# ANALYSIS OF ALTERNATIVES IN MANPOWER PLANNING FOR INDIA'S HEALTH SERVICES

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## DECLARATION

Certified that the dissertation entitled "Analysis of Alternatives in Manpower Planning for India's Health Services" submitted by Subah Singh Yadav is in partial fulfilment of eight credits out of a total requirement of twenty-four credits for the degree of Master of Philosophy of this University. This dissertation has not been submitted for any other degree of this University and is his own work.

I recommend that this dissertation be placed before the examiners for evaluation.

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# C O N T E N T S

# Chapter I

# INTRODUCTION

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## INTRODUCTION

Manpower Planning is the activity of management with the aim to co-ordinate the requirement and availability of different types of employees and utilization or employing the manpower resources by the country. It may also involve adjusting the requirements to the available supply.

It is not a clearly defined practice. "To some it is a statistical technique in which rates of wastage and rates of transferrence and promoting are incorporated into a numerical often a computerised model. ...sometimes coupled with the data produced by the corporate planning or long range planning experts so that changes in requirements are also introduced in the model".[1]

The objectives of developmental and social priorities are such that they obviously create problems of choice at least on two dimensions. In the first place, some objectives can be pursued only at the expense of others. Secondly the objectives have to be stated for a time horizon which has to be more or less arbitrarily chosen. Therefore, it is not easy to decide what manpower to target for. We may be aiming at wrong mix or at producing right man at the wrong time.

There is no satisfactory landmarks in the evolution of Health manpower planning and organisational arrangements

in our country. The post-50's era saw some unprecedented happenings when manpower planning was stressed in planning perspective and educational perspective and as an important content of labour economics. Still we have to reach desired attainments which have been promulgated so far.

Thus I am inspired and encouraged to go on this study for the purpose to highlight Manpower Planning for Health Services in India. For certain reasons, I shall develop further, the existing of health services in India is inappropriate. A few symptoms of this can be pointed here e.g. Disinclination of doctors for villages, their high concentration in urban areas. Not only the doctor is reluctant for rural area, but he prefers to dwell in cities without work.

The economy and society is confronted with a paradoxical and confounded situation; on the one hand shortage of doctors and non-availability of health facilities to villages and on the other hand unemployment among doctors in cities. The problem is more conscicuous and pervassive and a matter of great concern for Indian Economy. Where the size of investment made on medical services is significant enough. It has been further aggravate owing to brain-drain which causes pure quantitative loss.

In spite of sustained efforts over the last 30 years, the health status of Indian people is still far from satisfactory. The sheer magnitude of the task still remains so great and additional resources available for the purpose appear to be so

limited that one almost despairs of our health needs we seem to have accepted.

A time, therefore, has come when the entire programme of providing a nation-wide net-work of health services needs to be reviewed with a view to evolving an alternative strategy of development more suitable for our conditions, limitations and potentialities.

This viable model will consist of organisation of basic health services within community itself and training of personnel needed for this purpose which includes right from doctor to the lowest attendent.

Organisation of an economic and health service to bridge the community with the first referal. Manpower planning has to be subjugated to economic planning. Economic and social costs are to be found out; we may guess that the alternative model will be more beneficial than the existing model even if the cost is more.

Then it may be possible that doctors may be attracted to villages, and if unemployed doctors are given specified training, even the brain drain may be less.

According to the major indications like expectation of life, morbidity[2] rates and incidence of diseases, the level of health of people in India was low on the eve of independence as compared to other countries. One of the major reasons of low health was shortage of trained personnel in medical science particularly doctors. In view of this high priority has been

accorded for the expansion of medical education in our economic planning. Consequently there has been a phenomenal growth in the doctor, population ratio, even doctors, started facing the problem of unemployment.

Table 1

ACHIEVEMENT OF THREE YEAR PLANS

| | | End of I Plan | End of II Plan | End of III Plan |
|---|---|---|---|---|
| 1. | Hospital and dispensaries | 10,000 | 12,000 | 14,600 |
| 2. | P.H.C.'s | 725 | 2,800 | 4,930 |
| 3. | Family Planning Centres | - | 1,649 | 5,057 |
| 4. | Medical Colleges | 41 | 62 | 89 |
| 5. | Annual Admission to Medical Colleges | 3,958 | 6,846 | 10,520 |
| 6. | Annual output of Medical Colleges | 2,732 | 3,900 | 5,387 |
| 7. | Doctors | 65,000 | 72,000 | 87,000 |

Source : The Supply and Demand for Allopathic Graduates (doctor), 1978-79 by National Institute of Health Administration and Education.

Table 2

ACTIVE DOCTORS BY SECTORS

| Sector of Employment | 1950 | 1960 | 1964 | 1968 |
|---|---|---|---|---|
| 1. Government | 23,000(35%) | 29,000 (40%) | 38,000 (46%) | 51,000 (50%) |
| 2. Self and Private Sector | 42,000 (65%) | 43,000 (60%) | 45,000 (54%) | 51,000 (50%) |
| 3. Total | 65,000 | 72,000 | 83,000 | 1,02,000 |

Source : The Supply and Demand for Allopathic Graduates (doctor), 1978-79 by National Institute of Health Administration and Education.

The fact that doctor population is high where certain diseases have become rare has little to do with doctor, ability to control or eliminate them. It simply means that doctor deploy themselves as they like, more so than other to professionals and that they tend to gather where the climate is healthy, where environmental advantages are available and where people are employed and can pay for their services.

The largest killer diseases are malaria, filaria, leprosy and some other communicable diseases. But do we have doctors for these different kinds of diseases? Certainly not as we like.

Although the objective of health services during the first four five-year-plans was to control and eradicate the major communicable diseases yet unfortunately the achievements in these plans fell short of target, specially in the minimum need programme whose object was to create adequate infrastructure and health care services in rural area.

No effective strategy to curb Filaria in rural parts of the country has been evolved so far. Eighty five million out of an estimated 136 million population susceptible to Bancroftian Filariasis, live in rural areas. Measures to tackle this problem need to be given importance based on findings of experimental studies. Filaria and Malaria control measures would also be integrated into a composite programme.

The reappearance of Malaria is due to the development of parasite resistant mosquitoes. Immunization has almost wiped out. But for most other infections medicine can show no comparable results. Malaria, leishmaniasis and sleeping sickness indeed receded for a time under the onslaught of chemical attack, but are now on the rise again.

The effectiveness of medical intervention in combating non-infectious diseases is even more questionable. In some situations and for some conditions effective progress has indeed been demonstrated. Through intravenous feeling, blood-ing and surgical techniques more of those who get to the hospital survive trauma but survival rates for most common type of cancer

those which make up 90% of cases have remained virtually unchanged over the last twenty five years.

Community Based Programme

In recent years there has been considerable re-thinking on the social, technological and philosophical basis of the development of health services in the country. There is a serious dissatisfaction with the existing model of medical and health care services.

The Shrivastava Committee was the first committee which took this into account and suggested a new approach to health care services which begins with the community aid trained health workers from within the community itself and links up with the basic services within the community with an infra-structure of dispensaries and hospitals through a sound and well-organised referral system.

It is, however, wrong to assume that these services should be provided only through two categories of professional staff. At the community level, what is needed mostly, is not professional expertise so much as nearness to the community, its confidence, emotional rapport with the people, willingness to assist, low cost and capacity to spare the needed time. It is, therefore, necessary that these services should be provided through members of family itself and by part-time trained para-professionals who operate on the self-employment basis.

Various steps would have to be taken to organise the large number of para-professional. This will enable a large number of individuals to discover their own interests and aptitudes. In every community we should have trained local semi-professional part-time workers of at least following categories :

1. Persons who will be able to dispense a set of specific remedies selected from all systems of medicine for ordinary, common ailments.
2. Persons who have been trained in the skills needed in programmes for the control of communicable diseases and whose services can be harnessed readily in case of emergencies.
3. Persons who will help to develop promotional and preventive health activities, specially those related to improved nutrition, mental sanitation and control of common diseases.

A community health worker will be given training for a period of three months. He will be taught the fundamentals of health services, measures for maintaining health, hygiene, treatment of common infectious diseases, ailment, first aid etc. He is expected to provide basic health care facilities in these fields to every village or community.

He will also be imparted training in traditional systems of medicine popular in the area of his care. The trained worker will be provided with a medical kit and an honorarium for the services rendered to the community on a part-time basis

in addition to his normal avocations. It will be necessary to ensure updating the skills of community health workers through periodic training.

The re-orientation training of the workers engaged in the control or eradication of communicable diseases programme fiz trachoma filaria, small pox, TB, leprosy, cholera and sexually transmitted diseases would be vigorously pursued so as to engage the entire staff should with multi-purpose sheme. Additional multi-purpose workers would be provided whereas there are shortage and the norms of one female and one male-multi-purpose worker for 5,000 population would be achieved. Besides integration of district supervisory staff for the control of communicable diseases, the budgetary provisions etc. would be reorganised to reflect this integration.

The allocation made for rural health programmes during the fifth plan is Rs. 490 crores nearly.

The targets set forth in the fifth plan (1974-79) likely achievements by 1977-78 and targets envisaged in the plan for 1978-83 are given below :

Table 3

HEALTH PROGRAMME - PHYSICAL ATTAINMENTS

| | 1973-74 | 1974-79 Target (Addition) | 1974-78 Likely achieve-ments (add) | Likely at the end of Fifth Plan | Target for 1978-83 |
|---|---|---|---|---|---|
| 1. Primary Health Centres | 5259 | 101 | 71 | 5321 | 30 |
| 2. Sub-cultures | 33509 | 10317 | 5101 | 38610 | 38000 |
| 3. Rural hospitals | ... | 1297 | 215 | 215 | 400 |

Source : Draft Five Year Plan (1978-83), Government of India.

Maladjustment

Maladjustment which is lying mainly in areas and categories, is another defective symptom of existing model of health services by India. A very few private allopathic medical practitioners reside in rural areas, since there is little or practically no scope for private practice there, the capacity of individual to pay for medical services being very limited. Proportion of rural population availing the services of private allopathics residing in urban areas is very small as many cannot afford to pay the price of private medical service.

Due to the lower per-capita income, the rural population cannot afford to pay for allopathic medical services. Allopathic medical services could, in fact, be provided to the vast rural population only by Government by opening an adequate number of dispensaries. It must be recognised that due to the financial and other limitations the government would not be able to open a sufficient number of rural health centres during the next few years so as to provide adequate medical relief to the vast rural population.

Coming to the problem of rural public health dispensaries it is observed that there is some difficulty in getting doctors for rural areas. The reason for posts remaining unfilled is that doctors are reluctant to accept services in rural areas on account of difficult conditions of life, lack of amenities and certain basic facilities, such as communication, children's education, social, cultural and academic life. They also feel that they would be out of touch with the progressive trend in medicine.

For alleviating the shortage of doctor in rural areas provisions of proper incentives to attract medical personnel seems to be the only practical approach. Incentives provided so far by the government have not been adequate.

The bulk of resources available for health programme should be utilised for strengthening the facilities available at the door-step of the people viz the taluka, hospitals or conversion of primary health centres into rural hospitals.

Next in order of priority will be hospitals in medium sized towns and district headquarters.

In view of the fact that the bulk of provision of hospital beds in urban areas and specially in the cities and state capitals, it will be a policy not to increase this provision except to a very limited extent and only in cases where much expansion is strongly justified on the grounds of needs and priority. In such cases urban areas would be expected to meet a part of the cost of these facilities, through local cases and revenues. Attention should be given to minimise pressure on city and state hospitals and to reduce costs. They will include the establishment of convalescent homes to accomodate patients who do not need active medical treatment, setting up polyclinic to provide referral services to urban dispensaries and provision of Dharmshalas in the vicinity of hospitals for accomodating patients drawn from far off places. Establishment of new hospitals in addition to existing hospitals and the number of additional beds would be so planned as to ensure balanced regional distribution, viability and sound management. A proper delineation of functions among hospitals, polyclinics and dispensaries will be attempted to ensure optimum utilization of available facilities.

The maladjustment in medical profession is greater than in other professions like engineering and technology. The doctor cannot be put to a lower job like an engineer who can be absorbed in technicians or mechanic's post. A doctor cannot

do the job of a compounder. So he is quite immobile in this sense.

But a doctor's job can be done by two compounders that it is desirable to produce two compounders instead of one doctor.

It is only when a best doctor can do a particular job effectively, he can be subtituted instead of a bad doctor or medical personnel in a vigorous way, because a universal and egalitarian programme of health services cannot be developed against a background of a socio-economic structure in which the largest masses still live below the poverty line.

Alternative Strategy

So our manpower planning for health services should gain its ground in context of our total planning, a rampant system, where we will have a galaxy of community health workers. This will be an integrated referral system including right from the doctor to the lowest attendant and some of them will be imparted first hand knowledge of curative preventive and promotional aspect of health.

Para-professional groups within the society (local community) the health workers, the health assistants and the PHC doctors cannot satisfactorily perform the duties and functions expected of them unless they are properly integrated into a well-organized referral system which would provide them with adequate support and guidance from this point of view it is necessary to develop an effecient and readily accessible system.

