e. Structure, organisation and management of health and health related services.
   f. Patterns of service use.

+

g. Effects of service use (efficacy of interventions).

h. Strategies for reaching health targets.

2. Health Policy and Implementing Strategies Development Research

a. Equity in resource allocation.

b. Quality of health services.

c. Management of health services.

d. Role of private sector in health care delivery.

e. Drug use and pricing.

f. Occupational health.

g. Appropriate technology.

3. Health Economics Research

a. Unit cost of services at health units - health post, sub-health post, primary health care unit.

b. Costing of basic packages of health services.

c. Per capita health expenditure.

d. Cost recovery studies.

e. Health information, recording and reporting systems.

4. Health Behaviour Research Directed at Understanding of Factors for Improving the Utilization of Health Care Facilities

a. Health behaviour of socially disadvantaged groups.

b. Promoting community participation.

c. Water and sanitation.

d. Nutrition.

e. Women's reproductive health.

f. Demographic and family planning studies.

5. Human Resource Development Research - Directed Towards the Optimal Utilization of HRH

a. Per capita cost of training health manpower such as doctors, nurses, public health specialists etc.

+

b. Utilization of manpower.

c. Attrition of health workers.

6. Educational Research - Directed at Employing New and Improved Educational Technology for Change in Health Behaviour

a. Health education methods, media and materials.

b. Evaluation of on-going seminars and recommendations.

c. Utilization of research results in health programmes.

d. Aspects of medical education.

7. Research on Environment and Health

a. Air pollution - Indoor.
- Outdoor.

b. Water pollution.

c. Food contamination.

8. Research on Population and Development

9. Research on Substance Abuse

a. Alcohol.

b. Drugs.

c. Tobacco and Health.

10. Research on Traditional Medicine

11. Communicable and Non-communicable Diseases Including Clinical Research Directed in Pertinent Clinical Subjects

The research should be on broader aspects to control, prevent and treat/manage diseases and illnesses.

a. Development of standard criteria and appropriate diagnostic methods.

b. Control measures for communicable disease which have common modes of transmission.

c. Control of common risk factors contributing to relevant non-communicable diseases.

d. Changing patterns of disease concurrent with the changes in life style, environmental conditions etc.

+

e. Cost effective, socially and culturally accepted methods for the provision of promotive, preventive, curative and rehabilitative health.

f. Development of effective epidemiological surveillance systems, rapid epidemiological assessment techniques.

12. Biomedical Research with Direct Relevance to the Health Systems Research

Now that the priorities have been revised and the information disseminated it is time that someone should get down to the serious business of getting things done. The work done or encouraged to be taken up should be such that it is of benefit to the country and not just for the satisfaction of personal ego. It should not be esoteric research, but instead something which has practical applications and can bring about benefits for the Nepali people.

It is perhaps with the thinking that research should be according to needs and more broad based that the government announced in May, 1995 the formation of an Ayurved Research Committee under the Chairmanship of the Director of Ayurved Department. Among the seven other members of the committee are Superintendent of the Nardevi Hospital, Chief of the Singha Durbar Vaidyakhana and the Campus Chief of the Ayurvedic Campus.

The new NHRC has published notices in local newspapers and also tried to make contact with various people in the health field stressing two major points:

1. That all research done in Nepal should be known about by the NHRC, and permission received for the same.
2. That all persons having completed or undertaken research in health and related areas should send in their reports/documents if completed and protocol of being implemented to the NHRC.

Due to various reasons the Nepal Health Research Council found itself in the doldrums and very little occurred in the way of activity over the course of the next two to three years. However in 1997, the Council started a Journal titled *Khoj-Bin*, but it did not go beyond a couple of issues. Subsequently, the NHRC, being a focal point for Essential National Health Research (ENHR), held a national conference in June 1997 to endorse ENHR as an integral part of national policy development and proposed action plan.

+

It is felt that the process of this can be strengthened by way of the six under mentioned themes:

- linking of health with equity and social justice
- "People First" concept - making health a public agent: empowering process for the people with special focus on women
- health rights, health service user's rights / patients rights
- regulatory process development - transparency and accountability in health care
- health sector reform
- envisioning health research for the 21st Century / future.

Making a compilation of its activities during 1991-97 the Nepal Health Research Council (NHRC) reported that a total of 202 research proposals were accepted during this time and that 85 of these had been completed. As the results of this have not been published nor the findings widely disseminated, it would be worthwhile doing so and showing that the research conducted are relevant to the needs of the country.