At present most of hospitals function in almost total isolation from one another without satisfactory links with the local community and a wide gulf seperates them from the primary health centres. Therefore, primary health centres, regional and medical hospitals should each develop living and direct links with the community around them and also have functional links with one another within a total referral service complex. This linkage can be best secured through properly organized internship programme. Once established, it will create a viable and economic referral services complex. It will provide a programme of total health care; promotive, preventive, curative and rehabitative.

There are also several important issues in medical and health education which need immediate attention and decision followed by vigorous and sustained implementation. For example: determination of the objectives of undergraduate medical education and giving a positive community orientation to the entire programme, the re-orientation and re-organisation of pre-medical education in the 10+2+2 pattern; revision of undergraduate curriculum including the preparation of teachers, production of teaching and learning materials, adoption of suitable methods of teaching and evaluation.

What is needed most is the creation of a suitable structure, with adequate administrative machinery and funds at its disposal and to charge it with the responsibility of determining and implementing a medical programme of reform in medical and health education in the years ahead.

Taken as a whole the basic programme will not only provide the most efficient health care services possible to the community but will also provide feedback from the community to the system of health care itself and lead to great implements there in overtime.

# Chapter II

## SYMPTOMS OF EXISTING HEALTH SYSTEM

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The existing system of health came into being with certain uses and abuses, due to the dire need of East India Company and subsequently the British Government to provide allopathic medical care to their officers and soldiers posted for service in India. Even as late as 1944 the main function of such services was to provide medical care to the British personnel serving, along with the Indians, who happened to serve the crown. The provision of health care to the general public was only ancillary to this major demand.

In post-independence India demand for total health care was obvious because provision for social services is one of the important functions of the government of an independent country. This impetus led different committees to put forward bold proposals for the development of national programme of health services.

This system reflects boom light and it calls for a study of its highlights which have sprouted during the era with certain pressing problems.

This system is essentially urban oriented and relies heavily on curative methods and sophisticated diagonostic aids, with little emphasis on the preventive and promotional aspect of community health.

We have adopted tacitly and rather uncritically, the model of health services from the industrially advanced and consumption oriented societies of the West which has its own inherent fallacies. Health gets wrongly defined in terms of consumption of specific goods and services distortion of basic value which is to determine the qualities; costs are increased due to over professionalization and individual autonomy is also reduced. These all equations ultimately go on affecting the health of people adversely. Even if we assume the system faulters, then the huge cost of the model and its emphasis on over-professionalization is no doubt unsuited to the socio-economic conditions of a developing country like India. And the greatest catastrophe lies in the fact that we continue to permit with the model even though borrowed it from have begun to have serious misgivings about its utility and ultimate viability.

The over-emphasis on provision of health services has been counter-productive (through professional staff under state control). It is devaluing and estroying the tradition of part-time professional workers which the community used to train and throw up in the society. The New Professional Services provided under state control are inadequate in quantity due to the paucity of resources and unsatisfactory in quality on account of defective training.

Education and health have continued to grow in isolation from each other to the detriment of both. It was not bothered to blend them.

The last twenty-four years saw a tremendous expansion of cadres of functionaries which provide various health services to the community. Its role reason was because each health programme was run virtually independently of others and with little co-ordination. Even the two doctors of primary Health Centres had separate sphere of activity. The weaving of different cadres into a single multi-purpose cadre to provide all the different promotive, preventive and curative health services which also includes the control of communicable diseases, was not realized although it was desirable and indispensable.

In the system of medical education prevalent today, any doctor who goes out of the system of the medical college has little opportunity to come back to update his knowledge and skills; and no facilities exist outside the system of medical education to achieve this objective.

The modern health care system has been packed into unhealthy bias of advanced technology which is unwarranted. Since many of the most common diseases prevalent in the country respond to simple and less sophisticated treatment, opting this technology, which is necessarily expensive would lead to the negation of even rudimentary medical care for the majority of people. Further more this advanced technology had been developed in affluent societies to meet their health needs, which differ from the health problems of less developed countries. For instance, diseases of circulatory system and cancer account

for nearly 50 per cent of the deaths in developed countries, as against 18.5 per cent deaths in developing countries.[3]

The primary health centres are mostly in tottering positions. A Committee of the Government of India observed that almost all national programmes have suffered because they have not received adequate attention from medical inchange and his team of para-medical workers. The ignorance, apathy, fear and lack of confidence among the para-medical staff at large are responsible to a considerable extent for under-utilization of capacity of these workers. These findings were reinforced by a country wide study of community health behaviour. Only a small fraction of the mothers get even most rudimentary level of scientific care at the time of chilc birth. Again only a small fraction of population has access to protected water supply and a result of which water borne diseases such as cholera, dysentery and enteric fevers are widespread. Poor environmental conditions contribute to widespread prevalence of parasitic infestation. Unfortunately, there have been serious set backs in the national compaign to eradicate malaria. Little headway has been made to deal with the public health problems caused by diseases such as filaria, tuberculosis, leprosy, trachoma and nutritional disorders. The country has to make a supreme effort with technical and monetary assistance from WHO in order to attain the distinction of being the last but third country in the world to eradicate small pox.[4]

Our pursuit of quality in madical education and health services has been inimical to quantity or the spread of health services to the people. We cannot expand these quality services adequately because they are costly and we do not have necessary resources.On the other hand, we are also not prepared to dilute the quality of these services to reduce their costs and to make them available to the poor people. In either case, the net result is the same; the poor people a re denied the benefits of health services at present and it appears that they will continue to be so denied for years and years.

Coming to Medical Colleges, the situation is also grave there. Numerous colleges have been opened in five year plans specially first three plans. Quite a number of them are sub-standard both in the field of training as well as provision of services. The syllabus and curriculumn of such medical colleges are anything but realistic towards the need of country and are still based on the production of medical personnel primarily on the pre-independence need of impartial services.

The services provided are also becoming more and more divorced from general health service provision due to tendency of isolation of many colleges from the field. P.H.C. is meant for 1 lakha people and in each P.H.C. there are two posts of doctors and in each district hospital there are about 10-20 doctors working, depending on the size of district. There are 106 medical colleges in the country in which about 12,000 students

are enrolled each year. The production is much higher than the employment in Government service.

There is also maladjustment of the medical colleges. Arunachal, Mizoram, Nagaland and other two states have only 1 medical college while in some states 8 Government and 4 medical colleges are available. H.P.College sells its 30 seats to Gujrat and gets 2 lakh rupees per year.

Rural & Urban Distribution

In the prevailing health system of India, the entire programme has been built up with the metropolitan cities as centres and it tries to spread itself out of the rural areas through intermediate institutions such as Regional, District or Rural Hospitals and Primary Health Centres and Sub-centres. Very naturally the quantum and quality of the services in this model are at their best in the centre. It admittedly fail at what is called periphery which, unfortunately comprise about 20 per cent population of India which should be the real focus of development strategy.

It is very important to depict the considerable disparity in the state of health between rural and urban areas as we move away on the track of the said system. There has been a great hue and cry on this issue and many study groups have supported this with ample surveys. The death rates in rural India are nearly twice as high as in urban areas. The crude death rate in urban India came to 10.06 during the three years, 1970-72 on the average as against 17.53 in rural areas. Estimates

of infant mortality for the year 1964-65 came to 79.93 in urban areas as against 114.50 in rural areas. Further, out of the total deaths in India during 1968, about 53 per cent were among children below 5 years, during 1969 this proportion came above 53 per cent.[5]

Another biase is reflected in the allocation of other resources like para-medical personnel, drugs, etc. between the urban and rural sectors, but the majority of the country's population live in the villages. The health situation is more grave in the rural areas, as reflected in their higher morbidity and mortality rates. True we have set up quite a few primary health centres to cover rural areas; but the primary health centres are ill-equipped, under-staffed and poorly supplied with drugs and other inputs. The urban bias is inequitable and morally unjustiable, given the rural urban ratio and the higher rate of mortality and morbidity in the rural area. No perceptible dent on the state of health in the country can be made until these sides of model are redressed.

A preliminary example can be taken here to elucidate this disparity and clinch the issue. Midariferys services to the poor peoples re mostly delivered by dais. We condemn the idea as the medieveal practitioner who wanted to eliminate her. So we started the programme of having trained nurse mid-wives and setting up maternity hospitals but we have succeeded in creating these facilities in urban areas only; and in rural areas the anxiliary nurse mid-wives attend only to less than

5% of the deliveries and these too from well-to-do families. These services even have not reached the fringe of poor people and our funds have already run out. It has created a real dilemma. It is a vigilant fact that for years to come in this country, the mid-wifery services to the poor people will have to be provided by village dais and the best course for us would be to train them. But we refuse to accept this policy. On the other hand, we persist in the present policy on grounds of quality, knowing fully well that we cannot extend services to the poor. The better thus becomes the enemy of good and it is who continue to suffer.[6]

Like many other countries India has been caught in the health manpower crisis, popularly known as "Qualitatively and Quantitatively dilemma" the state policy is one of the distribution of health services widely all over the country across social lines and irrespective of ability to pay. Doctors have always been visible symbol of health care but they simply won't go to villages because there is little or practically no scope for private practice.

The proportion of rural population availing such private medical service is reallyvery limited. In 1961 about 2000 dispensaries were without the competent doctors.

The Mudaliar Committee also found that rural service was not popular and where the positions were not actually vacant, the incumbents with rare exception, looked upon it as a

a period of forced labour, until they could manage to get away to more congenial positings in city hospitals or health departments.

The rural urban distribution of the total stock of doctors in the year 1970-71 is not available as such. Out of the total number of doctors in the country, it was estimated by IAMR for the year 1964 that 68 per cent are in urban areas and 32 per cent are in rural areas.[7]

We all say that most of the qualified medical practioners are practising in urban areas but has anyone even bothered to conduct a medical manpower survey? Our government and Planning Commission (which possibly have turned a deaf ear about the problem can conduct the survey. According to a survey conducted by Government of West Bengal 40 per cent of available medical manpower (practioners practising modern scientific system of medicine) are already working in the rural areas. This result by and large differs from the figures pointed out by IAMR but unless we have a proper idea about the available medical manpower and their distribution in our country, no health planning can succeed. It will be revealing also to find out what percentage of the practioners of other systems of medicine are practising in rural areas.[8]

According to the Todds Committee report no country in the world has as yet been able to solve the problems of rural health care as coctors like other professional men want to practise only in areas where they can have sufficient practice

to maintain themselves and their families. The problem of rural health care is still there even in affluent countries like USA and Canada. These problems do not exist, however, in countries which have National Health Service e.g. in Great Britain and the Scandinavian countries which believe in a socialistic pattern of society e.g. USSR the East European countries and China. No matter what we do, what the present government does or any future government in our country may do the problem of rural health care will not be resolved unless there is nationalisation of health services in our country. If we would have set that goal at the time of our independence we would have been nearing it now and if our administrative machinery accept this objective in principle, we can probably achieve the target by the next 10 to 15 years. The rural population of our country has as much right for a first class health care provided by qualified medical practitioners as the urban population.[9]

The basic unit of health infrastructure in rural areas in India consists of primary health centre and the sub centre to provide integrated primary health care. Presently, there are more than 5000 PHC; and 38000 sub-centres in India. In general there are 8-10 subcentres for each PHC providing health care to 10,000 population. Each PHC is manned by 40-60 health professionals and para-professionals so that one multi-purpose health worker is available for each 10,000 people. Recently the

government has introduced the part-time community health workers and dais to serve 1000 people each in their village with a view to strengthen the health service there. By the end of 1978, it is expected that more than 70,000 CHWS will be trained. In addition there are estimated to be 40,000 registered medical practitioners in India providing health services (mainly of curative nature) on private basis. In general the state health expense is no more than Rs.10/- per person per year and bulk of this is on staff and maintenance with less than Re.1/- per year for drugs. Some developing countries of the World are spending similar amount for health care but with much better results than attained by India. The efforts have been sporadic and though target oriented, they have met with very little success. For example, there have been sporadic attempts at eradicating malaria, control of trachoma, conversion of health workers from unipurpose to multi-purpose health workers, besides the launching of the family planning programme the tuberculosis control programme and recently the training of community health workers. This has meant huge expense and little or no impact. There has never been a commitment to any programme nor any laying down of priorities which have to be done when resources are limited. Supplies supportive supervisory and backup of the health staff are grossly inadequate. Thus the limiting factors in existing health care services are not lack of manpower or inadequacy of resources. The problems are related to lack of adequate inputs which are essential for the functioning of health

staff in the field situation. There are no proper ecological and epidemiological studies of rural areas of our country and no proper people-oriented assessmentof health needs of rural areas covering preventive and curative aspect even during the last 30 years. In absence of those, it will not be possible for us to suggest concrete and comprehensive health plan for the rural areas of the country.

Unemployment among Doctors

Because of difficult conditions in the private practice, may doctor seek employment in public health and other services. Indicators of the problem are rising trend in the number of graduates registered with the Employment Exchanges. In 1961, 2,300 medical graduates reported themselves as unemployed. The employment exchange data also indicate a rising trend in the employment seekers among medical graduates.

The problem of doctors seems to be somewhat more serious than other professionals where it is possible to absorb the surplus in the lower level jobs more easily as in the case of engineers and other technical workers. But the doctors cannot be put to jobs other than their own.

In 1961 census a specific enquiry about the scientific and technical personnel was made and some data on the unemployed were collected. Though the coverage of the enquiry was not complete yet the data provide some indication about the magnitude of unemployment of doctors in 1961 (in the table given below.

The data on unemployment point to the fact that a significant number of medical graduates are seeking employment either in public health services or in private sector and that they don't want to settle down as private medical practitioners. It may, therefore, be inferred that under current market conditions, there is a surplus of doctors.

Unemployment among doctors

| | | Total number of doctors enumerated in specific enquiry | Number of doctors reported unemployment | Percentage of unemployment |
|---|---|---|---|---|
| Degree | Persons | 22,623 | 1,590 | 7.0 |
| | Male | 19,810 | 1,265 | 6.4 |
| | Female | 2,813 | 325 | 11.6 |
| Diploma | Persons | 10,015 | 743 | 7.4 |
| | Male | 9,084 | 634 | 7.0 |
| | Female | 931 | 109 | 11.7 |
| Total | Persons | 32,638 | 2,333 | 7.1 |
| | Male | 28,894 | 1,899 | 6.6 |
| | Female | 33,744 | 434 | 11.6 |

Source : P.N.Mathur - Supply and Demand for Critical Human Skills in India's Developing Economy : A Case Study for Doctors ef (Unpublished).

The practitioners who want to settle down in urban areas added new dimensions to the problem. They would like to beg and borrow rather than to go villages and earn their living. But let us see both sides of the coin. It is easy for not only politician but also for our own professional men to advise to the young medical graduates to go to villages and start private practice. We all tend to forget the unenviable situation of the inhabitants residing there; detail of which we will discuss in the following chapter.

It seems quiet amazing that on the one hand our fresh medical graduates have plunged in unemployment and on the other hand we are short of these doctors in certain areas. Since the very inception of our planning we have aimed at removing unemployment through various programmes, but the medical field received little attention. The programmes extended so far seems negligible. Live Registers maintained by Directorate of Employment and Training is a reliable source for the data on unemployment. But ambiguity may also be found here. Live Registers continue to bear not only the employment seeking candidates but employed persons who seek the assistance of the Employment Service Organisations to better off their employment. Generally in case of a medical graduate, it cannot be believed that he is not doing any private practice. This profession is a rare exception among the highly educated professional and technical personnel, carrying crucial importance in the context of planned economic development of the country, where self-employment is significant.

Therefore we are reasonably compelled to enrich the assumption that most of the doctors who figure on the record

borne by Live Registers are self-employed. They aspire to get salaried job in which employment exchanges upto a certain extent, can render necessary help. Registration of Employment Exchanges carried out by Director General of Employment and Training has revealed that at all India level about 21.3 per cent medical graduates registered with employment exchange, are employed. So the number of these graduates maintained by Live Register may be the indicator of preferences towards a salaried job and that only in urban areas. If we take the year 1970, then Live Registers show that number of registrants with employment exchanges was not appalling. Since 1971 onwards the figures started raising up steeply. The number of unemployment has shot up in 1976 and by the end of 1977 it is estimated by Indian Medical Association that 22,000 doctors are unemployed.

Again it is highly paradoxical that the number of the live register is rising with leaps and bounds from day by day while a vast majority of population in the rural area is in dire need of medical help.

Unemployment proclaimed today bears a correlation with the phenomenal growth in the medical education facilities during the five year plans to meet the shortage of trained personnel. An assessment of the magnitude of unemployment among this highly qualified medical manpower taking into account remidial measures for reducing the intensity of unemployment

increasing health coverage particularly in the rural area, calls us to look back the different factor, and parameter, relating to demand and supply of these medical personnels, their maladjustment on which we dwelt in the previous paragraphs, the number of medical colleges and their enrolments, which has also been partly described in in between this discussion here and there.

The Mudaliar Committee (The Health Survey and Planning Committee) recommended that the proportion of doctors to population in 1971 should be 1.3,000 or 1.3,500. The Committee observes : "we therefore feel that it would be perhaps be safe target to aim at, to have one doctor for every 3,000/3500 population at the end of Fourth Five Year Plan period. If this target can be reached in the rural areas and if doctor, are not unduly concentrated in the urban areas, medical relief would have been brought as near as possible to all sectors of populations.

But our manpower planning in health services should not be a planning for so may doctors for so many people, there should be a minimum quantum of health services per capita. Here we have to train not for so number but number of doctor for structure.

Brain Drain of Doctors

Brain-drain is a colloquial term for the drift of scientists, doctors technologists, engineers and other trained

personnels from one country to other where they settle permanently or for a long period. The number of doctors going abroad from India is rising steadily. This trend is linked with the number graduating each year. About 1/6th of the total graduates qualifying are going abroad. As the turnout from medical colleges is increasing more and more doctors are expected to go abroad and consequently a good number will return after a considerable period.

This brain-drain of professional manpower has attracted a great deal of attention in India because the pure quantitative loss of medical manpower has been large enough. Rightly or wrongly Indians residing overseas are thought to possess skill that is in short supply within India and their return is believed to be capable of contributing substantially to Indian economic growth.

Doctors who emigrate, do so for a variety of reasons. Generally, they go to seek higher education, training employment or permanent immigration, which is usually in pursuit of higher salaries and better research facilities. It can take many shapes, e.g. it can be encouraged by easily available programmes of scholarship or it may result from an easy access to foreign universities and institutions. Opportunity for professional advancement and careers development attracts experienced personnel away.

Then a critical question follows this explanation. How much time is spent by those who return to India? A short

period is likely to raise a persons contribution to Indian economy, whereas a long stay may mean absence during the most-productive years of a doctor's life. The Indian Abroad Register of Council of Scientific and Industrial Research shows that "those who had come back had spent an average 3.3 years abroad but than these people had returned, those abroad had also spent 3.2 years abroad and has not returned. The British data shows that taking all overseas doctors who return home their average stay in Britain was about 4 years.10

The position for doctors is rather more quantitatively significant than other professionals. Up to now the pure quantitative loss of medical manpower (higher qualified) abroad has been relatively large. In 1965 there were about 4,000 Indian doctors in Britain and in United States; there were 1,125 Indian interns and residents. With those by India, their number compares well important ratio of a stock (of 84,000 doctors) in India (at that particular period).

We should not shudder from the figures on Register kept by Council of Scientific and Industrial Research. It has its own limitation. Registration is entirely voluntary and is open to any to eligible to go out. Once a person has been abroad he remains on the register for even if he comes back. The voluntary system of registration means that many people specially who have decided never to come home, will not register. For example in 1968 only 900 doctors were on the register as compared

with 5,000 actually working abroad. Second, some of those included are studying abroad and are not really brain drain.

Some estimates of Indian doctors abroad has been made specially for the year 1956, 1966. The source of figures for the year 1956 is Planning Commission and the estimates for the year 1961 and 1966 are worked out (keeping the year 1956 as base year) taking into consideration the number of passports issued during the period 1955-56. This information of passport has been obtained from the Ministry of External Affairs. It is possible that some of the passport holders might not have gone abroad, while other might have gone only for purposes like town, study etc. and returned after short visits. An allowance of 15% should be made for these purposes. Then the next task is to substract the figures for inflow. Thus we get - outflow on the basis of this calculation, the total number of Indian doctors abroad in the year 1961 is % estimated to be 3,500, which is expected to have increased to 7,500 by 1966. Considering the fact, that we have 90,000 doctors in 1966, the number abroad constitutes about 8% of the stock. This proportion has tremendously increased in last few years.

Table

ESTIMATED NUMBER OF INDIAN DOCTORS ABROAD, 1956-61

| Year | Estimated number of doctors | | | | | |
|---|---|---|---|---|---|---|
| | Total | Total Abroad | | In India | Total | Number of abroad as % of total stock (7) |
| | | U.K. | Other countries | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1956 | 1,000 | 200 | 800 | 68,900 | 69,900 | 1.43 |
| 1961 | 3,500 | 1,500 | 2,000 | 75,000 | 78,500 | 4.46 |
| 1966 | 7,500 | N.A. | N.A. | 89,700 | 97,200 | 7.72 |

The figures in the table indicates stock number of Indian doctors abroad is cumulating.

Source : P.N.Mathur , Supply and Demand for Critical Human Skills in India's Developing Economy : A Case Study for Doctors (Unpublished)

Table

INFLOW AND OUTFLOW OF DOCTORS FROM INDIA

| Year | Outflow No. of pass-port | Substract Trainees | Not gone abroad | Outflow | Inflow | Net outflow |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1956-61 | 3,850 | - | - | 2,850 | 350 | 2,500 |
| 1961-62 | 1,348 | 196 | 193 | 959 | 156 | 803 |
| 1962-63 | 1,284 | 147 | 184 | 953 | 118 | 835 |
| 1963-64 | 1,207 | 139 | 172 | 896 | 237 | 659 |
| 1964-65 | 1,425 | 125 | 204 | 1,096 | 318 | 778 |
| 1965-66 | 1,462 | 157 | 209 | 1,096 | 171 | 925 |
| 1961-66 | 6,726 | 764 | 962 | 5,000 | 1,000 | 4,000 |

Source : P.N.Mathur, Supply and Demand for Critical Human Skills in India's Developing Economy : A Case Study for Doctors (Unpublished).

Table

ESTIMATED NUMBER OF DOCTORS ABROAD AND THOSE RETURNED AND THEIR REGISTRATION IN THE INDIAN ABROAD SECTION OF NATIONAL REGISTER 1961-66

| Year | Number Abroad | | | Number of returned from abroad | | | total | % of Register | |
|---|---|---|---|---|---|---|---|---|---|
| | Total estimated number | Registration | Percentage of Registration | Total estimated number | Registration | Percentage of registration | estimated number | % of registration | % of register |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1961 | 3,500 | 262 | 7.5 | 350 | 330 | 657 | 3,850 | 492 | 12.8 |
| 1962 | 4,303 | 334 | 7.8 | 506 | 534 | 66.0 | 4,809 | 668 | 13.9 |
| 1963 | 5,138 | 442 | 8.6 | 624 | 412 | 66.0 | 5,762 | 854 | 14.8 |
| 1964 | 5,797 | 607 | 10.5 | 861 | 568 | 66.0 | 6,658 | 1,175 | 17.6 |
| 1965 | 6,575 | 854 | 13.0 | 1,179 | 778 | 66.0 | 7,754 | 1,632 | 20.1 |
| 1966 | 7,500 | 1,016 | 13.5 | 1,350 | 894 | 66.2 | 8,850 | 1,910 | 21.6 |

In 1961 the registration was 12.8 and it has increased to 21.6 in 1966.
Registration from Technical Manpower Bulletin maintained by CSIR.

We are much concerned to solve the problem. The cost of producting a doctor comes very high (perhaps next to an engineer) and after that his services are not availed by us. The developed countries are exploiting the situation by attracting this type of trained personnel. They need not to spend on doctors as doctors from developing countries like India are available in abundance. The social returns and benefits are enjoyed by those countries where the doctors emigrate. No doubt, we are anxious to solve this problem, but the complexity of the problem is difficult to judge. Let us pose few question.

1. Are overseas labour markets an important source of employment for Indian educated manpower. Unfortunately the evidence here is very weak.
2. Why do so many doctors go abroad?
3. Will the existing increasing trend continue?
4. How are likely to emigrate during the next 20 years?
5. What will be the magnitude of total lose?
6. Are the economic conditions prevailing in the country conductive to emigration.

Some of the questions have been answered in this analysis and some of them will be answered in the next chapter.

# Chapter III

## CAUSES OF DEFECTIVENESS OF THE SYSTEM

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In this chapter efforts have been made to present a collective exposure of reasons which are responsible for some major problems in Indian health system, like spatial displacement of doctors, which has implication for a developing country like India. Our basic problems like unutilized manpower on which a major part of the budget is appropriated, maladjustment of available manpower and regional imbalances are linked closely with our socio-economic development. Health has been labelled as an integral part of this development.

The theoretical basis of these problems has been analysed indepth by specialists and experts including eminent economists, medical scientists and educationists. But few attempt to co-ordinate these scattered efforts at a common approach and sort out some propositions arising out these discussions have so far been undertaken. We want to hinge these propositions. This study is devoted to borth the theoretical as well as practical aspects of the sex problems with a view to have an overview of the role of health in our national development. This will be followed by some feasible and practical suggestions in the next chapter. The following pages will analyse the roots of the problems for proper understanding of growing disparity between the urban-rural sector of our economy.

Urban-Rural Disparity

The concept of disparity is already within the purview of sociologists and economists which has been talked about for a very long time not only in India but also in the whole world. The pattern of health services in India is also not free from it. The rural people is still deprived of modern health facilities. We see very few medical practioners residing today in the rural area. By and large, the rural mass has to depend solely on the mercy of unqualified quacks and indigenous medical practitioners. Though it cannot be denied that in the recent years many primary Health Centres have b en established in rural India but most of them are under-equipped and understaffed because of financial constraints impopularity of rural health services and attitude of studied apathy and indifference of the urban educated doctors specialised in western medicine. Even when a practitioner temporarily opts for a rural posting the assignment as nothing but the incumbent considers forced labour. He continuously puts his best efforts to find some more congenial alternative posting in some metropolitan city or in the health department at the head quarters.