Whilst the NHRC has been supported with ad hoc grants by HMGN, it has been supported over the years by WHO in Health System Research. There is also an Environmental Health Centre which has been established. Maryknoll Fathers & Brothers (MFB) has personnel working with NHRC since 1977. In 2000 the NHR received the Rockafeller Foundation Award for the 'Capacity Strengthening of the Health Research Network in Nepal'. A number of activities were held over the next two years in the form of workshops and seminars with the involvement of academicians, medical colleges, Govt / Private hospitals, NGOs / INGOs with the objective of increasing the research capacity (29).

A "National Ethical Guidelines for Health Research in Nepal" was brought out in 2001 in the hope that such a document will help to promote medicine and science, whilst at the same time protecting the dignity, rights, safety and well being of research participants (30).

The new set of office bearers have brought out a document "National Health Research Policy for Nepal" to cover the period 2003-2008 (31). The policy aims stated therein are as follows:

+

1. To emphasize ethical practice in all health research to achieve equity and social justice.
2. To augment health researches in the priority areas set by the National Health Policy and to provide advice based on evidence to HMG-N for formulating appropriate health policies.
3. To promote health research in all aspects.
4. To facilitate collaboration and networking with all major stakeholders involved in health research at the national level.
5. To enable, support and sustain human, financial, technical and other resources required for health research.
6. To promote inter / intra-sectoral participation in health research.
7. To secure international linkages and collaboration for health research.
8. To establish a National Health Research System.

References

1. Marasini BR. Health and Hospital Development in Nepal: Past and Present. JNMA 2003, 42, 306-311.
2. Shrestha, IB. Health Personnel Training in Nepal. J Inst Med 1979; 1(2):155-172.
3. Medical Education Re-examined. Medico Friend Circle, 1991, Bombay.
4. Dixit H. Training to meet health needs in Nepal. Indian J Pediat 1986, 49: 481-486.
5. Das, Uma D. (Personal communication).
6. Factors Affecting the Roles and Functions of Staff Nurses in Nepal. Thakur, Laxmi. 1993. Nursing Education Dept. IOM.
7. Prasad, Mahendra. Bir Hospital reminiscences of a challenge. Bir Hospital Centenary Souvenir, 1990, 86-90.
8. Four Decades of Development. The History of US Assistance to Nepal 1951-1991. CA Skerry, K Moran, KM Calavan, 1991.
9. Dixit H. Role of the Institute of Medicine: A Review of Perspectives. Tribhuvan University Journal, 1980, Vol. 11, 1, 5-13.
10 Annual Report of the Instiute of Medicine, 2004 / 2061
11 Health Manpower in Nepal. P.N. Shrestha, 1984. Family Health Project, IOM, Kathmandu.
12. Annual Report of National Health Training Centre, 1994.
13 Innovative Programmes of Medical Education in South-East Asia, 1993, WHO, SEARO Publication No. 21.
14.. Regulations on Graduate Medical Education 1997, Medical Council of India, New Delhi.

+

15. Health Manpower out of balance. Conflicts and prospects. 1986, XXth CIOMS Conference, Acapulco, Mexico.

16. Soberon G. An Overview of Country Studies. Health Manpower out of balance. Conflicts and prospects. 1986, XXth CIOMS Conference, Acapulco, Mexico.

17 Annual Report (2003--2004) / Plan of Action (2004--2005). BP Koirala Institute of Health Sciences, Dharan.

18. Nepal Medical Council Guidelines, 1997. NMC, Kathmandu.

19. Health Information Bulletin, No.8, 1992. MoH, Kathmandu.

20. Pradhan YV, Present scenario of physician's manpower, The Kath. Post, 30/9/ 1997.

21. Human Resources for Health Master Plan. June, 1995. HIMDD/ERPHC (ODA).

22. Manpower and Primary Health Care. Ed. RA Smith, 1978, Univ. of Hawaii.

23. Dixit H, Training of Doctors in Nepal, 1998, HRDJ, **2**,(1), 61-68.

24. Regional Health Report 1996, WHO-SEAR, New Delhi.

25 Implementation of Strategies for Health for All by the Year 2000 - Third Monitoring of Progress. 1994. P&FA Div. Kathmandu.

26 Proceedings of Second National Seminar on Health Research in Nepal. 1995. NHRC, Kathmandu.

27. Health Research Review. 1991. NHRC/WHO.

28 NHRC and Health Research Priorities in Nepal. 1995. NHRC.

29. Biennial Report 2000-2001, NHRC.

30. National Ethical Guidelines for Health Research in Nepal. 2001. NHRC.

31. National Health Research Policy of Nepal. 2003. NHRC. Kathmandu.