This is not an unanswered question. The economic level of a large number of villages is below the poverty line[11] or the subsistence level, which leaves hardly any scope for private practice as the paying capacity of a patient is negligible. Sometimes, urban doctors also provide medical assistance either by occasional visits in the rural area or by attenting rural patients coming to urban areas. But such cases are too few as

the proportion of rural population availing of such private allopathic medical services is like a drop in ocean because the rural-poor have no means to meet with both ends.

After quarter of a century of sustained efforts in planning, the per capita income of rural citizens of India is as low as to enable them to have an adequate quota of health services.[12] It may be assumed that these financial limitations in vast rural India will continue this naked condition at least for the next two decades. Had the villages been lucrative for medical graduates, many of them would have b'en fixed up their clinics there.

Problem of proper manning the government dispensaries rather more important on account of their being ill-equipped, understaffed and poorly supplied with drugs and other inputs, a biased unwanted inequitable and morally unjustified situation. It is because of lack of amenities and basic facilities such as education, transport, communication along with social, cultural and academic life that Medical graduates are reluctants to go in rural area, obviously they assign greater values to the education of their children, everyone wants that his children should get best education in public school or central school and the villages they find government school, which are like dispensaries, in shamble. A medical graduate, in his 5½ years in medical college, is nursed in a highly sophisticated atmosphere, he spends a comfortable life, so naturally he hesitates while going to villages, where there is no

electricity on road and no interactions with the academicians' sometimes he had to face manhandling in barbarous remote areas.

He also feels that he could be out of touch with the progressive trends in medicine This is a fact to be admitted. In our prevailing medical education system, any doctor who goes out of the system of the medical college has little opportunity to come back to update his knowledge. How he can achieve this object outside the system of medical education where no facilities exist. No attempt to evolve a national system of medical for the country by the development of an appropriate integrated relationship between modern and indegenous system of medicine, has been pursued so far. Admittedly, there is no dearth of ideas but we should have a ladder to stretch from one polo to other, so as to ensure that no body is being discriminated in this ladder of journey. In fact, the better training of doctor, the less he is likely to work in rural areas or for the poor people.[13]

The certain features of health system, which inherits its traditions from British period, in which health facilities were meant for Britishers often and Indians who were happened to work with them are still keeping up.

Many committees, were set up and their recommendations were not implemented. These recommendations are today also staling in government offices. The government officers have not time even to go through them. Slogan were raised to improve health status of rural India, but all in vain.

Political inventions is another important factor to spoil the proposed plans, every politician wants to allocate maximum resources in his own constituency to gain voting power. Naturally, others will be in sort of these resources which are not in abundance. Until and unless this political interference will exist, no justification in regard to health facilities can be done.

Certain medical methods like highly sophisticated surgery is impossible in rural health centres. Because the cost of performing surgery in a single case may be enough. But the cost of performing surgery in a single case may be enough for saving the lives of hundred people in need of rudimentary medical attention says Prof. Majumdar.[14]

Medical Education and Jobs

At the first sight, it looks quite amazing that many medical graduates are sitting idle in a developing country like India which is said to be lacking this training manpower in most of its parts. According to a record, maintained by Ministry of Health 9333 (8948 graduates and 9385 post-graduates) doctors were on the line register of Employment Exchanges on 31st December 1977. This number was 8570 (8249,321) respectively on December 31, 1976.

The Government and Planning Commission are cautious about this problem. Unemployment among medical intellectuals which constitute back bone of health system, is a peculiar phenomenon.

Most of doctors are inclined to seek employment in public health and other services like industrial complex, services, Railway Service and defence services. They feel uneasy in private practices due to many reasons e.g. difficult conditions; low returns lack of public amenities, less social security and some others like this which dislocate them from private practice.

The phenomenal growth of medical colleges and corresponding enrolment after independence can be said one of the basic reasons resultant in growing unemployment. The number of medical colleges has rapidly increased from 25 in 1947 to 106 today with a annual admission capacity of 13,000. Like the number of doctors has increased from 47,000 in 1946 to 154,000 with a doctor population ratio of 1:3900 to deny, perhaps highest in the world. (Health in India, 1978, CBHI, Ministry of Health, Government of India). This phenomenal increase has brought in the problem of shortage of teachers and specialists.

This number can easily be absorbed in rural India, but as we have already explained doctors simply do not go there because of limited scope of private practice. Usually they prefer to stick in cities, rather than dwelling in villages. This catastrophy has become a constant symbol of medical graduates in the way they are produced today.

Even if a doctor want to establish his clinic for private practice it requires a substantial investment which everybody cannot afford. The cost of a clinic comes very high and there is

no surety of meeting it out in a short period. One cannot expect the returns he will get from his investment. So there is no other alternative for him either to go to abroad or sit idle.

Since the job opportunities in public sector are also very meagre and statutory, the medical graduate anyhow settles down in private practice. But here also he faces the problem of monopoly. This has been seen in urban and rural India that like advocates, some of the doctors have earned their reputation as being superior specialists. A newly established doctor finds very few patients coming to him. Specially in cities, a very interesting tractics has been observed. These so called specialists who have settled long back in this profession deploy their agents at important public places e.g. Railway Station, Bus Stand, Cinema Halls and Markets. These agents pursue the patients deliberately to have their treatment by these doctors. Naturally, the fresh graduates cannot get much patients to attend and for so many years this condition exists until he also travels on the same track.

Generally a private practitioner alone covers the most population. If some more primary health centres are opened and at least two or more three are deployed three (one outdoor one specialist and one family planning doctors, then the unemployed can get jobs in public sector. Overlooking of this strategy has also contributed in the unemployment of doctors.

Finally most of our villagers are illiterate and uneducated. They do not want to go to doctor but prefer to adopt indigeneus method of treatment themselves. To some extent this has also added new dimension to the problem.

Problem of Migration

The problem of unemployment gives rise to a growing tendency among doctors to migrate to other countries. Centre for Scientific and Industrial Research has maintained this record according to which 4,258 doctors are enrolled in India. Abroad Register on January 1, 1978, out of which 2215 are reported returned 2043 are still abroad. Its country wide distribution is given below in the table (next page).

Table

DISTRIBUTION OF INDIAN ABROAD REGISTRANTS ON 1.1.1978

| | Country of Training (Medical Manpower) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U.S.A. | | Canada | | U.K. | | Germany | | OEC | | ANZ | | Others | | Total | |
| | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R |
| Medical Personnel | 939 | 483 | 163 | 65 | 2368 | 1572 | 61 | 22 | 133 | 56 | 30 | 3 | 74 | 14 | 4758 | 2215 |
| Grand total of all trained personnel | 7792 | 3623 | 1260 | 487 | 7282 | 3765 | 1867 | 911 | 1515 | 906 | 202 | 113 | 786 | 377 | 20768 | 10182 |

T = total OEC = other European countries

R = Returned ANZ = Australia and New Zealand

The percentage of medical personnel to total personnel comes 20%

In the foregoing chapter reasons have already been pointed out e.g. generally doctors go abroad for high salaried job or to get better education or to settle there permanently.

We have pursued excellence in medical education. Medical education is being made so costly by these attempts that its recipients go abroad to get a proper return on their investment[17] and at some point of time this medical manpower still is in short supply in developed countries and these developed countries and these developed countries find easily this trained medical manpower from India at a attractive salary. The investment of Indian resources made on these doctors is unproductive, if he remains unemployed and wasted and he migrates, but at least the other one is an alleviating alternative.

The migration of doctors is prominently due to unemployment and their not being well recognised or not providing them with better facilities. Recently, Indian Medical Association has asserted that today most of the intellectual doctors feel themselves rotting and repent on not going abroad in their early days.[18] Still there are some patriot doctors who did not go abroad some emigrants sacrificed their better job in abroad and returned to India.

The economic conditions for prevailing in the country are conductive to emigrations. What a doctor gets here? How far he can run his life smoothly with the monthly remuneration? These are some self-answered questions. And if now a days

doctors serving in public sector are not allowed private practice. Here we compare all these propositions with other advanced countries in their economic perspective, then these emigrants are not to be blamed. This is the reason, most of the doctors settle down there permanently. Their job is lucrative enough. And we fear if this trend is not checked, there will be a large brain-drain in next 20 years.

Some of the doctors go for better research. Short period is likely to increase the skill of the doctor, and this is desirable. But if many of these doctors after conducting their research settle down there permanently in pursuit of higher salary, that is a pure quantitative loss to the country.

If we have a close peep in the magnitude of the problem, then one more fact is disclosed. This number of migrants is also connected with the number of doctors graduating each year.

During the last two decades doctors have constant complaints that they are not furnished with sophisticated instruments and good laboratories for better research. There is no discrimination in promotion on superiority basis and some other likewise. These all factors collectively compel the graduates to go abroad.

# Chapter IV

# SOME POSSIBLE SOLUTIONS

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## SOME POSSIBLE SOLUTIONS

The characteristic analysis of health system in the outgoing chapter calls for possible solutions for an effective and widespread health system to be implemented immediately with a view to accelerating health planning and expediting the overall development of the country in which every individual contributes from different points of view, thus adding a new rider to the dimensions of development.

An overall and comprehensive health structure cannot be implemented in separation as it is virtually encompassed and inseparably co-ordinated with the socio-economic system prevailing in our country with its plural facets. "Thus the implementation of health care programme should be co-ordinated with radical land reforms for improvement of agricultural relations, agricultural production and animal husbandary, radical measures for improvement of industrial production and industrial relations; crash measures for augmentation of drinking water supply extensions of basic education along with health education, control of communicable diseases and improvement of roads and communication facilities.[19]

### Change of Direction

The prevailing direction and orientation of health system is to be changed from curative to preventive, from urban

to rural, from individual to community. Emphasis should be shifted from disease to patient, from static unit to mobile. We should set our targets to serve the best interests of the community at large through popular health movements "of the partners in health care and participation of people, till the goal of nationalization of total health service is achieved".[20]

The Bhore Committee (1946) put forward the first comprehensive and bold proposal for the development of national programme of health services for the country and subsequently, the Conferences on Medical Education (1955 &1958), Conferences of Deans and Principals of Medical Colleges in India (1960, 1962,1967), Mudaliar Committee (1961), Chadha Committee (1963), Mukherjee Committee (1966) Medical Education Committee (1969) 1970 Kartar Singh Committee on multi-purpose health workers (1973) and Shrivastava Committee (1975) suggested a tentative programme for health services which would be made substantive in the course of time. The relevant organisational framework as envisaged in the contents of the reports of different committees should be established and streamlined which will be charged with the task of implementing the needed reforms, initiating and nursing the changed process.

Some Issues

The alternative strategy for knitting an effective and efficient health system comprises the following basic issues:

1. Evolution of an integrated service covering promotive preventive and curative aspects of health services.

2. Universal coverage and equal accessibility to all individuals.

3. Optimum utilization of para-professional resources available in the community; and their supplementation by a well-structured system of referral services.

4. The possibility of practical implementation within the financial resources likely to be available.

These issues will have to be based on the following general principles :

1. A direct comprehensive sustained and rigorous attack on the problem of mass poverty is the utmost need of the hour. We should launch this strategy at an early date. India is a country with poor inhabitants, poverty is an endless attribute of the people of India. So at the very outset our principle objective should be to curb and eradicate poverty.

For the improvement of their income the people presumably aspire for guaranteed employment at a reasonable wage (and also a public distribution system which provides all essential commodities especially food at reasonable price which they can afford). "A universal and egalitarian programme of health services cannot be developed against the background of a socio-economic structure in which the largest masses of

people still live below the poverty line. So long as such stark poverty persists, the creative energies of people will not be fully released; the state will never have adequate resources to finance even minimum national programme of education or health..."[21] If a combined provision of basic services like health and education is developed side by side then this direct and comprehensive attack on poverty can succeed as it will support major national endeavour and be supported by it in turn.

The poor strata of society do not get health and education facilities as it finds itself in a web of vicious circle of ill-health and illiteracy. So our strategy should consist of accessibility and uniformity of education so that they can acquire skill and increase their productivity in turn. They also need health services.

A package of programmes should be spread simultaneously just like a custody, which will also be crucial to minimum reasonable wage, ensuring public distribution system at controlled prices and entrusting sufficient services in housing, education and health.

The forthrightness of this step, explicitly or implicitly depends on its executors who will join their hands with the general citizen in this strategy at various levels, continuously re-setting the mal-adjustment in a sharper way and constantly tackling the bottleneck in the process.

Education and health should be kept at top priority with an adequate allocation of resources both at national and provincial platforms. These in turn should be supplemented by local resources. But unless the available resources are not used most economically and supplemented by a well-planned human effort for the sake of squeezing best results possible upto a certain extent permissible under the organisation, it will not be fruitful enough as to fit in social environment for improving health status of masses which have remained chronically unmet in India.

The burning and rediant challenge to medical education in India, is to design a system that is deeply rooted in scientific method and yet is profoundly influenced by the local health problems and by a social, cultural and economic setting in which they arise. ...we need to train physicians in whom a interest is generated to work in the community and who have the qualities for functioning in the community in an effective manner[22].

3. A conscious and deliberate decision to give up the consumption oriented society model of health services and strive to formulate instead a viable and economic model suited to our own necessities, which will emphasize putting human efforts (for which India has a large potential) rather than monetary inputs (for which we have severe constraints), is desirable and inescapable for imparting health facilities

to masses in abundance. Time to time an evaluatory and elaboration of the system at appropriate levels should be made.

4. Primarily health is the responsibility of an individual. So every individual must be trained about his personal health care, specially preventive aspect so that it can be helpful to him in illness. This issue is co-related to education itself. The community should also provide proper environment for helping individuals to be vigilant about their health care. In our own tradition, some aspects of health care are weakest and they need strengthening and highest emphasis.

The state is a supreme unit for providing an efficient, effective, comprehensive and nation-wide network of health services, including penetration of poverty, development of integrated services in education and health, the organisation of para-professional and professional services as to cover promotive, preventive and curative aspects. A large band of part-time semi-professional workers from among the society should be created. These people will provide the basic medical services needed in day to day common illness (which account for about eighty per cent of all illness).

"It is to supplement them, and not for supplanting them, that we have to create a professional, highly competent, dedicated, readily accessible, and almost referral service to deal with the minority of complicated cases that need specialized treatment"[23].

The 80% deprived population of India (presiding in rural area should be the actual focus of all welfare and developmental efforts. So national health services should be built with the community itself as a focus, meaning thereby "the creation of needed health services within the community by optimum utilization of available local resources and then supplement them through "a referral service which will gradually rise to the metropolitan or capital cities for dealing with more and more complicated cases".

In the coming years, the government should undertake this task of evolving a broad strategy of spreading a net of efficient health services in the country on the principles and issues discussed above. Gradually the poor and illiterate masses will be enlightened and will be helpful in implementing premised schemes which can increase their productivity in a sizable quanta resolving the conflict of disharmony between our tratitional system and corresponding system of health.

Rural Health

A multi-dimensional study, specially of ecological and epidemiological aspects of the rural areas of our country, and proper people oriented assessment of health needs of rural area with a coverage of preventive, curative and promotional aspects, even during the post independence era, has not been conducted. So it is somewhat difficult to point out some creative suggestions for a comprehensive and effective national

health plan for the rural areas of India in the existing panorama. Notwithstanding some suggestions of overlasting effect, which can be materialized with a warm courage and enthuasism are to be outlined here.

Our total Health Plan should start from rural area with a trend to reverse the existing structure lop sided direction) in our five year plan as to serve the 75% of our total population living in villages. It will be "Rural Oriented Health Care Plan".

But if we have to achieve a landmark of success in such a plan, then it must be integrated with the general socio-economic development programmes in the rural areas.

The plan has to be implemented in close, co-ordination with the various facets of development projects, such as augmentation of potable water supply to prevent water borne diseases, improvement of roads and communication fad lities, improvement of agriculture through construction of embankments and canals for irrigation, increase of food production and nutrition, setting up of schools for general education with provision for imparting health education, housing projects and programmes for improved sanitation, through construction of sanitary latrines and flushing of water logging to prevent communicable diseases, etc; uplifting of rural economy through development of animal husbandary to improve milk supply".

Foundation of rural and people-oriented health services

require introduction of compulsory rural training for a minimum period of two months in the community health care during the pre-clinic years and for a minimum period of three months, during each year of clinical studentship preferably in upgraded primarily health centres with residential facilities. This programme will be pursued by IMA, Government and ICMR.

Then comes the question of training pattern of internship and house staffship. It will have to be changed. They should be considered as in-service trainees. With all facilities including antedate as are available health services doctors while considering their permanent appointment. These in terms and house staff will spend six months in a year in district hospitals, sub-divisional hospitals and upgraded primary health centres and other six months at various departments of medical colleges respectively in rotation.

As soon as this housestaffship is successfully completed, they should be attached to PHC for at least one year along with rural mobile unit, then to a sub-divisional and district hospital for six months each. This process of training cum-service should be compulsory for all to secure admission into any medical service in our country or to secure clearance certificate for foreign service or further study.

But the foregoing analysis does not imply that the health services in urban area availed of by well-to-do classes is satisfactory. Our system is rapidly becoming a vested interest in ill-health and there also the middle class is

finding it increasingly difficult to provide adequate medical care to themselves and so as far as possible the dependence of people on medical care should be reduced and they be educate to realise health as an individual responsibility. Secondly, the capacity of home to deal with illness will have to be considerably increased through proper education. We should strive for the organisation of new type of health services for all people in which adequate provision will be made for the health need of rural area and poor people. This is the direction in which we will have to move with imagination, courage and preseverance.

From the Community to the Primary Health Centre

The development of Primary Health Centre into two stages was put forward by Bhore Committee, setting up PHC's in rural areas to cater to a population of 40,000 with a secondary health centre to serve as a supervisory, coordinating and referral institution and nursing staff according to this set up in the short term. In the long run, the Committee visualised a PHC to serve a population of 2,000. But rightly or wrongly it has not been practicable on financial grounds to implement the short term scheme.

In the near future, increase in the number of PHC's except marginally is not possible. So the focus of development should be on the following programmes, suggested by different committees.

Reorganisation of Service-Scheme and creating of New Cadres

During the last 28 years the cadres of functionaries have multiplied very greatly because each health programme was run virtually independently of others and with a little co-ordination both among the field workers and amongst those at the supervisory level. Even this can be said about doctors also.

Now in the interest of the economy it is necessary to create a single multi-purpose cadre to produce all the different promotive preventive and curative health services needed and also to include within the responsibility of this cadre a'modicum of curative services'.

The rapidly increasing need has been realised because wide distribution of the health care to entire community is a formidable problem and help of para-medical personnel is absolutely necessary as to cater to entire needs. The current introduction of trained health workers in the community is itself a link bridging the gap between community and field which will let us know how far a medical assistant or parmedical will be able to relieve a medical officer. The programme of training health workers was initiated during 1977-78 in 777 selected primary health centres in the country which will cover all the 28 districts where the multi-purpose workers programme is complete.

From a coloured experience in the growth of development of the network of health services in the country, we are backed to think that "the para-medical assistants should be so developed as to fruitfully utilize them for the successful implementation of health programmes. The concept of developing uni-purpose health workers is replaced by the introduction of multi-purpose who are in position to deliver a package of health services to the community. To give effect to this, the para medical assistants are now being given training to equip them for the multi-purpose approach.

Concept of Community Health Worker and Multi-Purpose Worker

We should make the health service available to the poor through some selected and trained workers from the society itself. No longer, we should rely on the assumption of getting urban young men and women trained and sending them to villages for rendering necessary health services. Practically, this idea has been futile and will not work. Virtually, the urban people will not go to villages and even if we are in pursuit to detail them for rural area through moral persuasion or in other ways, it will be a costly affair and we will not be in a position to employ adequate number of these workers. This situation may be drastically and radically changed if we make up our mind with a definite air to recruit from local inhabitants (as they are available in plenty and command the confidence of the people thus being produced at a cheaper cost. We are

agreed to a probed question, likely to be raised here that only people with less formal education will be available but this handicap can be overcome by selecting talented persons and simultaneously changing the curricula and methods of teaching and evaluation, aiming at preparing a large number of efficient health workers from each local community which may be used as a penecca to sort out the difficult and complicated problems of our deprived society, but unfortunately, we have turned a deaf ear to it in the past.

One more question is to be answered here. Why do we feel so? Viewing from the same window, we observe - on account of the growth of a number of different categories of para medical assistants, it is necessary to reorganise the working in general and particularly at the peripheral level, so as to utilize them after getting them trained as multi-purpose workers. The reorganisation of health care delivery in rural areas is resultant to this policy itself.

Integration of all the health activities to convert peripheral workers' function as multi-purpose workers instead of uni-purpose workers to the extent it is feasible, could be our first and initiating logical step while diverting in this directing. This will be possible by giving adequate and suitable training as well as equipping them to give simple specified remedies for day to day illness.

At present one male health workers for every 6,000 - 7,000 population and one female health worker for every 10,000 population are available. Shrivastava Committee recommended that by the end of Sixth Plan, we should strive to provide one male and one female worker each for every 5,000 population.

The Central Bureau of Health Services has expressed the need of Community Health Scheme like this.

> "Owing a acute shortage of financial and physical resources, health programmes have to depend greatly on self-help', co-operative endeavour and community participation particularly in the rural areas. With a view to achieve these objectives, a community health scheme involving the community in its health care has been formulated to supplement the efforts of multi-purpose health workers.[25]

Medical and Health Assistant

The Kartar Singh Committe has done a praiseworthy and signal service by suggesting the integration of several cadres of unifunctionary supervisors, but Shrivastava Committee has found these proposals inadequate to meet the situation, and wished some additions before endorsing it. The Committee wanted all supervisory personnel to be designated as health assistants.

1. The para-medical persons are capable of building up better rapport with rural people in comparision to their counterparts; this is the reason the villagers perceive a very narrow distance

2. These workers may be of uni-cultural background as of villagers and may resemble them in thoughts and value judgements. They are also comparatively easier and less expensive to produce in numbers required, usual skill and task expected from them.

The para medical workers' contribution to the rural health work is beyond controversy; it is no longer debated. After defining it some of the assumed strength for their being deployed for rural area will be discussed.

"medical and health assistant is a middle level manpower which should comprise mostly the sub-doctorate and partly sub-professional groups, while non-professional would work under the guidance of medical and health assistants.[26]

This standard of para-medical personnel is desired to be patronised. then we can expect his effective function to ensure medical aid to the rural area that is of immense importance. These para-medical personnel could be exposed to refresher courses and tests as far as salary is concerned, a selection grade with better emoluments can be sanctioned for them.

Today there are a large numb-r of para-medical workers in rural areas but most of them are single purpose workers. "Lady health visitors, ANMS Sanitory Inspectors may be calledmore than single purpose workers along with basic health workers. The types of para-medical workers are too many, most of them are of single purpose category and need to be reduced and functionally be made more uni-purpose and

ultimately to sufficiently broad based multi-purpose workers.

Training of Medical and Health Assistants

The basic qualification for admission should be either matriculation or intermediate preferably with Science and Biology. They should be selected on a stipendiary basis for full course of 18 months theory and 6 months practical practice in the field.

The second method for recruiting the health assistants includes promotion from the existing health supervisors who are basically qualified, so they need only 6 months training and in certain cases even less, like public health nurses to enable them to assume their responsibilities in sub-centres or primary Health Centres. This can fulfill our twin objects - a sign of relief in our society design and contemplate for a evolution of "peasant doctors" a typical species, and removal of unemployment problem with the solution of the problem of promotional avenues in less educated cross section of the community. This training can be imparted in 30-beded upgraded primary health centres, located in various parts of the country. Regular training courses for these assistants may be of two years duration, which can be divided in institutional training (16 months) and field practice ( 6 months). But the health assistants should be located invariably at sub-centres and not at the PHC. They should be trained and equipped at a higher

level of competence to give specified remedies for day to day and common illness. Apart from their supervisory role these health assistants should also function as health workers in their own area at a higher level of competence, carrying out the same duties and responsibilities, specially responsible for the promotive and preventive health measures and all the national health programme.

The proposals of health assistants in real sense fall in two stages of development. The first stage is qualitative because it is not supposed to increase the total number of persons at the supervisory level out to replace the existing varieties of unifunctionaries by a broad based single cadre of multi-purpose, middle level workers, comprising the sub-doctorate and sub-professional groups. From this point of view, persons in existing categories of health supervisors, after suitable screening should be given intensive training for varying periods so as to fit them for the job expected of them as health assistants. In second stage the number of health assistants should be increased.

The two categories of health workers and health assistants will be important links in referral from their function point of view. It is expected from them to deal freely with cases within their sphere of competence, and cases beyond their competence, should be referred to appropriate agency - this the training would have to emphasize.

The cadre of health assistants will be supplementary personnels to the available part of medical manpower in the rural area of India for years to come. On the one hand inducement of doctors to settle down in rural India should be continued and their services in these areas should be fully utilized them and on the other hand this category will work as a attached unit. But here this much should be clear than the doctor can not be replaced by a health assistant. The health assistant is not a functional substitute at all. He can increase effectively the outreach of primary health centres by providing useful health services in sub-centres.

Barefoot Doctor

Now a days the concept of 'Barefoot Doctors' is drawing the attention of health planners who foresee a divine solution in it. J.P.Naik has advocated its need in Indian context. He sees no possibility in the foreseeable future of trained M.B.B.S. doctors being available in the villages in adequate number, and he warns if we depend on this method (trained M.B.B.S.) alone, then the poor people of India will have to go without good medical facilities for years to come.

He also suspects the real necessity of trained M.B.B.S. doctors in villages on the basis of huge waste of scarce and valuable resource as 90% of our common illnesses do not require such a trained functionary while it will be possible to train

carefully selected individuals from
providing simple medicine for all commo
China developed this cadre of barefoot do
adopt it.

This type of doctor need not be a whole
he should develop this programme as a side line a
a small emolument "But if he is carefully selected
values the human aspects of this activity, he can do
good to the people. There is no dearth of such indiv.
What we don't have is the eyes to see them and the cou
to train them and to put them on to the jobs" concludes
J.P.Naik.

Manpower Policy

G.P.Dutta in his article National Health Po
has presented a lateral summation of supplementary
manpower. At the very outset he goes ahead for
unqualified persons who are practising modern
medicine in the following manner which will als
as immediate measures :

1. Those unqualified persons who are alre
practising modern medicine for at least 5 years, wh
is below 40 and who have the minimum qualification o
passed the matric level examination should be recruit
work in the PHC and they may be given a short course of
training of 1 year ( in service training) in modern me

in the Regional Hospitals. Then they may be employed in the PHC as General Duty Medical Assistants (GDM) with a special grade different from the ordinary para-medical staff."

2. A short course of in service training should be conducted, for those who are below 40 years of age (practising modern medicine for at least 5 years and having completed the education at least equal to VIII class standard. They will under go this course to qualify as a (1) family planning workers, pharmacist; vaccinators and so on, nurses, operation theatre assistants and health educators. After completing the training in PHC's and Regional Hospitals, they can be posted in different health institutions (adopting the merit formula in selection) where they can work as GDMAS along with the facilities attending theoretical lectures as well as lectures in basic science. After duty completing this course and receiving certificate, they may be allowed to work in the PHC's MMU or allowed to work as family physicians. Upto 5% of paramedical personnel may be selected after 2 years work for training in the Regional Hospitals for 3 years ( in service training) and on passing out they will be regarded as GDMO just like group I grade.

In the meantime candidates from locality, passing H.S. Examination will also be given medical education which will be purely on community, phased out as follows :

| | |
|---|---|
| Primary Health Centre | 6 months |
| Regional Hospital | 1 year |
| Medical College; and | 3 years |

then final examination for degree. The function of assessing and crediting will be done at this stage and this will be followed by internship in medical colleges or teaching hospitals for 6 months to 1 year. There should be House officership in Regional Hospitals and Posting at PHC duration of which will be nearly according to the assessment.

Utilisation of Present Personnel

1. In the 'Regular Service Personnel' GDMOS and specialists should be redistributed and there should be the decentralization of top heavy organisation in the cities and capitals (2) on sessional basis part time appointments of non-service doctors should be given to specialists and local GPS (3) vacant seats may be filled up by temporary recruitment on locum tenents (4) Employment of physically fit superannuated persons should be made on temporary basis (5) some well set formula should be followed while manning the PHC immediately (6) persons engaged in treatment by the indigenous methods should be encouraged to develop their own method of treatment on scientific basis and modern investigation facilities should be offered to him in PHC to establish better understanding.

Those who are unqualified but are practising modern medicine are also subjected to a short course of training in the

PHC; they are not to be detached from their home or sent to a sophisticated place. They should be utilized as rural health workers.

## The Primary Health Centre

After the successful implementation of the above plan the doctors in PHC will be relieved from several duties and their function and responsibility will be changed. Then they will be able to devote more attention to the referred cases and to the development the promotive and preventive programme of community medicine and health. In spite of this we feel that PHC itself needs to be strengthened in manpower resources. One more doctor for the care of maternal and child health should be added in PHC.

## The Referral Service Complex

The Srivastava Committee was of the opinion that the para-professional groups within local community the health workers, the health assistants and the primary health centre doctors cannot smoothly and satisfactorily function; they will be unable to discharge off their duties in a splendid manner and the performance expected from them unless they are properly integrated into a well organised which would provide them with adequate support and guidance. Keeping this approach in view, it is indispensable to develop an efficient and readily accessible system from PHC to higher and more sophisticated echelons in the neighbouring taluka/tehsil , district, regional

or medical college hospital. The greatest dichotomy and irony in our health system today, is that most of our hospitals function in isolation from each other and even in most of the cases without satisfactory links with the local community, (which intensifies the problem much) and a wide gulf separates from the primary health centres.

The situation has to be immediately remedied. All the above mentioned health bodies should develop living and direct links with the community around them and also have functional links with one another within the total referral complex. The PHC should be closely connected with (district) Regional Hospitals because the existing districts have different areas; population and density of population.

The PHC should be constructed on the basis of square mile area covered by it (not on the basis of population) Regional Hospitals should also be built on the same guidelines. These Regional Centres will serve the need for a referral centres for the primary health centres and catering to the need of the local population like a peripheral unit.

Depending on the population of the particular area. The Regional Hospitals should have a bed strength of 300-500, out of which 200 beds should be kept reserved for referral cases from PHCs. They should have all the specialists of curative medicine and diagonistic facilities for most of the diseases. The PHC's, block hospitals and Regional Hospitals

will also be the recruiting health educators, health workers, health assistants, midwifes and so on.

If this referral services complex is established once, it will create a viable and economic referral services complex which will have several advantages, like preventive, promotive, curative and rehabilitative health care. It will form a nidus for training and community medicine. In the rural areas individuals will avail the services of the outpatient departments of the semi-urban and urban hospitals. A medical college can also provide health care in the community through such a complex in its outreach, thus it can become an effective training ground for training personnel oriented to community health and for the more efficient delivery of health services to the community.

> "Taken as a whole, the programme will not only provide the most efficient health care services possible to the community but will also provide feedback from the community to the system of health care itself and leap to great improvements therein overtime"[27]

INTEGRATED HEALTH SERVICE DELIVERY SYSTEM

| Community Development Block | Mobile Medical Units | Primary Health Centre | Referral System | Regional Hospital | Referral system | Medical College and Hospitals |
|---|---|---|---|---|---|---|
| Treatment at the door of the talents and involving people for health movements | | One will be equipped PHC for each community development block | | For 20-25 PHCs | | For 2-3 Regional Hospitals |

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Medical Education

The existing system of medical education does not prepare right type of personnel whose need has been accorded for national programme of health services. So obviously it is necessary to reconstruct the entire structure of medical education.

In the curriculum of education concentration should be on general medical practitioner who occupies a central place among the different functionaries needed for the health

services. He is as well concerned with social and cultural programmes that contribute to the fabric of health. A programme of continuing education to include health education and treatment of illness for all categories of health workers should be evolved. A similar programme of health education material for application by the families through effective use of mass media must be developed.

Our medical education should be oriented toward the basic needs of the community and people. Instead of its being diploma centred, it should be rural biased because what we require today is the adequate number of trained 'basic doctors' where training should be "preventive oriented" with adequate flexibility and adaptibility to satisfy the needs of people health care in rural and urban areas, likewise in fields and factories. In this condition, adequate clinical acumen pre requisite to diagnose and treat people without the help of sophisticated medical gadgets under extreme climatic conditions and geographical constraints, as a partner of local community of people to serve the role of leaders in the field of their health care.

No new medical college should be established in our country and the present ones must be properly staffed and equipped according to the recommendations of 'Medical Council of India'. The recommendations must be implemented by state governments as well as the central government without any political influence.

Internship

Internship also plays a very important role in the consolidation of skills and knowledge gained by the medical students. It was introduced as a regular feature of undergraduate course. The different committees set up by the Government of India also stressed and endorsed the need to keep up internship course. Even there stay of 6 months out of the total internship to be spent in rural community health, was proposed by the Medical Education Committee. This was a further recommendation of this Commission which was left unproposed by other committees. Now, the actual experience of internship is said to be bitter and it is being practised in the waste of most critical period of graduate life. This conception is accepted by all the concerned. This is the reason that all are dissatisfied with it. It is just like a burden on the teacher who have already passed out the medical system and several other complaints by house surgeons and post-graduates are whom position is also tenuous. Anyhow, this situation is untenable and needs early remedical action. But the advisibility of doing away with internship period is seriously debated.

The development of an organisation for the continuing education of physicians irrespective of their sectors of service as a joint activity between the medical college, the professional association and the health services, is necessary and inescapable. Continuing education for physicians must

concerned itself with those issues that are of deep importance to the health of community and also with educational activities for mixed teams of health workers.

## Medical Manpower

Medical manpower problems need to receive appropriate hearing. The total intake of medical colleges and number of medical colleges themselves should be based on a sound policy of 'Health Manpower Development' which in turn will have to be co-ordinated to the health needs and resources at our disposal. Quick decisions should be made to generate such a policy along scientific lines on a national basis. The enrolments should be reduced for the betterment of teacher-student ratio and improvement in the quality of education.

## Some More Suggestions

Medical Colleges should be assigned specific area of responsibility with clear specialization of objectives including devising of simple, cheap and practicable methods disabling health problems and that of common life threatening. These colleges should also devise effective training and evolution programme for non-professional, professional and adequate field practices for the successful feasibility of the above training, and functional back up to strengthen services at all the levels. Then undertaking of research with emphasis of operational aspect will be an essential ingredient and organ of the said programme.

The potentiality of registered practitioners of medicine as well as that of general practitioners should be properly recognised and estimated following a forecasting of their possible contribution in curing the illness of health of the country. An on-going programme of continuing education will be able to teach them to keep up the licence to practise medicine but with the central aim to involve them in the priority national health programmes and brushing up their clinical skills to ensure better management of diseases.

We should leave no stone unturned in constructing a policy to provide back up to referral services with a attempt to weave the health services in the villages to that available in teaching institutions and hospitals.

The programme whatever it may be encouraged the people to strengthen self help concept based on the needs which they feel at present. The financial aspect of the units delivering health services in rural area is also an important consideration. It can be effected through an insurance system. Along with contributions made by Central as well as state government the rural population should also provide, at least 50% of the total expenditure. Rural co-operation which will work under the guidance of Panchayats, will execute this task. These co-operatives will decide the people which are to be covered on the basis of economic levels. For example, land owners, tenents and landless agricultural workers with minimum wage of 8% may

be covered. It will also rise of their legal right to receive medical care from the delivery units.

The village level administration may be delegated more powers so as to make the health workers at the grass root accountable to them in an increasing meaningful involvement of the village community at that level.

> "Implementation of these domicisiary health will not only reduce the cost of building big or moderate, for a large number of subsidiary health centres immediately. But will also bring medical aid to the doorstep of a large number of ailing peopleat a comparatively cheaper cost. It will ultimately be economical. Moreover, by proper application of preventive measures through 28 this system, morbidity rates would also be reduced"

We should correctly judge what the people want as well as what government want. Obviously, it is modern health care which everyone wants. So the different bodies of Medical Services should accept this challenge which is standing with an open month before the meek population of our villages, to prepare a plan where by services of qualified medical practitioners can be utilized to people another live in remotest area or at readily accessible places. But we cannot clap by one hand; unless government does not have enough time to go through and assess these proposals then national health care, rural health care and medical education in our country is an exercise in futility, says Dr.Sinha.[29]

Some Constraints

In a short period, the implementation of objectives (discussed in this chapter) of health system seems very difficult

in the socio-economic fabric of our country. A country which has not got success in guaranteeing the basic needs of food, shelter, clothing education and employment; which has its 10% population in villages, mostly living below the poverty line.

From this point of view, we should implement the health policy in "phases, in an integrated manner and in keeping with the total national" development programme paying due consideration to the urgency of our coming economic and other constraints.[30]

# Chapter V

# COST - BENEFIT ANALYSIS

## Chapter V

## COST - BENEFIT ANALYSIS

India, like other developing economies, is facing increasing financial strains in meeting its need in the field of health. So in this context the question of cost of medical system and the possible benefits, which will be incurred, have got significant importance in recent years due to urgent needs to improve the health care facilities, particularly in the vast rural area.[31] Therefore, examination of economic aspects is subjected to be explored, for getting best dividend from the existing resources.

The cost-benefit analysis aims to measure all the results of a programme (including spill over effect). Some of them are difficult to predict and some are difficult to measure. For example: drastic shifts in people's expectations and behaviour, as it was shown by changes in the birth rate after World War II, is among most difficult to predict. Intangible aspect of human life and experience (including good health) is among most difficult to measure.

The essence of cost benefit analysis is to entail a comparison of costs and benefits for a number of programmes thought of as alternatives or competitors for public funds. The projected expenditure, as itemized in a budget, is said to consist cost. The benefits are said to be the future losses that will be averted by the success of future programme. We can divide these benefits in three major categories

(1) Saving in the use of health resources, (2) Gains in better output, (3) Acquiring more satisfaction from better health.

Let us be very clear about one possible confusion. Some people hold the opinion that cost and benefits are usually not measured at the same time and that the so-called costs of a disease are really the projected benefits (on the basis of assumptions that the disease will be totally eliminated). But this is not a proper view. Costs and benefits of a programme should be viewed simultaneously or at least, the section under consideration should be stated clearly.

The concept of cost-benefit is an offspring of welfare economics and has been developed as a tool of quantitative analysis. But there are many difficulties of performing measurements outside the market economy. Value of human output and value of health are two important dimensions of measurement (benefit). Value of human output is calculated with precision and value of health is disregarded. Also to ascertain the production loss due to morality then due to debility, is easier, and the former is measured with care, while the latter is neglected and lost from view.

It is not for the economic analyst to make definite value judgements but to explore the implications of alternatives values.

Sometimes economist makes unrealistic assumptions for convenience. Then in the implications of the analysis may be

misleading. For example, to view additions to the national income as the role of principal economic benefit of a health services programme seems as an over-simplification or a distortion. Expenditure on health is no longer regarded as merely consumer's outlay. This is an important way of investing in human capital formulation is a recent developed branch of economics. By spending on health, we can increase efficiency and also we can reduce the absentism caused due to illness. In this sense, increasing outlay on health has many important implications, as how the health expenditure is financed? Who get the maximum benefits from the health system; how far the efficiency is increased and so on.

That good health reduces morbidity and mortality, is unquestioned. Reducing morbidity lengthens the span of human life, a explicit benefit, which we want to acquire.

Cost is generally mentioned in terms of salaries. How much staff has been deployed in different health systems? How far these hospitals are manned? Are they properly equipped? Are they adequately staffed? These are some issues which force us to think over the cost of health system, then we look at different hospital models.

A slight difficulty, which we can face at this stage is obvious - in the developing economies, while taking up cost benefit technique, special attention is paid to industry and agriculture as well as to infrastructural projects, where the

output has a market price. Health Education and defence are ignored.[33] It is argued that benefits are difficult to measure in these sectors. So, still it is controversial whether full cost benefit analysis can be applied in these fields.

The application of cost benefit analysis (in health) as a crash programme is considered to present the weakest case for the technique. If it is properly exploited, then in the long run, it can be very useful in the rational allocation of resources among health services. It results in a more complete listing of factors subjected to be taken in preparing a programme. It forces us to recognise how much or how little is known about the several factors. It can also lead to a formation by approaches and methods to obtain the necessary information which we are lacking.

Health as investment : In the theory of human capital formation, the primary question is "what is the contribution of changes in the quality of people to economic growth?"[34] The research conducted by academic economists shows that in developed countries production is increasing very fast (which cannot be explained in physical units). Needless to say that action against disease has made a major contribution to economic growth.[35]

Health Services are partly investment and partly consumption. Every individual wants to get well, because, his life becomes more satisfying. When he is well he can perform

more effectively as a producer. Now the issue is to decide what part of the expenditure, made to cure his illness, is a consumption expenditure, and what part is an investment. As a consumer, good health is extraordinary, as this is not sought merely to satisfy human wants but is essential ingredient of human welfare.

Returns to investment in health accrue in parts to the individual, who makes the investment, and in parts to other. Community as a whole is benefited by the purchases of health services for the prevention of contagious and infectious diseases. Curative diseases health services prevent the spread of diseases. In this way an individual's purchase of services for his own care benefits the neighbours also. This ultimately increases the productivity of economy.

Basically economic resources devoted to health care represent in some part an investment in health. Health outlay improves the labours product to an extent and continues to yield a return over a period of years. The labour product created by this care and saving in health expenditure in the future, as a consequence of reduction in disease, is the yield.

Like the measurement of the stock of physical capital, the stock of health capital in people may be variously measured. The human capital formation by health care for a population may be counted at the cost of environmental and curative health

services embodied over their life span. For this purpose we may set the cost at the cost of acquisition of the health services in the years they are acquired. Also they may be determined on a replacement cost basis, or at constant prices prevailing in a base year.

Another measurement of health services, is valuation of the stock (capital stock of health services) at the present value of the future earnings generated through the health programmes.

Health care create future labour product. The present value of this future labour product becomes the another measurement of capital value. But the basic question arises ; what are the expectations of return from the health care which in turn determines its value.

The cost which is generally exposed in terms of health programme expenditure as in terms of resources devoted to health care may be greater or less than the capitalized value of the added labour product created by improved health status.

This sort of measurement (Measurement of capitalized expected income over the productive life span of the new labour product added through health programme) takes account of the depreciation on the investment by the loss of labour product through retirement or death.

Human labour is something which is secured as a result of prevention of cure of sickness which requires the estimation of output added (for valuation). This estimation involves two

periods ; (1) one in the past and (2) one in the future. Suppose there were no sickness[36] in the past how much would those persons who are now sick have produced? And by the same token - how much has been added to national income by health care.

Basically there are two primary stages in calculating the output added ; (1) estimating the gain in productive work time and (2) assigning a money value to the output that this added work time represents.

Conceptual difficulty : Elimination of a specific disease and in turn the estimation of gain in work, involves the assumption that if it were not for the disease those persons in the productive age group stricken by the disease, would have been working. Where there is unemployment (or substantial unemployment, improved health status may result in more unemployment). Then the question is why do we use assumption of full employment. One reason is explicits; we use this assumption because we want to arrive at any definite concept of what the resource gain is. In addition to this production losses resulting from poor health cannot be realized in an unemployment situations. Unemployment has its own cost, which in effect may cancell out reductions in the cost of sickness.

Another disguised assumption is that gains in the production on account of reduction in death disability and debility[36] of workers can be attributed to a particular disease that persons would die from, or are disabled by the

disease would otherwise be in good health, but here it is possible that persons saved from one disease may promptly die of another, and there production thus be lost in any case.

Working time added : The possible gain in resource which is received through prevention or cure of disease (and reduction in death, disability and debility) must be expressed in terms of units of productive work time added. Then values should be assigned to these units. Reduction in death[37] and long-term disability the gains will take the form of periods of added time on the job. These periods of added time may be converted into equivalent units of full work added. Also, we can convert debility into full time equivalents.

A health programmes also create economic resources. If we take expenditure as an investment then it helps to under score the contribution of health programme to expansion of income and economic growth. Denision analyses the potential contribution to economic growth rates of a chain of labour market and certain other measures along with improved health status of population. Denision assesses the effects of a reduction in the death rate or the rate of economic growth. The contribution to economic growth of the sizable changes in mortality and morbility assumed by Denision, is not large percentage wise.

Right from the inception of Indian Planning are, development of social sectors like health and education have been

given priority and increasing amount of resources are being allocated during different plans. Still there exists a gross imbalance in the distribution of medical manpower, even a sufficient number of doctors are produced every year. This has put the planners in a dilemma as to how to make the optimum use of available resources for meeting the social demand of trained medical manpower in the country.[38]

Government of India, since a long time has been considering to find out the cost of medical education. Although no satisfactory studies has been conducted in this direction yet three (JIPMER Pondicherry - 1964-65, Government Medical College, Jammu, and Medical College, Simla) studies are befor us. These initial studies are their findings merely present the cost structure of different medical colleges.[39]

This is the limitation I have at this stage. I cannot qualify the possible benefits as statistics in this direction is neither guessed nor worked out. Still on the basis of new structure and the estimation of cost, already pointed by study group, I will try to compare the new alternative system with the existing one. But at the initial stage. We should see the cost structure in proceeding a doctor.

## Costing Methodology

The cost of the training, provided to a medical student consists two components (i) the cost of teaching in medical college (ii) the cost of clinical training in associated hospital?[40]

It is difficult to estimate the separate cost incurred by the associated hospitals toward clinical teaching as their functions are unseparable with those of medical colleges. The same difficulty, we find in the case of budget because no separate account in maintained for these hospital. Moreover, the staff is same and same hospital beds are utilized for clinical training.

CBHI in its study for Medical College JAMMU delopted a formula in which proportion of expenditure in medical college and teaching hospital was 61 and 39 per cent respectively. This connotation helped in bifurcating the expenditure.

The per student cost for the entire course of their study in Medical College (1975-76)[41]

| Expenditure | | | Total Expenditure | Cost per student per year |
|---|---|---|---|---|
| 1. | Recurring | U.G. | 60,15,830 | 14,427 |
| | | P.G. | 40,10,554 | 31,090 |
| 2. | National depreciatiory on fixed assests | U.G. | 10,33,061 | 2,478 |
| | | P.G. | 5,88,707 | 5,340 |
| 3. | Sub Total | U.G. | 70,48,891 | 16,905 |
| | | P.G. | 46,99,261 | 46,430 |
| | Estimated expenditure on account of vacant teaching posts | U.G. | 8,64,130 | 2,072 |
| | | P.G. | 5,76,086 | 4,430 |
| | Total | U.G. | 79,13,021 | 18,977 |
| | | P.G. | 52,75,347 | 140896 |

The details of hospital cost attributable toward teaching are like this [42]

| | 1975-76 | |
|---|---|---|
| Expenditure on clinical teaching (18.6% of the estimated total hospital expenditure) | U.G. 8,38,277 | P.G. 5,58,852 |
| No. of students in clinical classes. | 284 | 129 |
| cost per student. | 2,952 | 332 |

## Total cost of teaching in College and Hospital [43]

| A) undergraduate course | Cost per student in 1975-76. |
|---|---|
| a) Cost in medical college for 6½ years (Rs.1,690 per year) | 1,09,883 |
| b) Hospital cost per student for three years for clinical teaching and one year for compulsory entership training (Rs.2,952 per year) | 11,808 |
| Total a + b | 1,21,691 |
| Additional estimated expenditure on account of vacant posts for 6½ years Rs. 2,072 per year | 17,469 |
| Total | 1,35,149 |
| Average cost per student | 20,794 |

| B) Post-Graduate Courses | Cost per student in 1975-76. |
|---|---|
| (a) Cost in medical college per year | 36,430 |
| (b) Hospital cost per student for clinical training for years | 4,332 |
| Total a + b | 40,762 |
| (c) Additional estimated expenditure on account of vacant posts per year | 4,466 |
| Cost per student per year | 45,228 |

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Benefits cannot be measured directly in physical units. This much we may utter that efficiency has been improved due to the medical facilities upto what extent this increased efficiency falls upon production, is a something which we have discussed in a theoretical structure scattered in previous paragraphs. No doubt medical education and training have improved the health status of Indian people during the last one and a half decade, but whether the new system, which has been put in chapter four is comparatively better than existing one, is the question under consideration.

Here again the problems of estimation of benefits comes. The Shrivastava Committee is of the opinion that the new one will cost less and will provide more benefits. I am not going to any concrete facts here, but this much I also can say that even it the alternative system costs more than the existing one,

certainly it will be more useful to the society. The structure of alternative system throws the network of health works who will live with the people and also teach them about daily curences. Being an integrated system it furnishes every need of society. The health strata of society will improve by this programme. Moreover the expenditure to train medical graduate will be reduced as the alternative system needs less number of doctors. Instead, health workers, health assistants, dais etc will cost lesser.

We will discuss the basis of our this guess in the context concluding chapter.

# Chapter VI

# CONCLUSION

## Chapter VI

## CONCLUSION

In this Chapter we shall go back again to the questions that we had first raised in the Introduction. We have tried to analyse so far the problems of health care delivery under the existing system as also recommended an alternative system. Now we shall examine in this concluding chapter what the recommendation of the alternative system will do to the same problems which were stated in the beginning of our introduction.

In three decades of independence, the Government of India have failed to assess the actual health care needs of the country and therefore to enunciate an appropriate national health policy. There had been insufficient emphasis on the importance of health care of rural areas where more than 78 to our population live. Unless government enunciated their programme for rural health with a definite purpose and unequivocally the progress of the sector would continue to remain poor. Although high priority has been accorded to expanding medical education in our planning and subsequently a phenomenal growth of the number of doctors has taken place, the growth imbalance between rural sector and the urban sector has caused serious problems for this social infra-structure. Shortage of trained medical manpower and non-availability of health facilities in the rural area side by side with a heavy density of doctors in the urban sector where they are in surplus facing problems of unemployment is a continuing

symptom of something which obviously undesirable. The villagers have almost ideally failed to obtain the services of doctors and since health is supposed to be a productive service, the total loss to the production in the rural sector must have been enormous considering the loss due to illness alone.

The doctors decline to go to for villages, whatever the reasons as we have discussed in third chapter. There, they don't find the services lucrative or the facilities for living and education. They are cut out of the progress trends in the medical system. Public amenities like communication, social cultural and academic life are lacking there. And moreover, the conditions of public health dispenseries in rural areas are deteriorating. Looking at these conditions a medical graduate, after being nursed in a modern medical college comfortably, can not bear to think of serving in rural area. Even if he is then at all, he is always in search of a job in the city.

This high concentration in the urban sector results in unemployment as all the doctors cannot be absorbed within it. After independence numerous medical colleges were set up and correspondingly enrolment went up. These twin factors : the huge output by medical colleges and the unwillingness of doctors to go to the rural sector, have brought tremendous unemployment in this profession. Moreover, if somebody wants

to settle him down in private practice, he lacks capital. If he overcomes this difficulty, then he finds the problem of monopoly in the system which bars new entrants. These are some problems which dislocate a doctor in private practice. As we have repeatedly explained this situation is quite paradoxical and a major defect of the existing system of health care delivery.

A typical feature of the present system which we did highlight in the introductory chapter is the migration of trained medical manpower from the country. Mark Blaug calculated that over 1/6 of the medical graduates went out of the country. As we have already stated, the conditions in our country are conducive to migration. After receiving a costly education, when a medical graduate is not in position to get a job he tends to go abroad to get a proper return. In other developed countries, the salary is attractive for our doctors. These countries need not also save on the training of doctors when they get them from the developing countries.

That the deep rooted cause of this migration is unemployment as well as improper recognition and absence of facilities is brought out often by the Medical Associations. As A.R.N.Sinha said :

> "I know that there are millions who are unemployed in our country. I am also aware that the problem of unemployment of a few thousand doctors (twenty two thousand) is like a drop in the ocean. But these who are unemployed, frustrated, disillussioned and disheartened today are the same persons on whom a lot of money from public exchequers has been spent. It is not only the duty of government to provide them with jobs or at least help them in setting up there practice in area where they can earn a living, but our so called brain drain have been utilized by some other countries to help solve their problems. We have not utilized them we have not cared for them and they have been left us luckily or use they would have been rotting here like many professional colleagues and scientists who are now sorry for not having gone abroad."(44)

Now to one more issue on which we can examine the existing system. The hospital (situated at district headquarters as well as sub-divisional headquarter) has also tended to provide inadequate specialist services. The indifferent and inadequate growth of health services may be due to the lack of a proper study of the requirement of health services. Random surveys show that only a few patinents use the service provided by the government and most prefer the services of private practitioners, irrespective of their qualifications .

> ...only one or two patients out of 5 utilize services provided by the government and the others prefer services provided by private individuals, who may be qualified, or unqualified. Mostly, such services are provided by un-qualified workers who can easily be termed as quicks. Whatever, the system evolved for the future will need to take cognizance of this one factor that very little qualified services exist in the rural area, where most of our country men live and due to extreme shortage of qualified persons and the necessity for providing medical care at the door step a system for utilization of semi-qualified medical personnel will need to be provided to supplant the services at present being provided by quacks.(45)

Hospitals are not much useful to village people. Agreed, that the priorities in the field of health were marshalled, many hospitals were established, many new medical colleges were opened, but the rural people did not get the medical services. Health policy for the population is a part of socio-economic development of the country. So a concrete shape should be given to this policy to make it useful for the deprived population. Clearly the establishment of big hospitals does not necessarily provide medical services for all.

In advanced countries, the growth of health services has seen in tune with their socio-economic developments. But in developing countries the situation is different. On account of inadequate resources and due to the dominance of conventional urban oriented ideas, the returns expected from the investments, made have generally failed to materialize. In these countries, health care requires the adaptation and development of its own particular methodology to tackle the enormous problems.

## The Alternative System

The alternative system as we have already seen (chapter IV) combines both training for doctors and some basic first-aid type training for a lay person belonging to a village. We can not improve the total health care delivery by merely producing more and more doctors. The trained "para-medical" worker is essential in this task. Such a person should be

given training for a period of 4-6 months preferably in the village surrounding. After this, he should be given refresher courses periodically so as to keep him acquainted with newer developments.

Srivastava Committee rightly observes :

> In totality of health services, the doctor is most important but not the sole functionary. Equally important are a variety of paramedical personnel who constitute important links of health services. The nurse, the pharmacist, the technicians in the field of laboratory service such x-ray, pathology, or microbiology from the essential back of medical care. (42)

So a band of para-professional workers should be raised. A doctor cannot work satisfactorily unless he is well organized into a proper referral system. The experience has shown that a physician in charge of a Primary Health Centre for integrated health care to the community is always over-burdened with clinical work. He hardly finds time for preventive work which is essential for the community. This is aggravated by the inadequancy of trained assistants provided to the physician. This emphasises the need for the development of some type of assistants to the medical officers, who under the supervision and guidance of the medical officer, can effectively extend the desired services to the community. A number of different categories of such assistants known as para-medical assistants are visualised. They are the Health Workers, the multipurpose workers, the medical and health assistants etc.

who assist the medical officer in both curative and preventive work.

These paramedical personnel give active support to the physican and the increasing complexity of modern medicine needs collective endeavour of all health workers. The shortage of medical manpower related to the rapid growth of health services also favours the transfer of some tasks which need less specialised education and training to such a special group of workers.

This system emphasises the preventive aspect rather than the curative and shifts the emphasis from the urban to the urban to the rural and from the individual to the community. Here we lay emphasis in the patient rather than on the disease. Some of the elements, which this alternative comprises are : - Integrated service consisting of the promotive curative and preventive aspects of health services, proper utilization of para-professional resources, implementation within the financial resources and universal coverage with equal accessibility for all the people.

The new system seeks to change the initial situation in terms of better availability of health services. It will bridge the vast gap of disparity between rural and urban sector. The community would train the health workers within itself and make this network available to the rural people so that these workers can live with the people, cure their illnesses and teach them about preventive methods. The integration

of all health activities will make the peripheral workers function as multipurpose workers to the extent it is feasible. Since these workers are mobile, they will dispose of all the necessary services in the rural area. They are to be provided necessary material at the PHC. All the health workers must ibviously operate under the overall supervision of medical officer. A qualified health supervisor looks after the functioning of the workers most of the diseases in the rural area need simple diagnosis. These workers who a re close to the people can care in a better way as they mingle in the community more easily. In this way the alternative system would take medical services within the reach of the rural people.

In the new system as the community would require a less number of doctors, the intake at this lead will go down and no new medical colleges need be opened. This should mark the number of unemployed doctors in manageable. Government could now help those who worked to establish their own clinics so that they should not sit idle.

Since the alternative system, hopefully would change the situation in the rural area, many doctors should find it advantageous to settle their. Moreover, many persons who could not have aspired to become a doctor in the existing system, would now kkm serving in another cadre and at another level of the alternative system. This also should lead to unemployment being reduced in the new system. Moreover, a large

number of people among the society will get part-time jobs. Thus the over-all job-opportunities in the new system should be larger than in the existing system.

The brain-drain may also be less in the new system. The brain-drain is directly related to unemployment and the difficult conditions of work. When unemployment is reduced on account of the implementation of the aforesaid programme and doctors given better facilities than the medical manpowers may well like to stay on in the home country.

Now the stress in the alternative system will also be on medical services and not on hospitals. The hospitals will be operated within an integrated health system. The rural people, who up till now are being deprived of health facilities, would now have equal accessibility. Since our aim would be to give the best medical service and not to open more and more hospitals, the hospitals themselves would strive to improve their facilities.

The economic aspect of health services in the alternative system has naturally to be taken into account. We still have conceptual difficulty in identifying the cost involved partly because studies in this field have not been made. We also find it difficult to measure the cost of a doctor because the qualification of the social cost of providing a factor is very difficult. The same is true in the case of nurses and para-medical professionals.

But the alternative system may indeed cost less in the sense that we can rely on a lower level stratum - level for level - to do the job of a higher level. For example, after the doctor's work can be done by a compounder, the compounder's work by a nurse and the nurse's task by an educated housewife. Illich also advocates self medicine. He believes that educated self-medicine may prove a better help than the doctor's service, in many simple cases.

All this means that we have unnecessarily been relying completely on the doctor. But actually doctors do not have to be used all the time and in providing medical care they often perform the duties of compounders, and take the credit (and the salary) of doctors. If a doctor prescribes a standard medicine, then a compounder can also easily do it if the diagnosis is simple, and cost far less.

The possibility of potential use of senior medical students for rural services also exists. This suggestion is neither new nor untested. In Soviet Union advanced (medical) students are taken to the villages to provide treatment, They are quite adequate for routine treatments of the problems of blindness, skin disorders etc. In other words, a part of the medical service is in fact no more than an advanced first aid service.

There are signs that our country is gradually moving into the alternative system. We have today a large number of

graduates as well as a large professional trained para-medical staff. "A good infra-structure has been established and with suitable modifications, total outreach of medical minimal health care can be achieved very rapidly provided the correct priorities are established and implemented".[47]

Recently, some exercises in cost benefit and cost effectiveness analysis have also given emperical support to the old adage that prevention (with doctors and paramedical workers) is better (and less costly) than cure with doctors alone.[48]

The conclusion is, therefore, inescapable that taken as a whole, the alternative system can prove useful for both the rural and the urban sectors and problem of unemployment, brain-drain, and hospital medical services can be more effectively tackled by this model.[49]

## Foot Notes

1. Angela M. Bowey. A Guide to Manpower Planning, Macmillan, p.1.

2. Morbidity is the rate of prevalance of sickness or disease. Similarly Mortality is death rate that is percentage of people who die.

3. PGK Panikar. 'Health Care System in India - Alternative Approaches' in the Indian Journal of Medical Education Jan.-June 1976. p.88.

4. D.Banerjee. 'A National Health Policy for India' in The Indian Journal of Medical Association, Jan.-June 1976. p.59.

5. PGK Panikar. 'Health Care Delivery System in India : Alternative Approaches' in the Indian Journal of Medical Association, Jan.-June 1976, p.88.

6. J.P.Naik. 'Alternative Approaches to Health Care : People's Point of view' in The Indian Journal of Medical Education, Jan.-June 1976, p.70.

7. "Supply and Demand for Critical Human Skills in India's Developing Economy : A Case Study for Doctors (Unpublished).

8. A.K.N.Sinha. 'National Health Planning and Medical Education' in Journal of the Indian Medical Association Aug. 78, p.60-61.

9. A.K.N.Sinha : 'National Health Planning and Medical Education' in Journal of the Indian Medical Association, Aug. 78, p.59.

10. Blaugh & others. The Causes of Graduate Unemployment in India.

11. Tapas Majumdar. Our Economy (1977). NCERT, New Delhi.

12. Most of the people a re below poverty line. So they cannot afford for health facilities.

13. J.P.Naik. 'Alternative Approaches to Health Care : People's Point of View' in The Indian Journal of Medical Education, Jan.-June 1976.

14. Tapas Majumdar. Our Economy (1977), NCERT, New Delhi.

15. Directorate General of Health Intelligence, Nirman Bhawan, New Delhi.

16. All the job seekers on the register are not necessarily unemployed as some employed persons also may register with the exchanges for better employment.

17. J.P.Naik. 'Alternative Approaches to Health Care : People's Point of view' in The Indian Journal of Medical Association, Jan. - June 1976, p.70.

18. A.K.N.Sinha,'National Health Planning and Medical Education' in Journal of the Indian Medical Association, Aug. 1978, p.69.

19. Naresh Banerjee. 'A Draft on National Health Policy' in Journal of the Indian Medical Association, Aug. 1978, p. 71.

20. Naresh Banerjee. 'A Draft on National Health Policy' in Journal of the Indian Medical Association , Aug. 1978, p.72.

21. Government of India, Ministry of Health and Family Planning. 'Health Services and Medical Education : A Programme for Immediate Action' (Shrivastava Committee) p.5.

22. _____. Health Service and Medical Education (Srivastava Committee). p.26.

23. _____. Health Service and Medical Education (Srivastava Committee) p.7.

24. Naresh Banerjee. 'A Draft on National Health Policy' in Journal of the Indian Medical Association, Aug. 1978. p.76.

25. Government of India, Ministry of Health, Nirman Bhawan, Health in India, 1978.

26. J.P.Naik. 'Alternative Approaches to Health Care : People's Point of View, in I.J.M.A, Jan.-June 1976, p.70.

27. Government of India, Ministry of Health and Family Planning. Health Services and Medical Education (Shrivastava Committee), p.23-24.

28. G.P.Dutta 'A National Health Policy in Journal of the Indian Medical Association , Aug. 1978.

29. A.K.N.Sinha. Ibid. p.61.

30. Naresh Banerjee. Ibid. p.72.

31. Cost Benefit analysis does not accept that actual receipts measures social benefits property, and actual expenditures. But it emphasis that actual receipts and expenditures can be suitably adjusted so that the difference between them, which is very closely analogous to ordinary profit, will properly reflect the social gain.

32. V.K.Kothari. 'Economic Aspects of Health Care: Delivery Patterns' in The Indian Journal of Medical Education, Jan.-June 1976, p.96.

33. Little I.M.D. & Mirrlees J.A. Project Appraisal and Planning for Developing Countries, Oxford & IBH. p.29.

34. Cooper & Culyer. 'Health Economics'. Penguin, Harmondsworth, 1973, p.93.

35. Ibid.

36. The effect of sickness upon the amount of labour-available for production purposes can be summarized under three headlines :
1. Loss of workers (death)
2. Loss of Working time (disability)
3. Loss of productive capacity while at work (debility).

37. Death is unambigous in meaning, but cause of death is sometimes not. In estimates of gains from prevention of cure caused by a particular disease, death from multiple causes may need to be treated differently from these : Caused by the disease in question alone.
Disability caused by sickness may be partial or total, and it may be short term or long term debility is some where the person may find some sheltered employment where his contribution to production is small.

38. Dr.S.K.Sengupta. Cost of Medical Education in India (A preliminary Study) : Central Bureau of Health Intelligence, New Delhi, June 1978.

39. A similar study is in process undertaken by Mrs. P. Ramalingaswami, Centre for Social Medicine and Community Health, Jawaharlal Nehru University, which is expected to be published soon.

40. Dr. S.K.Sengupta. Cost of Medical Education in India, Central Bureau of Health Intelligence, New Delhi, p.10.

41. Ibid. p.12.

42. Ibid. p.14.

43. Ibid. p.14

44. A.K.N.Sinha. 'National Health Planning and Medical Education' in Journal of the Indian Medical Association, Aug. 1978, (vol.71, no.3) p.59.

45. P.R.Sondhi. 'The Existing Health Care Delivery Pattern'. The Indian Journal of Medical Education, Jan.-June 1976 p.25.

46. Government of India, Ministry of Health and Family Planning. 'Health Services and Medical Education' (Shrivastava Committee), p.37.

47. B.Mukopadhaya. 'Alternative Approaches to Health Care' in The Indian Journal of Medical Education, Jan.-June 1976, p.50.

48. WHO Regional Office for South East Asia. "Cost effectiveness and Cost benefit Analysis of Tuberculosis Programme in the countries of South East Asia" by T.Olankowski, 1972. Quoted in "Health Care System in India in IJME, Jan-June 1976,

49. Some more studies should be conducted in this field There is vast area to be explored in Health Economics from this point of view.

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